Mains Marathon

Compilation

Mains Marathon Compilation for the Month of February, 2023

1. What are the controversies associated with Indus Waters Treaty? Why is there a call to modify the Treaty?
2. NREGA is underperforming because its most basic design principles are not being properly followed. Discuss.

3. What are the reforms that developing countries are seeking in the functioning of the United Nations? Also, highlight the hurdles in the implementation of reforms.
4. Discuss the policy measures that can be helpful in reducing the fertiliser subsidy bill.

5. What are the measures taken by the government to handle the Red Sanders smuggling? Why the smuggling continues even after several measures?
6. Deprivation of liberty even for a single day is one day too many. In the light of the statement, discuss the reasons behind the increasing number of undertrials in India.

7. Project Tiger', which is completing 50 years very soon, requires a reboot. Discuss.
8. Cooperatives have been playing a critical role in our economy for a long time. Discuss the government initiatives for promoting the cooperative sector in India.

9. What do you understand by just energy transition (JET) strategy? How India can adopt a just energy transition (JET) strategy?
10. Highlight the impacts of Large-scale hydroelectric dams on the Himalayas. Also, suggest some alternatives.

11. In the light of the recent incident of the Chinese spy balloon, highlight the significance of dual use surveillance technologies.
12. What are Village Defence Guards? Why is there a demand for a revival of the erstwhile Village Defence Committees (VDC)?

13. Discuss the economic and strategic significance of India – Canada relations.
14. Although the government has increased the budgetary allocation for Public Sector, but their contribution to capital outlay is not increasing. Discuss.

15. Do you think, the government's disinvestment policy has achieved its intended objectives? Give justifications for your arguments.
16. What is the US-India Initiative on Critical and Emerging Technologies (iCET)? Discuss its significance.

17. Green growth is the overarching theme across the world, however, a trend of deglobalization is visible in its expansion. Comment.
18. Crackdown on child marriage doesn't address real causes. In the light of the statement, suggest some alternative measures to tackle the menace of child marriage.

19. Discuss the Relevance of the Right to Speak with Parliamentary Privileges given by the constitution of India. Also, highlight the judicial stand on these rights.
20. The emerging law and order challenges posed by the swift technological change would require greater innovativeness and agility, as well as a demonstration of newer cognitive skills. Discuss
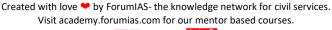
21. What is sustainable clothing? What are the needs and challenges of adopting sustainable clothing in India?
22. Discuss the reasons behind the prevalence of Violence against domestic workers. Also, suggest some measures to control this menace.

23. Highlight the rules regarding making allegations in the Parliament. Can the speaker expunge words from the speech of the parliament on the ground that they are defamatory?
24. What are the changes required in wireless regulations?

25. What is Generative AI? Highlight its implications?
26. What is the rationale behind the demand for special constitutional status for Ladakh?

27. The rapidly rising Antimicrobial Resistance (AMR) needs an accelerated, multi-sectoral, global, and national response. Elaborate.
28. Discuss the significance of India's civil aviation policy.

29. Examine the Supreme Court's judgment allowing fishermen of Tamil Nādu to use purse seine fishing gears for fishing.
30. Air India's huge order for aircraft has multiple implications, for the airline, for civil aviation, for policy and for manufacturing. Elaborate.

31. What is the Special Marriage Act, and how is it different from religious codes of marriage?
32. Do you think that setting up foreign universities in India can halt educational emigration?

33. The changes to the organ transplant rules are small, but significant, steps towards giving a new lease of life to many people with failing organs. Elaborate the statement.
34. The enduring solution to the menace of land degradation lies in evolving and meticulously enforcing, a judicious land use policy based on the capability classification of land. Discuss

35. How Rooftop Solar Photovoltaics (RTPV) can be helpful in aiding poverty alleviation?
36. Highlight the multiplier effect of expressways?

37. What is Carbon trading and what are the rules released by the government for it? How does carbon trading operate?
38. Highlight the initiatives that can be helpful in making India a biodiversity champion. Also, suggest further improvements to these programs.

39. Highlight the need for new delivery mechanisms for genetic therapy.
40. What are the challenges facing research and development (R&D) in India? Discuss the measures that can be taken to transform India's R&D.

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41. With cyber threats capable of undermining our critical infrastructure, industry, and security, a comprehensive cybersecurity policy is the need of the hour. Elaborate.

42. The discovery of lithium in Jammu and Kashmir is significant for India's push toward electric vehicles but there are risks associated with it. Discuss.

43. Discuss the need for menstrual leave policies. Highlight the global practices around menstrual leave policies.

44. Heat waves have occurred earlier than expected time in India. What are the reasons behind winter heat waves in India?

45. Why is the New START nuclear treaty suspended? What could be the possible implications of its suspension?

46. Open financial borders are integral to India's aspirations for growth and prosperity. Do you agree? Give reasons for your argument.

47. In the light of the present challenges to federalism in India, highlight the recommendation of Punchhi Commission's report on Centre-state relations.

48. What are the issues associated with the methods used by V-Dem democracy to rank India on democracy? Also, discuss the lessons that India can learn from its findings.

49. Earthquake preparedness is not just about buildings — cities as a whole need to be reimagined. Elucidate.

50. Digital models for disease tracking are crucial, but there are also issues associated with these models. Discuss.

51. Discuss the significance and challenges of Supreme Court-induced changes to the process of the cc appointment.

52. Critically analyze India's stand on the Ukraine war.

53. What is the process of forest certification? Also, highlight its significance.

54. Clean energy solutions are transforming women's livelihoods at the grassroots, but they need to be scaled up. Discuss

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Q.1) What are the controversies associated with Indus Waters Treaty? Why is there a call to modify the Treaty?

The Hindu

> **Introduction:** Contextual introduction.
> **Body:** Explain some controversies associated with Indus Waters Treaty. Also write some reasons for modification of the Treaty.
> **Conclusion**: Write a way forward.

Indus Waters Treaty gives **India control of 3 Eastern Rivers (Beas, Ravi and Sutlej)**. **Pakistan** gets control of **3 Western Rivers (Chenab, Indus and Jhelum)**. The treaty gives **India 20%** of the water from the Indus River System and the rest **80% to Pakistan**. The treaty allows India to utilize the waters of Western Rivers for for **limited irrigation use** and **non-consumptive use** for such applications as **power generation**, **navigation** etc.

Controversies associated with Indus Waters Treaty:

- There has been a longstanding dispute over **two hydroelectric power projects** – one on the Kishanganga river (a tributary of Jhelum) and the other on the Chenab (Ratle).
- As for India's 850 megawatt Ratle hydroelectric power project, Islamabad has repeatedly raised concerns over its design, insisting that India would use the project's reservoir to create deliberate and artificial water shortage or cause flooding in Pakistan.
- Pakistan had demanded the constitution of a **Court of Arbitration**, while India demanded a **Neutral Expert** to resolve the dispute.
- Under the pact, any difference needs to be resolved under a three-stage approach. However, in the case of the Kishenganga and Ratle Hydro Electric Projects, the World Bank started two concurrent dispute redressal processes at the insistence of Pakistan, which India felt was a breach of the IWT.

Why is there a call to modify the Treaty?

- **Unequal sharing of the waters**: Pakistan has been allocated ~80% of the Indus basin waters. Experts have termed this the **most generous water sharing treaty**. It is the only water-sharing pact in the world that compels upper riparian State to defer to the interests of the downstream State.
- **To resolve the long-standing dispute:** so that Pakistan is provided an opportunity to initiate "intergovernmental negotiations" within 90 days regarding the differences that the Indian side has described as a "material breach".
- It **prevents India from building any storage systems** on the western rivers. Even though the treaty lays out that under certain exceptional circumstances storage systems can be built.
- The basin's size and volume is getting altered by **climate change**. The contribution of glaciers in the Indus basin is higher than in the Ganges or Brahmaputra basins. A change in the flow conditions may classify as 'change of circumstances' which can justify renegotiation or termination in the future.

India should take steps to completely utilize its entitlement of waters of Western Rivers. The infrastructure to utilize the waters has remained under-developed in J&K.

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Q.2) NREGA is underperforming because its most basic design principles are not being properly followed. Discuss.
The Hindu

> **Introduction:** Contextual introduction.
> **Body:** Explain why NREGA is underperforming.
> **Conclusion**: Write a way forward.

The government of India has been running the **world's largest employment guarantee program** since 2005 under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). It guarantees 100 days of work a year to every rural household with an aim to enhance the livelihood security of people.

Why NREGA is underperforming?

- **Regressive spending pattern:** where poorer States spend less NREGA funds than better-off ones. As if on cue, a committee to suggest reforms has been constituted instead of listening to the long-standing demands of workers and their collectives.

- **Delays in wage payments:** For instance, seven or more functionaries have to sign off before payment due to a worker can be approved (stage one of the wage payment cycle). This does not even include the series of delays from when the payment is approved till payment is made (stage two of the cycle). In contrast, the processing of loans from private banks is done in fewer steps.

- **Top down "reforms":** The majority of reforms have **focused on centralisation** such as the electronic fund management system, geo-tagging of assets and a national mobile monitoring system (NMMS). E.g. Almost 3,000 women NREGA workers in Bihar are protesting against the NMMS application after the app failed to capture their attendance.

- **Intermittent and unpredictable fund releases** by the central government are one of the fundamental reasons why State governments are unable to ensure the full potential of NREGA. As of today, ₹18,191 crore in liabilities is due to 24 States. Poor performing States, on account of inadequate funds, typically discourage and often deny demand for work.

- Instead of using expenditure and income poverty as the only markers, exclusion must be identified at the household level.

The government should provide greater funds for the proper implementation of the scheme. It currently provides 0.47% of GDP while **the World Bank recommends 1.7 %** for the optimal functioning of the program.

Q.3) What are the reforms that developing countries are seeking in the functioning of the United Nations? Also, highlight the hurdles in the implementation of reforms.
The Hindu

> **Introduction:** Contextual introduction.
> **Body:** Explain reforms that developing countries are seeking in the functioning of the United Nations. Also write hurdles in the implementation of reforms.
> **Conclusion**: Write a way forward.

The United Nations is currently made up of 193 Member States. The mission and work of the United Nations are guided by the purposes and principles contained in its founding Charter. The main organs of the UN are the General Assembly, the Security Council, the Economic and Social Council, the Trusteeship Council, the International Court of Justice, and the UN Secretariat

The developing countries are seeking following reforms in the functioning of the United Nations:

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- The G4 (Brazil, Germany, India, and Japan) group is primarily focused on **U.N Security Council (UNSC) reform** and permanent membership of the body. The Permanent members of UNSC have remained fixed. This is problematic as the membership of UN has grown almost four times since its formation.
- The **veto power** has been the exclusive domain of P5 members. Many countries have put question mark on the existence of veto, which is **contrary to democratic principles.**
- The **UN General Assembly (UNGA)** can only make non-binding recommendations, which is another reason for ineffectiveness of the UN and another important issue of UN reform.
- The Economic and Social Council has been criticized, as it has become overshadowed by institutions such as the IMF and the World Bank, which are lacking democratic processes, transparency, and accountability.

Hurdles in the implementation of reforms:

- **Disunited state of the UNGA:** the reform of the UN Security Council was a member-driven process and for that, the members of the UNGA had to first come together to pass a resolution demanding the reform of the Security Council. Among the 193 countries, there are five negotiating groups and they are neutralising each other.
- **Lack of Consensus:** different countries have **different perceptions** of the requirement for change. For e.g. G-4 nations demand a seat each as a permanent member, Coffee Club asks for expansion of non-permanent seats, African union wants its representation at any cost etc.
- The **permanent members** were "historically not enthusiastic" about reform of the UN system, but they had all agreed that it was necessary for introducing changes in the Security Council.
- The **system of veto** in the Security Council has become a tool to block the work of the global body and not to encourage it.

India called for a new template of multilateralism that reflects today's reality, gives voice to all stakeholders, addresses contemporary challenges, and focuses on human welfare.

Q.4) Discuss the policy measures that can be helpful in reducing the fertiliser subsidy bill.

Business Standard

> **Introduction:** Contextual introduction.
> **Body:** Explain some measures that can be helpful in reducing the fertiliser subsidy bill.
> **Conclusion:** Write a way forward.

In 2021-22, India's import of fertilisers touched an all-time high of $12.77 billion in fiscal terms. Fertilizer subsidy has doubled in a short period of three years. For 2021-22, the Union Budget has estimated fertilizer subsidy at ₹79,530 crores (from ₹66,468 crores in 2017-18). The following policy measures that can be helpful in reducing the fertiliser subsidy bill:

- There is a need to cap or even **reduce consumption of high-analysis fertilisers** – particularly **urea** (46 per cent N content), **DAP** (18 per cent N and 46 per cent P) and **MOP** (60 per cent). Products such as liquid **"nano urea"** can be used which is conducive to easier absorption by the plants.
- Promote sales of **SSP** (containing 16 per cent P and 11 per cent S) and **complex fertilisers**.
- **DAP use** should be **restricted** mainly to paddy and wheat because other crops don't require fertilisers with 46% P content. India can also import more rock phosphate to make SSP directly or it can be converted into "weak" phosphoric acid.
- The agriculture departments and universities should **revisit their existing crop-wise nutrient application recommendations**, **and create awareness** amongst farmers about suitable substitutes for DAP**.**

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- The government should popularise the use of **high nutrient use-efficient water soluble fertilisers** (potassium nitrate, potassium sulphate, calcium nitrate, etc) and **alternative indigenous sources** (for example, potash derived from molasses-based distillery spent-wash and from seaweed extract).

- In the long run, the government needs to **augment the agricultural income** of farmers so that they voluntarily give up their subsidies in the future. This would happen with better implementation of schemes like E-NAM, SAMPADA, PM Fasal Bima Yojana, etc.

The ultimate solution is to make agriculture more lucrative and remunerative which would gradually lead to the withdrawal of subsidies and relieve the government of their fiscal burden.

Q.5) What are the measures taken by the government to handle the Red Sanders smuggling? Why the smuggling continues even after several measures?
The Hindu

> **Introduction:** Contextual introduction.
> **Body:** Explain some measures taken by the government to handle the Red Sanders smuggling. Also explain why the smuggling continues even after several measures.
> **Conclusion**: Write a way forward.

Red Sanders or red sandalwood is an endemic tree species with distribution restricted to the Eastern Ghats of India. The species found in **Andhra Pradesh** and growing up to a height of 10 to 15 metres is reported to be one of India's most exploited tree species, and is under severe pressure from illegal logging and harvesting.

The following measures are taken by the government to handle the Red Sanders smuggling:

- IUCN Red List has put it as **Endangered**.
- It has been added in the Wildlife protection act 1972: **Schedule IV.**
- It is internationally protected under CITES (convention on international trade in endangered species) **Appendix II since 1995.**
- **Operation Sesha** has been launched by directorate of revenue intelligence (DRI) by involving 17 countries.
- In 2014, Andhra Pradesh government formed **RSATSF (Red-Sanders Anti-Smuggling Task-Force).**
- Directorate of Revenue Intelligence (DRI) launched **Operation *Rakth Chandan*.**
- Under the foreign trade policy of India, the **import** of Red Sanders is **prohibited**, while export is restricted.

Why the smuggling continues even after several measures?

- Its heartwood is in **demand in both domestic and international markets** and is used to make furniture and handicrafts, while the red dye obtained from the wood is used as a colouring agent in textiles and medicines.
- Its rich hue and **therapeutic properties** are responsible for its high demand across Asia, particularly China, for use in **cosmetics** and high-end woodcraft.
- Red sandalwood is both **rare and valued at exorbitantly high rates** in the international market, making it a hot commodity for smugglers operating from states bordering Andhra Pradesh. In China, Hong Kong and Pacific Rim countries, one ton of red sandalwood fetches up to Rs 10 crore.
- The Andhra Pradesh State Biodiversity Board found that smuggled red sandalwood was being used in the production of aphrodisiacs as well as astringent tonics to **treat chronic dysentery and diabetes.**

Enforcement agencies such as the Forest Department, Customs, Railways, Police, DRI (Directorate of Revenue Intelligence), and Coast Guard must coordinate efforts to curb Red Sanders trafficking by sharing information on hotspots and transit routes and real-time

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intelligence. Moreover, forests within the species' geographical range to be declared as "high conservation areas".

Q.6) Deprivation of liberty even for a single day is one day too many. In the light of the statement, discuss the reasons behind the increasing number of undertrials in India.
Times of India

> **Introduction:** Contextual introduction.
> **Body:** Write some reasons behind the increasing number of undertrials in India.
> **Conclusion**: Write a way forward.

An undertrial is a person who is being held in custody by a court of law and is awaiting trial for a crime. According to National Crime Record Bureau (NCRB), of the 554,034 prisoners, **77% were undertrials in 2021**. In 2021, **29.1% of undertrials had been in prison for more than a year**. District jails had the highest share of undertrials, accounting for 51.4% of the total, followed by the Central jails (36.2%) and Sub-jails (10.4%).

There are following reasons behind the increasing number of undertrials in India:

- **Low Capacity of Judicial System**: India has 21 judges per million population, while the Law commission has recommended 50 per million. This along with lack of infrastructure results in large pendency of cases which now has reached over 4.5 crore cases.
- **Poor Economic and Education Levels**: A large number of under trials are poor, illiterate, belonging to the marginalized communities. This along with lack of financial resources leads to inability to get legal aid and pay the bail amount.
- **Unnecessary Arrests and Issues of Bail System**: Law Commission (268th Report) has highlighted that over 60% of arrests are unnecessary. The Commission report also highlighted that the rich and the affluent get bail with ease. However, poverty becomes the reason for incarceration of many prisoners, as they are unable to afford bail bonds or provide sureties.
- **Delay in Investigation**: Investigation and trial process is often delayed by police and prosecution functionaries. This is due to poor 'Police-Population' Ratio. According to PRS, the sanctioned police strength was 181 police personnel per lakh persons in 2016, the actual strength was 137. The United Nations recommended standard is 222 police personnel per lakh persons.
- **Delays in Bail application:** Sometimes, bail applications are kept pending for months. Unnecessary arrest coupled with no bail is a double whammy. Appeals by the convicted are pending for decades in some HCs.
- **Unawareness about Section 436A of C.R.P.C.:** There is a gap between the number of prisoners eligible to be released and actually released, under Section 436A of the Code of Criminal Procedure.

A comprehensive **Bail Law** should be enacted to curb arbitrary arrests. There is a need for greater political and judicial will to push through the procedural reforms.

Q.7) 'Project Tiger', which is completing 50 years very soon, requires a reboot. Discuss.
Times of India

> **Introduction:** Contextual introduction.
> **Body:** Explain about Project Tiger'. Also explain why it needs a reboot.
> **Conclusion**: Write a way forward.

Tiger is a unique animal which plays a **pivotal role in the health and diversity of an ecosystem**. Tigers are globally listed as "**Endangered**" on the International Union for the Conservation of Nature (IUCN) Red List of Threatened Species. 'Project Tiger' is a **Centrally**

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Sponsored Scheme of the Ministry of Environment, Forests and Climate Change providing central assistance to the tiger States for tiger conservation in designated tiger reserves.

'Project Tiger':

- Project Tiger was first initiated in the year **April 1, 1973**. Project Tiger was administered by the **National Tiger Conservation Authority** (NTCA). The tiger reserves are constituted on a core/buffer strategy.
- Around the 1970s the tiger count was only one thousand and two hundred, but according to the recent census, it has increased to three thousand. In fact, there has been a **thirty per cent rise** in the population in the last eight years.
- The Project Tiger has grown to more than 50 reserves amounting to almost 2.2% of the country's geographical area.

Due to following reasons 'Project Tiger' requires a reboot**:**

- Managing the tiger population, giving them safe habitat, avoiding human-tiger conflicts are some of the issues that the project has faced.
- **Politicalised Tiger Task Force** leading to the formation of the massive NTCA in 2005. The role of forest bureaucracy should be only to protect tigers from people and people from tigers.
- The present **official monopoly** over tiger research, monitoring, nature education, tourism, filmmaking, and even village relocation should end. NTCA needs to be wound up and India should aim for 10,000 tigers.
- A **new wildlife task force** with experienced officials, scientists, and enlightened political leaders needs to be set up to ensure a radical overhaul of tiger conservation.
- As per wildlife conservation activists and former forest officials, there is **lack of confidence and trust building** between the forest department and the villagers.

We have to create a healthy balance between sustainability and development. Tiger is an umbrella species so its conservation will ensure conservation of other wild animals too.

Q.8) Cooperatives have been playing a critical role in our economy for a long time. Discuss the government initiatives for promoting the cooperative sector in India.
<u>Times of India</u>

> **Introduction**: Contextual introduction.
> **Body:** Explain some government initiatives for promoting the cooperative sector in India.
> **Conclusion**: Write a way forward.

Cooperative societies help small-scale entrepreneurs procure raw materials at discounted rates and reduce production costs. They provide producers with a platform to sell their products directly to consumers by removing intermediaries, which helps cut the selling price and ensure higher sales and profits for producers.

Government initiatives for promoting the cooperative sector:

- **Ministry for cooperation:** It will provide a separate administrative, legal and policy framework for strengthening the cooperative movement in the country.
- Setting up of massive, **decentralised storage capacity** so that farmers can store their produce and realise remunerative prices by selling at an appropriate time. This will be the world's largest grain storage facility.
- To promote the growth of new cooperative manufacturing societies, the budget has announced a **concessional income tax rate of 15%** for cooperatives that begin manufacturing before March 31, 2024.
- Cooperative societies have been given a **higher limit of Rs 3 crore for tax deducted at source** on cash withdrawals. For sugar cooperative mills, the claims for payment made to sugar farmers before the assessment year 2016-17 will now be considered an

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'expenditure'. This is expected to provide approximately **Rs 10,000 crore in relief to the sugar cooperatives.**

- The government is establishing **a national database of cooperatives** and a **National Cooperative University** to provide trained manpower to this sector.
- Further, under the PM's leadership a committee has been constituted by the cooperation ministry to formulate a **National Cooperative Policy**, which will include stakeholders' recommendations and become a vital link to connect the masses with the country's financial system.
- The budget also announced that **model bye-laws for primary agricultural cooperative societies (PACs)** are being formulated, to enable them to become multipurpose cooperatives to meet the country's diverse needs and remain financially profitable.
- Recently an MoU has been signed among the cooperation ministry, the IT ministry, NABARD, and CSC e-Governance Services India Limited. This MoU will **enable PACS to provide the services offered by the Common Service Centre.**

Given the way PM, with the resolve of **'Sahakar Se Sammriddhi',** has brought cooperatives to the forefront of the nation's economic discourse, they will soon be one of the main drivers of India's growth engine.

Q.9) What do you understand by just energy transition (JET) strategy? How India can adopt a just energy transition (JET) strategy?
The Hindu

> **Introduction:** Explain just energy transition (JET) strategy.
> **Body:** Explain how India can adopt a just energy transition (JET) strategy.
> **Conclusion:** Write a way forward.

The Just Energy Transition is about a movement towards **a lower carbon future, whilst enabling the creation of job opportunities for those displaces by the replacement of coal by these new technologies**. The JET occurs in a phased manner over time. It is emerging as the key mechanism for **multilateral financing by developed countries** to support an **energy transition in developing countries**.

JET initiative is **modelled for the South Africa**, to support South Africa's decarbonisation efforts. JET was launched at the **COP26 in Glasgow** with the support of the **United Kingdom (UK), the United States (US), France, Germany, and the European Union (EU).** Following that G7 has announced for a similar partnership in **India, Indonesia, Senegal, and Vietnam**.

India can adopt a just energy transition (JET) strategy in following manner:

- **Acceleration in RE deployment rates:** Meeting India's 2030 target requires accelerating non-fossil capacity addition from 16 GW a year in 2022 to 75 GW a year by 2030, a 22% year-on-year growth.
    - For this option is **shifting energy demand patterns** in ways that enable faster RE capacity addition: solarisation of agricultural electricity demand; electrification of diesel-powered Micro, Small and Medium Enterprises (MSMEs); and decentralised RE for residential cooking and heating.
    - Stimulation of energy demand through **rural productivity enhancement** will further aid RE acceleration as well as help to address the rural-urban economic divide, create rural jobs, and thereby address inter-generational and spatial inequities.
- **Domestic manufacturing of clean energy components**: Indian components are 20% costlier than Chinese components. The way around this is to **negotiate access to markets outside India** as part of a JET-Partnership, to reduce the cost gap through economies of scale.

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- **Re-aligning the current use of coal resources to enhance efficiencies:** until the period of phase-down.
  - One option is to **optimise use of coal-fired power plants** closer to where coal is mined rather than based on energy demand in States. This would enable coal to be used more efficiently because transportation of coal is energy-intensive.
  - It would also lead to cheaper power; the resultant savings could also help finance much needed emission control retrofits. Finally, it would indirectly reduce emissions due to more efficient use of coal.

Any future JET-P deal must consider broader framework for financing and supporting an energy transition. With India holding the G-20 presidency, it has an opportunity at hand to negotiate a deal for itself while also shaping international cooperation on just energy transitions.

Q.10) Highlight the impacts of Large-scale hydroelectric dams on the Himalayas. Also, suggest some alternatives.
Indian Express

> **Introduction: Contextual** introduction.
> **Body:** Explain **some** impacts of Large-scale hydroelectric dams on the Himalayas. Also write some alternatives.
> **Conclusion**: Write a way forward.

Hydropower is often considered green energy because it generates electricity from the natural flow of water without releasing any emissions or pollutants. In India, many hydropower projects are under construction or in the planning stages in the Indian Himalaya, including the Subansiri Lower Hydroelectric Project in Arunachal Pradesh and the Teesta Low Dam Hydroelectric Project in Sikkim.

Impacts of Large-scale hydroelectric dams:
- The construction of dams can **disrupt the flow of rivers, leading to changes in water temperature** and chemistry. It can also cause **erosion, landslides, and sedimentation** which can have a negative impact on the local environment.
- Dams also disrupt the **migration patterns of fish and other aquatic species** and impact the local wildlife, particularly if the dam's construction leads to habitat loss.
- Large-scale hydroelectric dams **displace local communities, affecting their livelihoods** and cultural heritage and impacting the overall well-being of the local population.
- Hydroelectric plants **alter the natural habitats of freshwater species** in the areas they are located. It changes the **concentration of nutrients** also. Downstream river flow suffers a loss of water and silt loads, reducing water quality.
- Research also shows that dams affect the productivity and stability of estuaries. This led to a loss of habitat for aquatic life and a **decline in biodiversity.**

Alternatives to hydropower:
- Micro hydro (100 kilowatts of electricity) systems are typically **less expensive** to build and maintain than large hydroelectric dams and have a **smaller environmental footprint**.
- They can be located even in inaccessible areas and they can provide a reliable source of energy to communities that are not connected to the grid.
- Micro hydro systems can be classified into **two main types – run-of-river and storage systems**. Run-of-river systems use the natural flow of water in a stream or river to generate electricity. In contrast, storage systems use a reservoir to store water and release it as needed to generate electricity.
- The solar industry is dependent on China for photovoltaic cells. If more such cells are made in India at a lower price, with green audits to protect the environment base, it will

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boost the shift from fossil fuel-based electricity generation to **solar power** and also provide jobs.

Micro-hydropower projects can also have some impact on the environment and local communities. So, a detailed assessment should be carried out to evaluate the potential impact before proceeding with the project.

Q.11) In the light of the recent incident of the Chinese spy balloon, highlight the significance of dual use surveillance technologies.
Times of India

> **Introduction:** Contextual introduction.
> **Body:** Explain some significance of dual use surveillance technologies.
> **Conclusion**: Write a way forward.

Dual-use refers technologies to goods (including cyber-surveillance technologies) that can be used for **both civilian and military applications**. A spy balloon is a balloon with any kind of surveillance equipment is attached. Spy balloons date back centuries, but still have some advantages today. Recently, a Chinese spy balloon was detected over the US.

Significance of dual use surveillance technologies:

- While flying aircraft or airships over another country's airspace is risky, they can be used with little interruption over international waters. Here airships offer many of the benefits of aircraft with fewer drawbacks.
- They can **fly at very high altitudes**, putting them beyond the range of many air-to-air and surface-to-air missiles.
- They can reduce their detectability by using '**stealth' technology** such as radar-absorbent material.
- Further out to sea, airships may find a role in **maritime surveillance**, providing a convenient means to track vessels, especially during peacetime and in crises that do not involve outright war.
- Unlike satellites which can cost millions of dollars to create, and require sophisticated technology to launch, high-altitude balloons are **cheap and easy to launch and control**.
- While balloons cannot directly be steered, they can be **roughly guided to a target area** by changing altitudes to catch different wind currents.
- Moreover, unlike satellites which are at much higher altitudes and moving at incredible speeds, spy balloons have the advantage of being **able to hover around at lower heights**, thus providing **better quality images** as well as more time to gather intelligence in a particular area.

India is accustomed to the reality that what passes for peacetime remains highly competitive and occasionally violent. The task ahead for India's government is to turn the table on its adversaries by embracing some of these tools of espionage.

Q.12) What are Village Defence Guards? Why is there a demand for a revival of the erstwhile Village Defence Committees (VDC)?
The Hindu

> **Introduction:** Explain Village Defence Guards.
> **Body:** Explain why there is a demand for a revival of the erstwhile Village Defence Committees (VDC).
> **Conclusion**: Write a way forward.

The **VDCs (Village Defence Committees**) were first formed in the erstwhile Doda district in mid 1990s as a force multiplier against militant attacks. The VDCs have now been renamed as Village Defence Guards (VDG). The VDGs play a crucial role in **maintaining security in**

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rural areas of Jammu and Kashmir. They are responsible for **providing intelligence** to the security forces and help in counter-insurgency operations. They are also armed and **trained by the Indian Government**.

The VDGs also function under the **supervision of district superintendent of police (SP)/Senior superintendent of police (SSP).** The aim of VDGs is to organize a small group of volunteer armed civilians in the identified villages along the borders as well as in-depth areas of the Jammu division, with a view to instill a sense of self-protection and ensure safety and security of such villages.

Due to following reasons there is a demand for a revival of the erstwhile Village Defence Committees (VDC):

- Due to the rise in **terror-related strikes** in the relatively peaceful **Jammu division**, especially in the border districts of Rajouri and Poonch. Any complacency on the part of the state could be **disastrous in the mid and long terms.**

- The **dynamics of militancy in these regions are different** from those prevalent in Kashmir due to the demographic profile of an almost equal proportion of Hindus and Muslims. The agency of the local population in a conflict zone cannot be overlooked.

- In January, according to the South Asia Terrorism Portal, there were **infiltration attempts**, recoveries of war-like stores, explosions followed by gunshots at the house of a local MLA, a neutralisation of hideouts, and the nabbing of suspects in Rajouri and Poonch.

- The demand for the revival of VDCs arose after militant activities resurfaced in areas where peace had long since been restored.

A good control mechanism is needed to ensure that cadres remain motivated and focused. The revival of the VDG should be used as an **opportunity to empower the local bodies**. Panchayats are most suited to understand local dynamics in a conflict zone that change rapidly from one sub-region to the other.

Q.13) Discuss the economic and strategic significance of India – Canada relations. The Hindu

> **Introduction:** Contextual introduction.
> **Body:** Explain some economic and strategic significance of India – Canada relations.
> **Conclusion**: Write a way forward.

Canada was among the first countries associated with India's nuclear programme, but the relationship ruptured after India's nuclear tests in 1974. Canada and India have longstanding bilateral relations built upon shared **traditions of democracy, pluralism and strong interpersonal connections**. This is complemented by **economic engagement, regular high-level interactions and long-standing people-to-people ties**.

Economic significance:

- Canada's search for **new markets to diversify** its considerable economic engagement with China coincides with **India's push to conclude free trade agreements** with many countries.

- India and Canada have agreed to formally re-launch the negotiations for the India-Canada **Comprehensive Economic Partnership Agreement (CEPA).**

- They will also consider signing an **Interim Agreement or Early Progress Trade Agreement (EPTA)** that could bring early commercial gains to both countries.

- Total **bilateral trade** between India and Canada including goods and services crossed $11 billion.

- India is **Canada's 9th largest export market**. India exports include gems, jewellery and precious stones, pharmaceutical products, readymade garments, light engineering goods, iron & steel articles, etc.

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- Indian companies have invested especially in the IT, software, steel and natural resources sectors.

Strategic significance:

- India welcomed the announcement of **Canada's Indo-Pacific Strategy** which calls India an important partner. It marked out China as an "increasingly disruptive global power", while referring to India as a "critical partner" with shared traditions of democracy and pluralism.
- There are concerns over the resurgence of **Khalistani separatism** and calls for a "referendum" amid the Sikh community in Canada as well as incidents of **vandalism and violence** targeting the Indian community there.

There is enough potential for both, India and Canada to boost the cooperation and take their relations to next level. But it requires Canadian effort by widening their Indian perspective. This can happen if India by diverting the talks from politically contentious issues

Q.14) Although the government has increased the budgetary allocation for Public Sector, but their contribution to capital outlay is not increasing. Discuss.
Business Standard

> **Introduction:** Contextual introduction.
> **Body:** Explain budgetary allocation for Public Sector and their contribution.
> **Conclusion**: Write a way forward.

The Union Budget is also known as the **Annual Financial Statement**. **Article 112** of the Constitution of India lays down that it is a statement of the estimated expenditure and receipts of the Government for a particular year. The vision for the *Amrit Kaal* includes **technology-driven and knowledge-based economy** with strong public finances, and a robust financial sector.

Budgetary allocation:

- The budget for 2023-24 has been generous with its capital expenditure. A large chunk of its capital outlay would be routed through capital support to PSUs. For instance, in 2022-23, PSUs accounted for over half of the government's capital expenditure, up from a share of 42% in 2021-22.
- In 2023-24, **Railways** would be helped by Rs 2.4 trillion of capital support from the Centre.

Contribution of Public sector:

- There is a **decline in the share of the PSUs' own contribution** to their total capital outlay on projects. Hence, PSUs are increasingly becoming more dependent on the Centre to meet their capital expenditure requirements.
- Railways' own contribution to its capital projects will decline to 18%.
- There is also a **lack of accountability** in ensuring a decent return on such investment.
- The losses prompt PSUs to take loans from the Banks which they cannot repay creating the conditions of the twin balance sheet.
- So many PSUs are **in loss.** Out of these, state-run carrier Air India, telecom companies Bharat Sanchar Nigam Ltd (BSNL) and Mahanagar Telephone Nigam Ltd (MTNL) were the top three loss-making PSUs in fiscal 2018-19.

Overall, the government must expedite its plan for asset sale and privatisation. The holding structure of PSUs needs to be reworked, and there are best practices available, like Singapore's Temasek model.

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Q.15) Do you think, the government's disinvestment policy has achieved its intended objectives? Give justifications for your arguments.

The Hindu

> **Introduction:** Contextual introduction.
> **Body:** Explain some achievements of the Disinvestment policy. Also write some challenges.
> **Conclusion**: Write a way forward.

Disinvestment is when the **government sells its assets or a subsidiary**, such as a Central or State public sector enterprise. Department of Investment and Public Asset Management (DIPAM) acts **as the nodal agency** for disinvestment**.** The main objectives of disinvestment in India are to **reduce the fiscal burden** and improve the efficiency of the enterprise, increase revenue sources, bring in private players, promote competition, and develop a strong capital market.

Achievements of the Disinvestment policy:

- According to the Department of Investment and Public Asset Management (DIPAM), between 2004-05 to 2013-14, disinvestment raised Rs. 1.07 lakh crore, on an average yearly collection of Rs. 10,700 crores.
- However, from 2014-15 to 2017-18, the collection went up to Rs. 2.12 lakh crore, i.e., a yearly collection of Rs. 53,000 crores.
- The government exceeded the target of Rs. 1 lakh crore in 2017-18 and Rs. 80,000 crores in 2018-19.
- The success of **BHARAT-22 Exchange Traded Funds (ETF)** took government closer to the disinvestment target.

Challenges:

- Centre has **not met the disinvestment target for 2022-23** so far. The government's disinvestment receipts stood at ₹31,106.64 crores as against the budget estimate of ₹65,000 crores**.**
- The strategic sale of Central Electronics was also shelved due to **lapses in the bidding process**.
- Strategic sales stalled over FY21 and FY22 when India saw three waves of the **pandemic**, largely because potential investors were unable to physically inspect the assets, conduct due diligence and submit bids.
- Disinvestment has also faced **opposition from employees** fearful of job losses.
- Several **state governments have opposed privatization** as well.

A **third-party valuation** of every PSU's assets and a minimum number of bidders should be necessary pre-conditions before going ahead with each sale. The government should look into strengthening the regulatory framework that ensures efficient market conditions.

Q.16) What is the US-India Initiative on Critical and Emerging Technologies (iCET)? Discuss its significance.

Indian Express

> **Introduction:** Explain iCET.
> **Body:** Explain significance of US-India Initiative on Critical and Emerging Technologies (iCET).
> **Conclusion**: Write a way forward.

The Initiative on Critical and Emerging Technologies (iCET) was launched by India and the US to **expand the India-US partnership for critical and emerging technologies**– that will drive global growth, bolster both countries' economic competitiveness, and protect shared national security interests. The initiative is being **run by the National Security Councils** of

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both countries. The idea was first mooted on the margins of the **Tokyo summit of the Quad** last year.

Significance of iCET:

- The iCET could become a "game changer" in catalysing Indo-US technology cooperation by persuading the US to **lift existing export control restrictions**, and **encouraging the private sector** of both countries to cooperate in sensitive sectors.
- The most important outcome would be to remove the mistrust and to **demonstrate a mutual commitment** to investing in advanced technologies, such as quantum computing, AI and space, as well as the critical field of semiconductor design and manufacture.
- It could lend a **new strategic depth and breadt**h to the expanding engagement between India and the United States.
- The iCET involves collaboration in a range of areas including **quantum computing, semiconductors, 5G and 6G wireless infrastructure, and civilian space projects** such as lunar exploration.
- The iCET process will be monitored and driven from the PMO in Delhi and the White House in Washington. It will hopefully bring **greater coherence** to this round of India-US technological engagement.
- iCET will forge closer linkages between the **government, academia and industry** of the two countries. The objective is to provide **cutting-edge technologies** to the rest of the world which are **affordable**.
- The initiative is also seen as an **alignment of strategic, commercial and scientific approaches** in the field of technology.

While many of these emerging technologies have huge future potential, both in the civil sector and the security domain, there are other areas — less esoteric but equally important on which iCET must focus urgently.

Q.17) Green growth is the overarching theme across the world, however, a trend of deglobalization is visible in its expansion. Comment.
Business Standard

> **Introduction:** Contextual introduction.
> **Body:** Explain some global efforts for Green growth. Also write trend of deglobalization.
> **Conclusion**: Write a way forward.

Green growth is **not a replacement for sustainable development**. Rather, it provides a practical and flexible approach for achieving concrete, measurable progress across its economic and environmental pillars, while taking full account of the social consequences of greening the growth dynamic of economies.

Global efforts for Green growth:

- Prime Minister has given a vision for "**LiFE", or Lifestyle for Environment** and that India was moving towards the '**panchamrit' and net-zero carbon emission by 2070** to usher in green industrial and economic transition.
- **Green Climate Fund** is the financial mechanism of the UNFCCC, established in 2010. India has been pushing for rich countries to meet their Paris Accord climate finance commitment of USD 100 billion per year.
- India and the UK announce joint **UK-India Fund, namely a Green Growth Equity Fund**. It aims to leverage private sector investment from the City of London to invest in Green Infrastructure Projects in India.
- Japan also has started "**Green Growth Strategy Through Achieving Carbon Neutrality in 2050".**

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- Singapore and Australia signed the **Singapore-Australia Green Economy Agreement ("SAGEA")** "to boost cooperation on climate investment, financing and technology.

Trend of deglobalization:

- After **pandemic** every country is diligently encouraging investment in manufacturing. Each country wants to have security of supply of all things.
- Deglobalization will also **hinder the production, investment, and innovation** needed to replace carbon-intensive production processes with climate-friendly ones. E.g. refining of key inputs for batteries – lithium, nickel, and cobalt is done in China and Russia.
- Rising concerns about **energy security and fossil fuel pricing volatility** have also heightened interest in domestic renewables.
- **Rising geopolitical rivalries** will make mitigation agreements more difficult. E.g. China and the United States.
- **EU** has agreed to the world's first **Carbon Border Adjustment Mechanism** (CBAM) to prevent "carbon leakage" but it is not about the climate, but about protectionism.

Global diversification, by contrast, would bring greater resilience. The green transition is a global challenge, it still needs a globalised approach — one that complements local and regional solutions.

Q.18) Crackdown on child marriage doesn't address real causes. In the light of the statement, suggest some alternative measures to tackle the menace of child marriage.
Times of India

> **Introduction:** Contextual introduction.
> **Body:** Explain some alternative measures to tackle the menace of child marriage.
> **Conclusion:** Write a way forward.

Child marriage is defined as a marriage of a girl or boy before the age of 18. According to **UNICEF**, at least 5 million girls under 18 get married in India, which makes it home to the **largest number of child brides** in the world – accounting for ~33% of the global total. Nearly 16% adolescent girls aged 15-19 are currently married.

Measures to tackle the menace of child marriage:

- **Financial Upliftment**: Poor Families 'sell' their children through marriage to pay off debts or to get out of the cycle of poverty. Providing families with **livelihood opportunities like microfinance loans** is an effective way to prevent child marriages that occur as a result of financial stress.
- **Implementation of Laws**: Laws are not implemented stringently. In many cases the ages of the bride and groom aren't checked at the time of registration of marriage. **Village Panchayats** must work closely with the Child Protection Committees and Child Marriage Prohibition Officers to prevent instances of child marriages.
- **Empowering the Girl Child**: Limited paid **work opportunities for women** and girls are another factor that contributes to early marriage. The Governments should take all possible steps to improve access to **education for girls** e.g., the Governments can provide schools with proper sanitation facilities. Incentives may also be provided for girls to increase their enrollment in the school.
- **Social Change**: There is a need to **sensitize the parents and society** about the ills of child marriage. Rallying the wider community to stand up for girls' rights will help bring the change. Social change will be more effective to check child marriage than coercive measures and laws.

The government should attempt the visionary and practical solution of the campaign **Beti Bachao, Beti Padhao**. The efforts of the Union and State Governments, NGOs have led to a sharp decline in the instances of child marriages. However, all stakeholders should continue their efforts till this evil practice is eliminated completely.

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Q.19) Discuss the Relevance of the Right to Speak with Parliamentary Privileges given by the constitution of India. Also, highlight the judicial stand on these rights.
Indian Express

Introduction: Contextual introduction.
Body: Explain the relevance of the Right to Speak with Parliamentary Privileges given by the constitution of India. Also write judicial stand on these rights.
Conclusion: Write a way forward.

Article 105 of the Constitution deals with powers, privileges, etc of the Houses of Parliament and of the members and committees. Members of Parliament are **exempted from any legal action** for any statement made or act done in the course of their duties. This immunity extends to certain non-members as well, such as the Attorney General for India or a Minister who may not be a member but speaks in the House.

Relevance of the Right to Speak with Parliamentary Privileges:
- It assists in **ensuring the efficacy** of the activities done by legislators and their independence, shielding them from unwarranted criticism.
- It aids in **upholding the members of parliament's dignity**, authority. It also honour and protects them from any interference with their ability to carry out their duties in the house.
- The free speech of legislators protects the **integrity of discussions** in Parliament and acts as a shield against the suppression by the executive.
- Further, **Freedom of expression** is regarded as the foundation of a **liberal democracy** and imposing unfair restrictions on legislators will hamper this foundation.

Judicial stand on these rights:
- In the 1970 ruling in 'Tej Kiran Jain v N Sanjiva Reddy', the Supreme Court ruled that **"the word "anything"** in Article 105 is of the widest import and is **equivalent to 'everything'.**
- In 'P V Narasimha Rao case (1998) a five-judge Bench of the apex court ruled that the ordinary law would not apply to the acceptance of a bribe by an MP in case of parliamentary proceedings. The court interpreted Article 105(2) and said that it **protects MPs against proceedings in court related to anything said or a vote given in the Parliament.**
- The Court said that it will "**enable members to participate fearlessly** in Parliamentary debates" and that these members need the wider protection of immunity against all civil and criminal proceedings that bear a nexus to their speech or vote.

The responsibility to improve politics and bring an ecosystem that discourages irresponsible speech and corruption lies with the citizens more than with the laws. Constitutional safeguards exist to ensure the **structural integrity of political democracy.** Therefore, using these laws to correct political problems is not the solution.

Q.20) The emerging law and order challenges posed by the swift technological change would require greater innovativeness and agility, as well as a demonstration of newer cognitive skills. Discuss
The Hindu

Introduction: Contextual introduction.
Body: Explain some challenges posed by the swift technological change. Also write some measures to tackle these.
Conclusion: Write a way forward.

Today's security threats have an all-embracing character. There is a need for in-depth discussions on futuristic themes in policing, such as **cyber-crime, the dark web, and**

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unchecked social media. These are in addition to subjects such as left-wing extremism, counter-terrorism, drug tracking and border issues.

Challenges posed by the swift technological change:

- Law and order management today has **not been given sufficient attention**. It demands a combination of newer skills, in both technology and crowd management. These are not available among security agencies.
- Managing **today's angry, and often unruly, mobs** requires a fresh set of skills and inherent abilities, apart from mere technology.
- A **heavy-handed approach** to deal with crowds creates more problems. This only leads to division between law enforcement agencies and the public.
- There is a **presence of multiple security agencies**, including intelligence and investigative agencies. They seldom act with a common purpose. Their techniques and methodologies tend to be different. It leads to **contradictions in approach**. They often hinder proper analysis and investigation.

What can be done?

- **'Open Source intelligence:** The proper utilization of Open Source intelligence could well become the critical factor in managing many law and order situations today.
- **Two separate conferences:** A higher-level conference of DGPs/IGPs should discuss policy related issues. A separate conference should be held of intelligence and security specialists to discuss the methodology, techniques and acquisition of new skills for current and future problems.
- **Use of AI:** Big Data can be used to integrate data from multiple sources such as social media tools, financial institutions, travel records, hotel stays, CDRs and criminal records. This can help create a **360-degree view of the criminal** and draw linkages between criminal associates.
- More than the mere acquisition of new skills, police must **develop a different mindset,** including that force cannot be the answer to every situation.
- Police and security agencies, must consequently, be provided with the right attributes, and for which they need to be **adequately trained.** The selection of personnel to security agencies, especially the police, also will require a total makeover.

There is a need of the **SMART Police** — a force which would be strict and sensitive, modern and mobile, alert and accountable, reliable and responsive, techno-savvy and trained.

Q.21) What is sustainable clothing? What are the needs and challenges of adopting sustainable clothing in India?

Indian Express

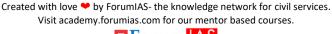> **Introduction:** Explain sustainable clothing.
> **Body:** Explain needs and challenges of adopting sustainable clothing in India.
> **Conclusion**: Write a way forward.

Sustainable clothing is a way in which brands create clothing that not only reduces the impact on the environment but is also mindful of the people who work to produce the garments. Simply, it is **fashion that is ethically made and environmentally friendly**.

What are the needs of adopting sustainable clothing in India?

- **High demand:** With India's high share of global population and increasing purchasing power, it would be quite soon that India starts accounting for a major share in textile related environment degradation statistics.
- **Under developed recycling:** Each year, about **60 million tonnes of new fibers** are used to make garments, and no plausible concept exists on what to do with them when they are no longer needed. As a result, **three-quarters of these products are disposed off** in landfills or incineration plants.

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- Its production process **saves at least 90 per cent water and 50 per cent energy** when compared with traditional methods.
- Our National Climate Change Journal (2018) lists **textile manufacturing** as one of the most polluting sectors of the economy, emitting 1.2 billion tonnes of greenhouse gases.

Challenges:

- It is not only about setting up a **zero-carbon production and supply chain**, it is also about including fair trade and ethical practices for labour, nurturing artisanship, recycling etc. all of which raises production costs.
- **Procurement of sustainable raw materials:** Organic cotton, handlooms, even recycled fibres, polyesters or deadstock cost **higher** as well as **technical interventions** needed to minimise water wastage, emissions, effluents and organic dyes.
- Maintaining a circular economy of fashion **involves sophisticated technological processes**, an indulgence at best by big fashion houses, who, like Stella McCartney, have developed a sub-brand.
- The major fashion weeks are still far from firming them up.
- Without **incentives** in the fashion industry, **rationalisation of the cost structure**, and most importantly, legitimate **endorsement** by Bollywood and sports ambassadors, sustainable fashion will not become a practical choice.

Because environmentalism goes hand in hand with socially equitable practices, however, ethical and sustainable fashion are intricately tied together. Owing to multiple benefits, **Project SURE** is a step in the right direction.

Q.22) Discuss the reasons behind the prevalence of Violence against domestic workers. Also, suggest some measures to control this menace.

Indian Express

> **Introduction:** Contextual introduction.
> **Body:** Explain some reasons behind the prevalence of Violence against domestic workers. Also write some measures to control this menace.
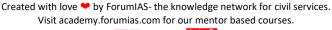> **Conclusion**: Write a way forward.

As per the **ILO convention 189,** a domestic worker is a person engaged in domestic chores within an employment relationship. India is witnessing a constant increase in the number of domestic workers. According to the **government's e-Shram portal**, a national database of unorganised workers, almost 10% of the workers registered are engaged as domestic and household workers.

Reasons behind the prevalence of violence against domestic workers:

- There is **lack of accurate data** on the number of domestic workers in India.
- The abuse of domestic workers can be partly blamed on **a lack of social and labour protection**. This often happens because of discrimination on the lines of sex, race and caste.
- Given their **backward social and economic status**, women who enter domestic work are extremely vulnerable as personal relations govern their entry into the occupation and the conditions at work afterwards.
- State apathy at regulating this sector is evident from the **lack of any specific laws** to protect the rights of these workers.
- As per the definition of labour laws, **private households are outside** the realm of their coverage. Though most state governments have added domestic work to the list of scheduled employment, **implementation** remains an issue.

Measures to control this menace:

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- There is a need to **address the power imbalance and provide greater protection** for domestic workers. The government should also retain a **degree of flexibility in work structures**.
- The government should also ensure **detailed documentation and greater transparency in work contracts**.
- A **standard way to collect data on domestic work**, as well as the social and economic value of domestic work, is needed.
- Steps like increasing pay, joining **minimum wage protection, and regulating working hours** are needed to make things better.
- Policies and strategies that protect domestic workers' labour and social rights, like social security, written contracts**,** and so on, should be pushed by the government.

There is need to protect the domestic workers from abuse, harassment, violence and guarantee them rights in the matter of social security and minimum wages.

Q.23) Highlight the rules regarding making allegations in the Parliament. Can the speaker expunge words from the speech of the parliament on the ground that they are defamatory?
The Hindu

Introduction: Contextual introduction.
Body: Explain rules regarding making allegations in the Parliament. Also write about speaker's power to expunge words from the speech on the ground that they are defamatory.
Conclusion: Write a way forward.

Accountability to Parliament requires the government to respond adequately to the questions raised by MPs in the debate. Under the Rules of the House, it is the Prime Minister who replies to the debate in both Houses.
Rules regarding making allegations in the Parliament:
- **Article 105** of the Constitution confers on members, freedom of speech in the House and immunity from interference by the court for anything said in the House.
- Under **Rule 353 of the Lok Sabha**, the MP is required to give "**adequate advance notice**" to the Speaker as well as the Minister concerned. The allegation which necessitates advance notice, etc. is of a defamatory or incriminatory nature. If the allegation is neither defamatory nor incriminatory, the above rule would have no application.
- The "adequate advance notice" rule does **not apply to an allegation against a Minister** in the government. Since the Council of Ministers is accountable to Parliament, the Members of the House have the right to question Ministers and make imputations against their conduct as Ministers.
- The **presiding officers** have carefully laid down a stipulation that the MP who makes an imputation against a Minister of the government should be **sure about the factual basis** of the allegation, and that he must **take responsibility** for it. If the MP complies with this stipulation, then the allegation will be allowed to remain on record.

Issue of defamation:
- Rule 380 of the **Rules of procedure of the Lok Sabha** and Rule 261 of the **Rules of the Rajya Sabha** give the power to the presiding officers of these Houses to expunge any words used in the debate which are **defamatory, unparliamentary, undignified or indecent**. Once expunged they do not remain on record and if anyone publishes them thereafter, they will be liable for breach of privilege of the House.
- Under **Section 499 of the Indian Penal Code**, any statement respecting the conduct of a **public servant in the discharge of his public function not defamation**. If such a

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statement is made in the House against a Minister who is a public servant, it does not come within the 'mischief' of Rule 353 or Rule 380. So presiding officers can't expunge words in or portions of a speech on the ground that they are defamatory.

It also needs to be ensured that the freedom of speech enjoyed by the Members in the House is not needlessly curtailed.

Q.24) What are the changes required in wireless regulations?
Business Standard

> **Introduction:** Contextual introduction.
> **Body:** Explain some changes required in wireless regulations.
> **Conclusion**: Write a way forward.

India liberalized the telecom sector in 1981. It had initially adopted first-cum first licence policy during the initial days of mobile telephony. However, the 2G scam led to the replacement of the previous policy with the open auction of spectrum. India has billion-plus mobile subscribers and 800 million internet users and hosts the **second-largest telecommunications network** in the world.

Changes required in wireless regulations:

- Given the high costs of installing fibre, **policies for wireless middle- and last-mile connectivity** are urgently required.
- The **expenditure** on roads and railways is twice the amount on communications.
- As per ICRA, full-scale 5G deployments across India would require expenditure of about Rs 3 trillion because nearly two-thirds of the towers lack fibre connectivity. However, due to **high debt of telecoms and high cost of fibres**, it is unexpected that telecommunication companies would invest heavily. Therefore, there is an urgent need for the policy makers to come up with wireless **policies based on successful models in other countries**.
- The communication sector in India lacks **proper policy regulations**. E.g. Vodafone was imposed with **retrospective taxes** in 2007. However, it was later set aside by the Supreme Court.
- Vodafone and other operators **fought licence fees claimed** o**n non-telecom revenues** included in aggregate gross revenues (**AGR**) since 2003 while the interest on dues kept on rising.
- There is a need to **enable 6GHz for Wi-Fi, allow speeds of up to 10 Gbps,** and **support for local product development** and production instead of relying on imports.

The vision of **"Digital India"** can never be realised if affordable broadband connectivity remains only within the reach of a few.

Q.25) What is Generative AI? Highlight its implications?
Live Mint

> **Introduction:** Explain Generative AI.
> **Body:** Explain its implications.
> **Conclusion**: Write a way forward.

Generative AI (GenAI) is the part of Artificial Intelligence that can generate all kinds of data, including audio, code, images, text, simulations, 3D objects, videos, and so forth. It takes inspiration from existing data, but also generates new and unexpected outputs. Recently, San Francisco-based AI start-up OpenAI launched **ChatGPT** (Chat Generative Pre-trained Transformer).

Generative AI works by **training a model on a large dataset** and then using that model to generate new, previously unseen content that is similar to the training data. This can be done

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through techniques such as **neural machine translation, image generation, and music generation**.

Positive Implications:

- **Reduce the burden of human research:** It can help shift through numerous legal research materials and produce a pertinent, specific and actionable summary. As a result, it can reduce the countless hours of human research and enable them to focus on more complex and exciting problems.
- **Help in designing**: It can also help create and simulate **complex engineering, design**, and architecture. It can help speed up the iterative development and testing of novel designs.
- **Personalized Health treatments:** It can also help health professionals with their medical diagnosis. AI can generate potential and alternative treatments personalized to patients' symptoms and medical history. For instance, **DeepMind AlphaFold** can predict the shape of the protein.
- Agencies can generate **personalized social media posts**, blogs and **marketing text and video** copies by providing a text prompt to a Generative AI service like ChatGPT.

Concerns:

- **Deepfakes:** Generative AI, particularly machine learning approaches such as deepfakes, can be used to generate synthetic media, such as images, videos, and audio. Such AI-generated content can be difficult or impossible to distinguish from real media, posing serious **ethical implications**.
- **Inaccuracy problem:** Generative AI uses machine learning to infer information, which brings the potential inaccuracy problem to acknowledge.
- **Increase in Biases:** Recent evidence suggests that larger and more sophisticated systems are often more likely to absorb underlying social biases from their training data. These AI biases can include **sexist, racist, or ableist approaches** within online communities.
- **Risk of Unemployment:** This could happen if generative AI automates tasks or processes previously performed by humans, leading to the displacement of human workers.
- **Plagiarism**: they are really just making new patterns from the millions of examples in their training set. The results are a cut-and-paste synthesis drawn from various sources— also known, when humans do it, as plagiarism. Either way, what's missing is **uniqueness**.

It is important for developers and users of generative AI to consider the potential impacts and ensure that the technology is used ethically and responsibly.

Q.26) What is the rationale behind the demand for special constitutional status for Ladakh?

The Hindu

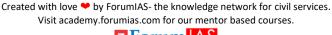> **Introduction:** Contextual introduction.
> **Body:** Explain rationale behind the demand for special constitutional status for Ladakh.
> **Conclusion**: Write a way forward.

Civil society groups in Ladakh have been demanding protection of land, resources and employment for the past three years after the special status of the erstwhile State of Jammu and Kashmir under Article 370 of the Constitution was read down by Parliament in 2019.

The **sixth schedule under Article 244** of the Constitution protects the autonomy of tribal populations through the creation of autonomous development councils which can frame laws on land, public health and agriculture. As of now, ten autonomous councils exist in **Assam, Meghalaya, Tripura and Mizoram.**

Rationale behind the demand for special constitutional status for Ladakh:

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- Since 2019, many Ladakhis have realized that their true need for relatively free and autonomous functioning, as well as significant local employment generation, remains a mirage.
- Before the **Ladakh Autonomous Hill Development Council (AHDC)** election, the **reg**ion was promised Sixth Schedule status**,** similar to what is seen in some parts of north-east India**.** This promise has yet to be fulfilled.
- In Ladakh, tribal communities account for **nearly 97 percent of the population**. Thus, the people of Ladakh desire statehood under the terms of autonomy offered to the four states named in the sixth schedule.
- The inclusion of Ladakh in the sixth schedule would **give the regional council autonomy in legislative, judicial, and financial matters.**
- The **fear of big businesses and conglomerates** taking away land and jobs from the local people has contributed to this demand.

A constitutional status that allows for locally determined pathways, driven by a sensitive local population, can help avoid the disastrous path that many other parts of India have taken.

Q.27) The rapidly rising Antimicrobial Resistance (AMR) needs an accelerated, multi-sectoral, global, and national response. Elaborate.
The Hindu

> **Introduction:** Contextual introduction.
> **Body:** Explain some threats due to AMR. Also write some measures to tackle this.
> **Conclusion**: Write a way forward.

Antimicrobial Resistance (AMR) occurs when microbes like (bacteria, viruses, fungi and parasites) change over time and no longer respond to medicines making infections harder to treat and increasing the risk of disease spread, severe illness and death. A 2018 **report by the OECD** warned that the world could experience a significant rise in resistance to second and third-line antibiotics by 2030.

Threats due to AMR:

- Microbial resistance to antibiotics makes it **harder to treat infections** such as pneumonia, tuberculosis (TB), blood-poisoning (septicaemia) and several food-borne diseases.
- A 2022 study by the Indian Council of Medical Research (ICMR) revealed that resistance to broad-spectrum antimicrobials **increases by 5% to 10% every year.**
- AMR **adds** to the **burden of communicable diseases** and strains the health systems of a country, making it even more challenging to address health crises.
- AMR imposes a **huge health cost on the patient** in the form of longer hospitalization, health complications, delayed recovery and the need for more expensive and intensive care.
- The rapid global spread of multi- and pan-resistant bacteria (also known as **"superbugs")** **cause infections that are not treatable** with existing antimicrobial medicines such as antibiotics.

What needs to be done?

- Ensure that antibiotic consumption in humans is from the **WHO "Access" group** of antibiotics.
- Tackling AMR requires **constant monitoring of antibiotic consumption**, identifying the types and quantities of antibiotics being used.
- **Eliminate use in animals and food production** of antimicrobials that are medically important for human health.

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- The **One Health approach** can be helpful as it brings together multiple sectors and stakeholders engaged in human, animal and plant health, and the environment to work to attain better public health outcomes.
- **Greater innovation and investment** is required in operational research, and in research and development of new antimicrobial medicines, vaccines, and diagnostic tools especially those targeting the critical gram-negative bacteria.
- **Educate patients and the general community** on the appropriate use of antimicrobials and create awareness about the dangers of taking antibiotics without being prescribed.

While the scientific community looks for solutions, governments must raise the standard of living for citizens, provide them accessible and affordable quality health care, besides regulating the sale and use of antibiotics.

Q.28) Discuss the significance of India's civil aviation policy.
Indian Express

> **Introduction:** Contextual introduction.
> **Body**: Explain significance of India's civil aviation policy.
> **Conclusion**: Write a way forward.

India is the **third largest domestic civil aviation market** in the world after China and the US. Domestic passengers more than doubled from 60 million in 2014 to 143 million in 2020. There has also been a significant increase in international air passengers — from 23 million to 35 million.

Significance of India's civil aviation policy:

- The government issued new MRO Guidelines to **encourage MRO organisations and OEMs to set up workshops in India**. 100 per cent Foreign Direct Investment permitted via automatic route for MRO, and reduction of GST from 18 per cent to 5 per cent with full Input Tax Credit.
- The need for pilots has also led to an **increase in Flight Training organisations (FTOs).** Currently, India has 35 approved FTOs with 53 bases and an additional 10 are on the anvil. Similarly, the number of **Air Traffic Controllers has increased** from a little over 2,000 in 2012 to close to 4,000 in 2022.
- Last year, the government issued guidelines for **Production Linked Incentives (PLI) for drones** with an outlay of Rs 120 crore over three years. Further, 72 types of fees have been reduced to four and approximately **90 per cent of airspace has been marked as 'Green'** under which no permission is required to operate drones.
- The **Krishi Udan Scheme** is focused on transporting perishable food products of farmers from the hilly areas, north-eastern states and tribal areas.
- Instrumental in **rescuing Indians and foreign nationals** during emergencies. As a part of the **Vande Bharat Mission**, India operated air bubbles to facilitate the travel of 1.83 crore passengers during the various COVID-19 waves. Further, **Operation Ganga** rescued 22,500 Indian students from Ukraine at the peak of the Russia-Ukraine conflict.
- The Ministry of Tourism also funds more than 50 routes and has approved another 10 routes under the **RCS-UDAN Scheme.**

India has a huge aviation market with large untapped potential. There is a need for continuous support to the sector from the Government through appropriate policy interventions. This will benefit domestic economy, as well as enhance the global footprint of India's aviation sector, both in passenger and freight traffic.

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Q.29) Examine the Supreme Court's judgment allowing fishermen of Tamil Nādu to use purse seine fishing gears for fishing.
The Hindu

> **Introduction:** Contextual introduction.
> **Body:** Explain some threats due to AMR. Also write some measures to tackle this.
> **Conclusion**: Write a way forward.

The Supreme Court of India has given permission to fishermen using Purse Seine Fishing (PSF) gear to fish **beyond territorial waters (12 nautical miles) and within the Exclusive Economic Zone (EEZ)** (200 nautical miles) of Tamil Nadu, with certain restrictions. This fishing technique has been widely deployed on India's western coasts.

Concerns:

- PSF is a **non-selective fishing technology** which captures all kinds of fish including protected species like turtles.
- Purse seiners **tend to overfish**, unlike traditional fishermen using traditional fish gear, thus endangering the livelihood of the traditional fisher.
- The Court's order seems to be **more concerned about regulating fishing** with administrative and transparency measures than about the conservation measures and obligations.
- In some States, this technique is linked to concerns about the **decreasing stock of small, pelagic shoaling fish** such as sardines, mackerel, anchovies on the western coasts.
- Merely restricting the purse seiner to fish on two days is **not sufficient without regulating the fishing methods used.**
- The most recent court ruling appears to **disregard the conservation measures** and duties that a coastal state is required to take in its EEZ **by** the United Nations Convention on the Law of the Sea **(UNCLOS).**
- International legal efforts are gradually moving in the direction of abandoning the use of large-scale pelagic nets. The huge size of the purse seine nets (2,000 metres in length and 200 m in depth) allows maximum catch for the purse seiners, in turn **leaving behind insufficient catch for traditional fishermen.**

Despite the best conservation measures and regulation of fishing methods adopted by the authorities, it will be a challenge in dealing with the limitless character of the seas which renders a common resource such as fish available for exploitation by all.

Q.30) Air India's huge order for aircraft has multiple implications, for the airline, for civil aviation, for policy and for manufacturing. Elaborate.
Times of India

> **Introduction:** Contextual introduction.
> **Body**: Explain some implications of Air India's huge order for aircraft.
> **Conclusion**: Write a way forward.

Recently Tata Group-owned Air India from India has signed a deal with **Boeing of the US and Airbus of France to procure 470 jets**. This makes it the largest-ever pipeline of new aircraft ordered by an Indian airline. The aircraft are split between narrow body and wide body machines. While the narrow body planes will service domestic routes the Airbus wide body aircrafts are to largely serve the ultra-long haul segments, that is, flights of 10 hours or more.

Implications:

- This will enable Air India to engage in a complete fleet renewal coupled with **significant expansion.**

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- This deal is also important for the **deep ties between India, France and US** and will consequently improve cooperation in the Indo-Pacific.
- Geopolitical dynamics can also be leveraged to provide a **competitive edge**. Challenges and weaknesses in markets such as **Vietnam, Thailand, Indonesia and Malaysia** have impacted airlines there. **SAARC markets** notably Pakistan and Sri Lanka also have seen challenges. These factors will help Air India to enter, **capture traffic flows.**
- It will put the first Indian airline among the top 10 global airlines in terms of the number of fleets.
- The Tata Group also brings **commercial aircraft manufacturing** into the country over time. Not only would it be a major **boost to manufacturing** but would pave the wave for **technology transfer agreements** which are critical.
- It will help the western economy to **come out of its struggling economic situation** after the covid-19 pandemic and Russia-Ukraine conflict-induced slowdown.
- There is a **huge demand** as more than 190 million domestic and international passengers taking to the Indian skies in 2023, and the number of flyers tripling by the end of the decade.

In the long run, a local manufacturing base for aircraft, and skilled manpower need to be generated.

The airport infrastructure needs to be further strengthened. This will benefit domestic economy, as well as enhance the global footprint of India's aviation sector, both in passenger and freight traffic.

Q.31) What is the Special Marriage Act, and how is it different from religious codes of marriage?

Indian Express

> **Introduction**: Explain Special Marriage Act.
> Body: Explain how it is different from religious codes of marriage.
> Conclusion: Write a way forward.

The Special Marriage Act of 1954 (SMA) enables marriage **between inter-faith or inter-caste** couples without them giving up their religious identity or resorting to conversion. The applicability of the Act extends to the **people of all faiths**, including Hindus, Muslims, Sikhs, Christians, Sikhs, Jains, and Buddhists, across India. Some customary restrictions such as parties not being within degrees of a prohibited relationship still apply to couples under SMA. The minimum age to get married under the SMA is **21 years for males and 18 years for females**. No religious formalities are needed to be carried out under the Act. This Act applies not only to Indian citizens who belong to different castes and religions, but **also to Indian nationals who live abroad**.

How is it different from religious codes of marriage?
- The SMA 1954 governs a civil marriage where the state sanctions the marriage rather than the religion, whereas it is vice versa for personal laws.
- Issues of personal law such as marriage, divorce, adoption are governed by religious laws that are codified. These laws, such as the Muslim Marriage Act, 1954, and the Hindu Marriage Act, 1955, require either spouse to **convert to the religion** of the other, before marriage.
- The Hindu Marriage Act allows for an **already solemnized marriage to be registered**. It does not provide for registrar for solemnization of a marriage.
- Since caste and religion have not been altered, the **rights to ancestral property** also remain unchanged. Personal laws manage the succession of property, which is governed

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by people's beliefs. As a result, despite marrying outside the religious fold, the rights of inheritance and succession granted by the particular faith continue to exist.

Bearing in mind the community's wrath, the Special marital Marriage is meant to safeguard the couple to the greatest extent feasible. The goal was to develop a universal code that would minimise the gap running deep in the society.

Q.32) Do you think that setting up foreign universities in India can halt educational emigration?

Business Standard

> **Introduction:** Contextual introduction.
> **Body:** Explain how setting up foreign universities in India can halt educational emigration. Also write some arguments against this.
> **Conclusion:** Write a way forward.

Recently the University Grants Commission (UGC) unveiled draft norms for allowing, for the first time, foreign universities to set up campuses in India. They have been given autonomy to decide the admission procedure and fee structure. **Over 6.5 lakh Indian students** went abroad in 2022 to pursue higher education, according to data shared by the Union education department.
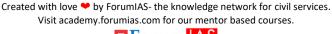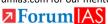
How it can halt educational emigration?

- According to a recent survey by INTO University Partnerships, almost eight in 10 Indian students (76 per cent to be precise) look at a study abroad plan to work and settle overseas after completing their international degree.
- Indian students who want to study abroad will be **more than a million in the near future**. Campuses of foreign universities in India can admit only a fraction of the students going abroad.
- Foreign universities in India will **bridge the gap between the skill-development system and traditional degree education** by identifying and mitigating bottlenecks in India's skill development ecosystem.
- It will also **augment technology transfer, research and innovation** in the country. This will further lead to the creation of **strategic training programme**s and a pool of **proficient individuals** who can leverage **emerging global opportunities.**
- This provides an opportunity to tap into the very **large pool of NRI educators** in universities all over the world and who can bring the best of both **local knowledge and international experience and connections.**

What are the challenges to halt emigration that still remains?

However due to following points this step may not halt educational emigration:

- Educational emigration will remain high unless India strengthens the **skill development ecosystem** in higher education.
- Students go there for **different reasons** such as living experience in the developed world, staying in different culture, work experience, migrate etc.
- University campuses in the US not only offer a **vibrant community of international scholarship,** but also an e**cosystem of internships, apprenticeships, skill development and vocational training courses.**
- Foreign varsities that offer their curricula in India can only provide a part of the experience enjoyed by students who study abroad.
- The courses offered in foreign institutes have **strong interdisciplinary components** that branch into **skill-development and vocational training**. Indian students who wish to bring their skills on a par with **global industry requirement**s, would prefer to go to a university's home campus.

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India needs to improve the condition of Higher education, to ensure it becomes attractive to both Indian as well as foreign students.

Q.33) The changes to the organ transplant rules are small, but significant, steps towards giving a new lease of life to many people with failing organs. Elaborate the statement.
Indian Express

> **Introduction:** Contextual introduction.
> **Body:** Explain what changes are made to the organ transplant rules. Also explain more measures.
> **Conclusion:** Write a way forward.

India conducts the third highest number of transplants in the world every year. Yet barely four per cent of the patients who require a liver, heart or kidney transplant manage to get one. Recently **National Organ & Tissue Transplant Organization (NOTTO),** the country's apex organ donation agency has framed some guidelines in consultation with state governments.

Changes to the organ transplant rules:

- **Raising the age cap:** Senior citizens of age **65 above** can now register to receive donations from live donors.
- **No domicile requirement:** The Government has asked states to remove the domicile criterion for registering those seeking organs from deceased donors for transplant procedures. Now the needy person can go to any state of the country and register for getting organ and also get the transplant done.
- **No registration fee required:** States have been asked not to charge recipients for registration on waiting lists for organs. States such as Maharashtra, Kerala, Gujarat and Telangana charge between Rs 5,000 and Rs 10,000 to register recipients for organ donation.

What more can be done?

- Increasing the pool of organs will **require regulatory creativity** without compromising on ethical imperatives — including those related to showing sensitivity to the concerns of a prospective donor's relatives.
- **The opt-out system**- it assumes all citizens to be donors unless they "opt out" — adopted in some Western countries may not be apt for a country such as India, where awareness of organ donation is low.
- **Public awareness** is the most important step that can lead to improved rates of deceased organ donation.
- **Strengthening the role of NOTTO** for coordinating the organ distribution system.
- To ensure more effective sharing of organs a **zonalization** should be done (USA has such a provision). This would help in transporting and transplantation of organs which can be preserved only for shorter durations e.g. hearts.

The public hospitals need to increase the infrastructural capacity to carry out transplantation and provide affordable proper treatment to the poor.

Q.34) The enduring solution to the menace of land degradation lies in evolving and meticulously enforcing, a judicious land use policy based on the capability classification of land. Discuss
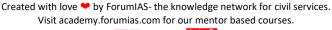**Business Standard**

> **Introduction: Contextual introduction.**
> **Body: Explain some Causes of land degradation. Also write some measures to tackle this.**
> **Conclusion: Write** a way forward.

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Land degradation is defined as the **temporary or permanent decline in the productive capacity** of the land. Rajasthan is the most land degradation-prone state, followed by Maharashtra and Gujarat. India has to support 18 per cent of the world's population on only 2.4 per cent land. India is among the 123 countries that have committed themselves to achieve **land degradation neutrality by 2030.**

Causes of land degradation:

- **Growing Demand:** for food, fodder, fuel and raw materials is increasing the pressure on land and the competition for natural resources. This has led to over-exploitation of land resources like **overgrazing**, and conversion to other land uses.
- **Unsustainable agricultural practices:** Faulty land and water management practices in agriculture have significantly contributed to land degradation. **Intensive irrigation and high chemical use** (fertilisers, pesticides, etc.) adds to degradation.
- **Increasing population:** With rise in population, stress on natural resources is increasing. People are looking to move into new areas and are invading new land in order to make houses.
- **Unplanned urbanisation:** Economic development has led to expansion of urban and industrial land. The expansion of cities has resulted in the **encroachment of forest areas and wetlands**. For example, rapid urbanisation triggered by a population increase in coastal areas has caused coastal land degradation.
- **Climate Change:** As the days get warmer and periods of drought become more frequent, desertification becomes more and more eminent. Further rise in incidents like forest fires are destroying forests and leading to rise in desertification.

Measures:

- **Using alternative fuels:** A major focus for reducing forest degradation is encouraging rural households dependent on forests to switch to alternative fuel sources or at the minimum utilise fuel-efficient devices.
- **Preventing overgrazing:** Farmers should be discouraged from overgrazing activities. They must be made aware of the harm of overgrazing to land productivity.
- **Sustainable agriculture: Climate resistant crops** need to be developed and used. Efforts must be made to make farmers aware of overuse of chemical fertilisers. Subsidy may be removed for the same and replaced by cash transfer. **Drip and sprinkle irrigation** methods should be promoted.
- **Afforestation** and **planting of shelter belts**, and stabilization of sand dunes will reduce land degradation. Strategy to reduce forest dependence for fuelwood, fodder and non-timber forest products should be made.

India should take steps to safeguard the physical, chemical, and biological health of the existing normal land.

Q.35) How Rooftop Solar Photovoltaics (RTPV) can be helpful in aiding poverty alleviation?
Business Standard

> **Introduction: Contextual introduction.**
> **Body: Explain how Rooftop Solar Photovoltaics (RTPV) can be helpful in aiding poverty alleviation.**
> **Conclusion: Write** a way forward.

Rooftop solar installations can be installed on the roofs of buildings. They fall under two brackets: commercial and residential. To generate solar power by installing solar panels on the roof of the houses, the Ministry of New and Renewable Energy is implementing **Grid-connected Rooftop Solar Scheme (Phase II).**

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Rooftop Solar Photovoltaics (RTPV) can be helpful in aiding poverty alleviation in following manner:

- It has the potential to be a hugely impactful intervention to aid poverty alleviation by converting free sunlight falling on rooftops and courtyards into income for households. For instance, in China, RTPV is one of the identified 10 initiatives rolled out by the government to lift rural households out of poverty.
- Rooftop solar has the great benefit of being able to provide electricity to those areas that are not yet connected to the grid like remote locations and areas where the terrain makes it difficult to set up power stations and lay power lines.
- They offer **cost savings.** The tariff rates for rooftop solar in comparison to industrial and commercial tariff rates are cheaper by 17% and 27% respectively. For building owners, rooftop solar installations can even help in cutting down electricity bills. Rooftop panels supply electricity to buildings, so they need to buy less electricity from the grid thereby saving on energy costs.
- **Low-income household** with limited roof space may receive a benefit from the "free" sunlight.
- **Local farmers** could also earn additional income by leasing out non-arable lands or maintaining the solar farms.
- Each household will use the solar electricity generated for their own purposes. This will reduce energy bills and any surplus electricity will be sold back to the grid.

The Rooftop Solar Scheme needs easy financing, unrestricted net metering, and an easy regulatory process. Public Financial Institutions and other key lenders could be mandated to lend to the segment.

Q.36) Highlight the multiplier effect of expressways?
Live mint

> **Introduction: Contextual introduction.**
> **Body: Explain some multiplier effects of expressways.**
> **Conclusion: Write** a way forward.

The road transport has emerged as a dominant segment with a **share of 4.8 per cent in India's GDP**. India has the **second-largest road network** globally, spanning a total of 5.89 million km. **Bharatmala Pariyojana** aims to develop 34,800 km of NH corridors. As of now, 11,789 km has been completed in the project.

Multiplier effects of expressways:
- It reduces the commute time. The longer the commute time in a city, the smaller will be its effective labour market.
- The research has shown the immediate positive effects that transit networks in India have had **on employment, especially in rural India** and the country's **manufacturing growth**. Over the long term, even regions farther away from major roads develop in line with the development witnessed by areas along national highways. Such a spillover of growth is essential to **reduce the inequities** in regional development in a country like India.
- **Capital expenditure** is known to have a powerful multiplier effect of approx. 2.95 times.
- It will **boost domestic tourism**. Tourism has a multiplier impact e**.g. Gramin Haats** along the expressway can provide local farmers and craftsman a new window of opportunity.
- It facilitates increased **productivity and efficiency**, improves basic services' access as well as **attracts investment** and promotes socio-economic development for people living around highways, including education, healthcare, buildings for public use, shopping complexes etc.

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- It results in annual **fuel savings, reducing CO2 emissions** and creates **employment** for thousands.
- Connectivity to unconnected hinterland hamlets can ensure Agri produce reaches main markets and hubs. This can ensure **inclusive development** as well as promote the food processing industry.

A robust road network will be one important pillar in India's speedy economic recovery. The government should also revisit its PPP models to attract more private sector investment in new asset development.

Q.37) What is Carbon trading and what are the rules released by the government for it? How does carbon trading operate?
The Hindu

> **Introduction: Explain Carbon trading.**
> **Body: Explain some rules released by the government for Carbon trading. Also explain how carbon trading operates.**
> **Conclusion: Write** a way forward.

Carbon trade is the **buying and selling of credits that permits a company or other entity to emit a certain amount of carbon dioxide or other greenhouse gases**. It is authorized by the government with the goal of gradually reducing overall carbon emissions and mitigating their contribution to climate change. It is mentioned under the **Clean Development Mechanism**.
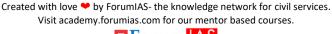
The objective of carbon markets is to incentivise investments in renewable energy sources. The carbon trading mechanism will mobilise domestic finance and accelerate the shift away from fossil fuels.

Rules released by the government for Carbon trading:

- **Two types of tradeable certificates** are already issued in India- Renewable Energy Certificates (RECs) and Energy Savings Certificates (ESCs). These are issued when companies use renewable energy or save energy, which is also activities which reduces carbon emissions.
- Parliament passed the **Energy Conservation (Amendment) Bill, 2022** which amends the Energy Conservation Act, 2001 to empower the Government to establish carbon markets in India and specify a carbon credit trading scheme.
- Under the Bill, the central government or an authorized agency will issue carbon credit certificates to companies or even individuals registered and compliant with the scheme. These carbon credit certificates will be tradeable in nature. Other persons would be able to buy carbon credit certificates on a voluntary basis.
- A similar trading mechanism is implemented in **Perform, Achieve and Trade (PAT) scheme**. There are around 1,000 industries have been involved in procuring and trading energy-saving certificates (ESCerts).

How does carbon trading operate?

- **Carbon Markets and Carbon Credits** are a market-based approach to reduce the concentration of Greenhouse gases (GHG) in the atmosphere. It works by **providing economic incentives** for reducing the emissions of the designated pollutants.
- A carbon market allows investors and corporations to trade both carbon credits and carbon offsets simultaneously.
- When a company buys a carbon credit, they gain **permission to generate more CO2 emissions.** One tradable carbon credit equals one tonne of carbon dioxide or the equivalent amount of a different greenhouse gas reduced, sequestered or avoided.

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- If emissions are below the allowed limit, the emitter earns carbon credits. If emissions are above the allowed limit, the emitter must buy carbon credits from those who have excess credits.
- The idea is that this cost will force the emitters to be more efficient and reduce emission.
- There are **two types** of carbon markets: **(a)** One is a compliance market, set by "cap-and-trade" regulations at the regional and state levels; **(b)** The other is a voluntary market where businesses and individuals voluntarily buy credits (of their own accord) to offset their carbon emissions.

The government must intervene to bring pressure on the industry to participate in the market and also ignore proven non-market initiatives to achieve greenhouse gas reductions.

Q.38) Highlight the initiatives that can be helpful in making India a biodiversity champion. Also, suggest further improvements to these programs.
The Hindu

> **Introduction: Contextual introduction.**
> **Body: Write some initiatives that can be helpful in making India a biodiversity champion. Also, suggest further improvements to these programs.**
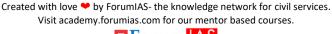> **Conclusion: Write** a way forward.

Biodiversity can be defined as a community of all the living organisms on the earth and the diversity among them from all the ecosystems. At the United Nations Biodiversity Conference, countries adopted a major biodiversity pact called **Kunming-Montreal Global Biodiversity Framework,** to take urgent action to protect and restore the world's biodiversity.

The following initiatives can be helpful in making India a biodiversity champion:

- **National Mission for a Green India:** It is one of the eight Missions under the National Action Plan on Climate Change (NAPCC). It aims to increase forest cover on degraded lands and protect existing forested lands.
- **Green Credit Programme:** the government will incentivise the companies, individuals and local bodies that adhere to sustainable practises under the Environment (Protection) Act and help mobilize additional resources for such activities.
- **Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI):** It will facilitate mangrove plantation along India's coastline and on salt pan lands, wherever feasible, through convergence between MGNREGS, CAMPA Fund and other sources.
- **PM Programme for Restoration, Awareness, Nourishment, and Amelioration of Mother Earth (PMPRANAM):** to incentivize States and Union Territories to promote alternative fertilizers and balanced use of chemical fertilizers.
- **Amrit Dharohar scheme:** to encourage optimal use of wetlands, and enhance biodiversity, carbon stock, ecotourism opportunities and income generation for local communities.

The following improvements to these programs are required:

- **Use modern concepts of sustainability**: The focus should be on valuation of ecosystems that consider ecological, cultural, and sociological aspects of our biological wealth.
- **Careful site selection:** There is need for greater emphasis on **diversity of mangrove species** with retention of the integrity of coastal mud flats and salt pans. Traditional Knowledge and practices of **local and nomadic communities** should be integrated into the implementation plans.
- **Ecological restoration rather than tree plantation:** For the Green India Mission, there is a need to choose sites where it can contribute to ecological connectivity in landscapes fragmented by **linear infrastructure**.

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- There is a need to sustain ecological flows through **reduction in water use in key sectors**. E.g. by encouraging changes to less water intensive crops such as millets and investments in water recycling in urban areas.
- Each programme should include significant **educational and research funding** to bring awareness to India's biological wealth.
- The **National Mission on Biodiversity and Human Well Being** should be immediately launched by the government to harness the power of **interdisciplinary knowledge** for greening India and its economy.

Any effort at conserving and enhancing biodiversity can only succeed if we tackle the challenge of global warming. Global warming has to be urgently brought under control.

Q.39) Highlight the need for new delivery mechanisms for genetic therapy.
Live Mint

> **Introduction: Contextual introduction.**
> **Body: Explain why there is need for new delivery mechanisms for genetic therapy.**
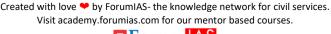> **Conclusion: Write** a way forward.

Gene therapy is the **introduction**, **removal** or **change in genetic material** (typically means DNA and RNA) **in the cells** of a patient **to treat an inherited or developed disease**. Gene therapy holds promise for treating a wide range of diseases, such as cancer, cystic fibrosis, heart disease, diabetes, hemophilia and AIDS etc. **Gene Editing**, **Gene Silencing, CAR T Cell Therapy** etc. are the various approaches to Gene Therapy.

Need for new delivery mechanisms for genetic therapy:

- The present technologies can **only fix the genome in reachable parts** of the body, and right now, reach is very limited. The liver, eyes and blood are the main places where cures might be possible.
- These technologies **largely rely on viral vectors and lipid nanoparticles**. But they can only efficiently deliver to certain Zip codes. Lipid nanoparticles' routes are largely limited to the liver and eyes.
- These have other limitations, for example how much cargo they can hold. Some genes for fixing the diseases are too big to fit inside a virus. It can be tough to **squeeze the instructions** for making Crispr tools into a usable lipid nanoparticle.
- Some methods avoid the delivery problem altogether by taking cells out of the body, editing them in a lab, and giving them back to patient. But that strategy is **lengthy, expensive and tough** on patients.
- The fundamental issue with genetic medicines is that our bodies have evolved to keep bad things out of our cells. That's great for staving off viruses or other pathogens, but also makes it incredibly hard to sneak a medicine in.
- It is also **crucial to prevent the gene from being introduced into the wrong cells**. It would be inefficient and **potentially harmful** to deliver a gene to the wrong tissue.

Gene Therapy has a huge potential to cure rare and untreatable diseases. However, the approach to Gene Therapy requires extreme caution as it can have several long-terms unintended consequences. The field needs appropriate regulation to address the social, equity and ethical concerns.

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Q.40) What are the challenges facing research and development (R&D) in India? Discuss the measures that can be taken to transform India's R&D.

The Hindu

> **Introduction: Contextual introduction.**
> **Body: Explain some challenges facing research and development (R&D) in India. Also write some measures that can be taken to transform India's R&D.**
> **Conclusion: Write** a way forward.

Research and development (R&D) are at the core of economic growth. It leads to innovation and innovation in turn leads to economic growth. India's research and development (R&D) expenditure-GDP ratio of 0.7% is very low when compared to major economies and is much below the world average of 1.8%.

Challenges facing research and development (R&D) in India:

- **Low Funding**: The funding is less than 1% of the GDP. Further there are no extra provisions for R&D in the sunrise sectors.
- **High Dependence on Grants**: Many universities depend on the DST, DBT, ICMR and CSIR under their extramural support system. So, quality of research at doctoral level gets hampered when less funding is provided to the public institutions.
- **Lack of Skilled Personnel**: the best talent of our country migrates to foreign countries resulting in **brain drain**.
- **IPR violation**: poor IPR compliance discourages foreign investment flow into the field of R&D.
- **Outdated Curriculum and Pedagogy**: The curriculum in many universities is still focused on rote learning and oriented to getting jobs only. So many universities are unable to duly utilize the research grant provided to them.
- **Poor Private Sector Participation**: Private sector contributes 37% of the total R&D expenditure in the nation. It is way less than the average 68% expenditure by private players in developed countries.

The following measures can be taken to transform India's R&D:

- Focus on proper implementation of **schemes like Make in India and *Atma Nirbhar Bharat*.** Higher spending in R&D by the private sector will happen as the manufacturing sector expands in the country.
- The amount of Rs 50,000 crore committed to **establish NRF** could be immediately used to plug the deficits in the grants provided to the autonomous universities and Institutions by CSIR, DST and other agencies.
- The budgetary allocation towards R&D should be enhanced. **Economic Survey 2020-21 suggested** that the country needs to increase its GERD from around 0.7% to **over 2% of its GDP.**
- The **National IPR policy of 2016** should be duly adhered in order to gain investor confidence and attract more investment in R&D.
- The Government should **promote Government-Industry-Academia partnership** to support the R&D Ecosystem in India. The learning experience can be transferred to other sectors like green technologies, defense and electronics manufacturing etc.

To move from stagnation in R&D to a more dynamic ecosystem would require action on many fronts including greater allocation of funds. This would be the desired path to breed a culture of curiosity and inquisitiveness in the country.

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Q.41) With cyber threats capable of undermining our critical infrastructure, industry, and security, a comprehensive cybersecurity policy is the need of the hour. Elaborate.
The Hindu

> Introduction: Contextual introduction.
> Body: Explain some challenges associated with cyber threats. Also explain how a comprehensive cybersecurity policy can solve the issues.
> Conclusion: Write a way forward.

As India is moving towards digitisation, every critical infrastructure, from transportation, power and banking systems, would become extremely vulnerable to cyber-attacks. According to **CERT-In** (**India Ransomware Report**), there has been a 51% year-on-year increase in ransomware incidents. A majority of attacks are on data centres. The attack on AIIMS and on the parent's company of Solar Industries Limited are some of the examples.

Challenges associated with cyber threats:

- The most serious problem comes from **organized cyberattacks** on large data repositories and critical public infrastructure such as AIIMS.
- India is the **cheapest place** in the world in terms of data tariff. It is also the nation with the **highest per capita data consumption** which allows it to generate a huge amount of data.
- The data generation is **likely to rise further** after the launch of 5G and satellite broadband.
- Digital platforms such as the **Digital India initiative, the Unified Payments Interface and the Open Network for Digital Commerce** have all caused an increase of the data online.
- Although the government has set up National Critical Information Infrastructure Protection Centre (NCIIPC), it is yet to identify and implement measures to protect critical information infrastructure.
- Globally, India ranks 2nd in terms of the number of Internet users after China (Internet World Stats, 2017). However, India has a negligible base of cyber-security specialists, when compared to internet user base.

India has started several initiatives like **Indian Computer Emergency Response Team (CERT-In): Cyber Surakshit Bharat Initiative** etc. to address the issues. However, a comprehensive cybersecurity policy should include following points:

- **Personal data protection law:** offer the citizens both adequate protection and the chance of recompense for damaging data leaks.
- **Proper cyber risk management**: not only preventing breaches but also placing guidelines regarding the process to be followed once there is a cyberattack. This will help minimise financially and mitigate reputational damage when a breach occurs.
- **Human resource:** increase the number of experts who can effectively manage the cyber security of the country. Further, duties and responsibilities should be defined clearly for smooth functioning and better coordination among departments and stakeholders.
- **R&D:** Investments should be made on R&D to develop more innovative technologies to address increasing cyber security threats.
- **Strengthening Private Partnership:** It is important to strengthen the public- private partnership on cyber security.
- There is an urgent need to build capabilities and capacity for application, equipment and infrastructure testing.

Cyber-security is needed in the present era of increasing connectivity. It is important to bring a robust policy and effectively implement the same.

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Q.42) The discovery of lithium in Jammu and Kashmir is significant for India's push toward electric vehicles but there are risks associated with it. Discuss.
Live Mint

> **Introduction: Contextual introduction.**
> **Body: Explain some benefits of lithium discovery. Also write some risks associated with it.**
> **Conclusion: Write** a way forward.

The Geological Survey of India (GSI) has established **5.9 million tonnes of inferred lithium resources** in Jammu and Kashmir. Lithium is considered **a strategic element** because of its use on batteries used in Electric Vehicles (EVs). The finding of the reserves is being considered as a game-changer in India's transition towards green mobility.
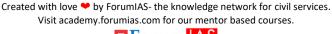
Benefits of lithium discovery:
- **Reducing dependence on Imports**: In FY2021-2022, India imported lithium and lithium ion worth nearly Rs 14,000 crores. The demand is likely to rise multifold in the future.
- **Affordable Transition**: It will help the EV ecosystem reach the masses at reasonable and affordable costs, and make the transition to **green mobility** more economical.
- **Meet Government Objectives**: The will also help advance the Government's ambitious plan of 30% EV penetration in private cars, 70% for commercial vehicles, and 80% for two and three-wheelers by 2030 for the automobile industry.
- **Potential to become Major Producer**: The majority of the global reserve is located in regions with severe water stress makes this discovery even more important. India is a potential replacement because the mineral requires a large amount of water for extraction and the majority of the reserves are in nations with water scarcity.

Associated Risks:
- **Environmental issues:** Approximately 2.2 million litres of water are needed to produce one tonne of lithium. E.g. lithium mining in Chile, Argentina and Bolivia has led to concerns over soil degradation, water shortages and contamination, air pollution and biodiversity loss.
- **Geological Stability**: According to the seismic zonation map of India, the whole of Jammu and Kashmir, comes under seismologically active Zones IV and V and is also ecologically sensitive. Mining in geologically unstable region will be a major challenge.
- **Mining Policy**: The absence of an integrated mining policy for strategic metals and minerals and poor domestic capabilities could hinder exploitation of the recently discovered reserves.
- **Security Threat**: Certain terror groups have threatened against mining of lithium reserves. Security concerns can hamper development of mining industry, especially in attracting labour.
- **Availability of Technology**: India lacks technology to extract lithium and purify it. There is no prior experience in extracting Lithium, nor tested domestic technology. There is lack of established Lithium extraction industry.

Government can make rare earth minerals a part of the 'Make In India' campaign, similar to China's 'Made in China 2025' initiative that focuses on new materials, including permanent magnets that are made using rare earth minerals.

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Q.43) Discuss the need for menstrual leave policies. Highlight the global practices around menstrual leave policies.

The Hindu

> **Introduction:** Contextual introduction.
> **Body:** Explain the need for menstrual leave policies. Also write some global practices around menstrual leave policies.
> **Conclusion**: Write a way forward.

Menstrual leave or period leave refers to all policies that allow employees or students to take time off when they are experiencing menstrual pain or discomfort. At the workplace, it refers to policies that allow for both paid or unpaid leave or time for rest. In India, there is **no legislative provision** for menstrual leave.

Need for menstrual leave policies:

- This pain lasts for a couple of days a month for some and for others the pain **hampers daily activities and productivity.** It was estimated that **employees lost around 8.9 days' worth of productivity** every year due to menstrual-cycle related issues.
- In India, 20% of menstruators have PCOS and approximately 25 million suffer from endometriosis.
- Menstrual leave could be an opportunity for women to speak up about their menstrual cycle and to receive **treatment for health issues** related to it.
- It was not that women needed rest while menstruating, it was just the lack of humane working conditions that made labour movements push for menstrual leaves.
- This will also **help reduce the drop-out rates** of female students from government schools in rural India caused by the lack of clean toilets, running water, sanitary pads, etc.

Global practices:

- **Spain:** Spain recently became the first European country to grant paid menstrual leave to workers.
- **Japan:** Japan introduced menstrual leave as part of labour law in 1947. However, as per a recent study, less than 0.9% of the women had actually taken leave.
- **Indonesia:** It introduced a policy in 1948 which said that workers experiencing menstrual pain are not obliged to work on the first two days of their cycle.
- **Philippines:** Workers are permitted two days of menstrual leave a month.
- **Taiwan:** It has an Act of Gender Equality in Employment. The act says employees have the right to request a day off as period leave every month, at half their regular wage.
- There are other countries that allow menstrual leave like the United Kingdom, South Korea, Zambia, China and Wales. However, the U.S does not have a formal menstrual leave policy.
- **Private Companies like** Nike and Coexist have introduced menstrual leave as an internal policy.

The path to equality does not lie in inaction due to fear of further discrimination. What is needed is a holistic outlook aimed at bridging existing gaps. It may become a pivotal step in ensuring proper **reproductive health equity** in India.

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Q.44) Heat waves have occurred earlier than expected time in India. What are the reasons behind winter heat waves in India?

The Hindu

> **Introduction:** Contextual introduction.
> **Body:** Explain some reasons behind winter heat waves in India.
> **Conclusion**: Write a way forward.

Heat waves are defined based on the temperature thresholds over a region in terms of actual temperature or its departure from normal. According to the IMD, a region has a heat wave if the **maximum temperature crosses 45°C (or 37°C at a hill station**). IMD warned that the maximum temperatures over northwest, west, and central India would be 35 °C higher than the long-term average.

Reasons behind winter heat waves in India:

- **Weak Western Disturbances**: Western disturbance is the factor that keeps the temperature in control during February and March. However, this year, western disturbances have been weak due to which wind is lacking moisture for adequate rainfall. It is causing dry spells over the plains and subdued rainfall or snowfall over hills.
- **Climate change:** In terms of climate change, the Middle East is warming faster than other regions near the equator, and it is acting as a source of warm air that blows toward India.
- **Anti-cyclone formation:** The anticyclone is forming over the north-eastern part of the Arabian Sea, which has now moved over southwest Rajasthan. Due to this anticyclone, hot and dry winds from Balochistan, South Sindh, and Thar Desert are reaching northwest India as well as Gujarat, Maharashtra, and Karnataka.
- **Possibility of El Nino Year:** The last three years have been La Nia years. Scientists have predicted a high likelihood that this year will be an El Nino year. It has a significant impact on weather and climate patterns and is linked to drought and poor monsoons in India. This may also contribute to a winter heat wave in India.
- **Air flowing in from the northwest** rolls in over the mountains of Afghanistan and Pakistan, so some of the compression also happens on the leeward side of these mountains, entering India with a bristling warmth.
- **Lapse rate**: the rate at which temperatures cool from the surface to the upper atmosphere – is declining under global warming. In other words, global warming tends to warm the upper atmosphere faster than the air near the surface. This in turn means that the sinking air is warmer due to global warming, and thus produces heat waves as it sinks and compresses.

The solution to climate change lies in understanding the impact of climate change in our life and taking steps to achieve climate resilience. Urban greening can help to cool down cities and towns.

Q.45) Why is the New START nuclear treaty suspended? What could be the possible implications of its suspension?

The Hindu

> **Introduction: Contextual introduction.**
> **Body: Explain why the New START nuclear treaty is suspended. Also write some possible implications of its suspension.**
> **Conclusion: Write** a way forward.

The **New Strategic Arms Reduction Treaty** (New START Treaty) was signed by **USA and Russia** in 2010. Under the Treaty, America and Russia cannot deploy more than 1,550 strategic nuclear warheads and more than 700 long range missiles and bombers. The treaty

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gave the US and Russia seven years to reduce their stockpiles, including nuclear warheads that are launched using long-range missiles, submarines, and bombers.

Why is the New START nuclear treaty suspended?

- The Russian President has said that it is suspending the treaty as the North Atlantic Treaty Organisation (NATO) and the U.S wanted to "inflict 'strategic defeat' on Russia and try to get to Russian nuclear facilities at the same time.

- Russia also accused the U.S. of rejecting Russian requests for visits to specific U.S. facilities. The U.S State Department also stated that Moscow was not complying with the pact as it had not let Washington carry out on-site inspections.

Possible implications of its suspension:

- The world could, in a worst-case scenario, see a return to a time when two nuclear-armed powers once again get stuck in **cycles of escalations and provocations** due to unresolvable mutual suspicions regarding the actions of the other side.

- It would continue abiding by the treaty's restrictions, a suspension of the treaty may mean that it will be **harder for the US to monitor compliance**.

- The Russian President said that the country is **not withdrawing** from the treaty entirely. But Russia will not allow US countries to inspect its nuclear arsenal.

- Analysts believe it is **entirely symbolic** since Russia had not been permitting inspections anyway. As per them, the move appears to be aimed at **pressuring the US President and his allies** so that Russia can dictate the terms under which the war would come to an end.

The Ukraine-Russia episode shows the dwindling pace of international law and loss of respect towards the sovereignty and integrity of nations. As an incumbent member of the UNSC, India must push for brining the hostilities to an immediate end. At the same time, India should take proactive steps to hedge its interests amid the uncertainties.

Q.46) Open financial borders are integral to India's aspirations for growth and prosperity. Do you agree? Give reasons for your argument.
Business Standard

> **Introduction:** Contextual introduction.
> **Body:** Explain how financial globalization is integral to India's aspirations for growth and prosperity. Also write its challenges.
> **Conclusion:** Write a way forward.

Financial globalization as a part of economic globalization, is understood as the integration of a country's local financial system with international financial markets and institutions. This integration typically requires that governments liberalize the domestic financial sector and the capital account.

Integral to India's aspirations for growth and prosperity:

- Financial markets become deeper and more sophisticated when they integrate with world markets, increasing the financial alternatives for borrowers and investors. Financial markets operating in a global environment enable international risk diversification.

- The Indian **Information Technology (IT) industry** has developed due to globalisation. It was one of the US investment banks that invested in the equity of an IT company back in 1993.This led to the development of the IT industries in India at that time when Indian investors didn't have much knowledge about this industry.

- Further, there is also a **need of foreign investment** in developing large scale renewable energies in India.

- Moreover, India's flows of both the current and the capital account have increased because of increase in the international trade.

Challenges:

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- **Exchange rate distortions:** Prices move up and down in all markets to keep demand and supply in balance. Therefore, countries which do not like price volatility, have options to exchange the variable prices for a fixed price and by giving a fee. However, countries require sound thinking in financial economic policy to exchange for fixed prices. In the case of India, there is much to be done on this front.
- **Uncertainties associated with the global financial flows:** Financial globalization and trade globalization are not different and move together. There are risks associated with both of them but both bring immense benefits for countries.
- **Loss of autonomy of monetary policy:** Countries like India have adopted **inflation targeting** to solve this problem. The targeting of 4 percent CPI inflation by the RBI helps it to cut through the exchange rates. Hence, monetary policy autonomy is ensured.

Although globalization brings risks for an economy, it should be adopted because of its huge benefits. Risks can be tackled by coming up with better institutions and policies.

Q.47) In the light of the present challenges to federalism in India, highlight the recommendation of Punchhi Commission's report on Centre-state relations.
Indian Express

> **Introduction:** Contextual introduction.
> **Body:** Explain some present challenges to federalism in India. Also write some recommendations of Punchhi Commission's report on Centre-state relations.
> **Conclusion**: Write a way forward.

The Government of India constituted a Commission on Centre-State Relations under the chairmanship of Justice Madan Mohan Punchhi, former Chief Justice of India on 27th April 2007 to look into the new issues of Centre-State relations.

Present challenges to federalism in India:

- **T**he **Inter-State Council** has met only once in the last seven years, while the National Development Council has not met at all.
- The **constitutional office of the Governor** has come under scrutiny several times for encroaching on the powers of state executive and legislature.
- Many important and politically sensitive decisions are taken without reference to, and consultation with, the concerned states. For instance, **Article 370** was removed without consulting the state legislature.
- The **GST** has already taken away much of the autonomy available to states and has made the country's indirect tax regime unitary in nature.
- The **tenure of the 15th Finance Commission** was mired in controversy, and many states expressed apprehensions about devolution.
- The **State Action Plans on Climate Change (SAPCCs)** have suffered from a lack of specificity in design and inadequate financial support from the Centre, and rank low among governance priorities in state capitals.

Recommendations of Punchhi Commission's report on Centre-state relations:

- **Governor:** The appointment of the Governor must be done by a panel which among others also has the State Chief Minister. There should be provisions for the **impeachment of the Governor** by the state legislature along the same lines as that of the President by Parliament.
- **Inter-State Council (ISC):** The council must meet at least thrice a year on an agenda evolved after proper consultation with states. The Centre should consult states before introducing bills on items in the concurrent list through the inter-state council.
- The States should be involved in the Finance Commissions' work to come up with the final terms of the contract.

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- The Finance Commission and the Planning Commission (now NITI Aayog) should work much closer together. This cooperation will be greatly enhanced by synchronising the Finance Commission's and the five-year plan's time frames.
- The **National Water Resources Council** needs to play a greater role in integrating policy and programmes on a continuous basis.

There is a need to go beyond the concept of cooperative federalism and create a new federal architecture for collaborative engagement of the appropriate levels and actors in the policy-making and implementation process.

Q.48) What are the issues associated with the methods used by V-Dem democracy to rank India on democracy? Also, discuss the lessons that India can learn from its findings.
Business Standard

> **Introduction:** Contextual introduction.
> **Body:** Explain some issues associated with the methods used by V-Dem democracy to rank India on democracy. Also explain what lessons India can learn from its findings.
> **Conclusion**: Write a way forward.

Varieties of Democracy (V-Dem) Report is produced by the Varieties of Democracy Institute at Sweden's University of Gothenburg. The report is based on the score in the **Liberal Democracy Index (LDI).** LDI captures both liberal and electoral aspects of democracy, based on the 71 indicators included in the Liberal Component Index (LCI) and the Electoral Democracy Index (EDI). It classifies India as an **electoral autocracy** ranking it 93rd on the LDI, out of 179 countries.

Issues associated with the methods used by V-Dem democracy:

- **T**hese indices are primarily based on the opinions of a **tiny group of unknown "experts".**
- The questions that are used are **subjective** and are worded in a way that is impossible to answer objectively even for a country, let alone compare across countries.
- There are questions that should be asked but are excluded.
- Certain questions used by these indices are **not an appropriate measure** of democracy across all countries.

India can learn following lessons from its findings:

- The Government should **hear criticism** rather than rejecting it outrightly. Suggestions on eroding democratic values need a thoughtful, and respectful response.
- The report identified "misinformation" as a key tool deployed by autocratising governments to sharpen polarisation and shape domestic and international opinion. Thus, the **press and the judiciary** which are considered the pillars of India's Democracy, require to be independent of any executive interference.
- In order to **maintain trust in public institutions**, the principles of legality, legal certainty and prohibition of arbitrariness of the executive powers, judicial independence, impartiality, and equality before the law need to be respected.
- Strong democracy requires **strong opposition**. Without an alternative choice, the very objective of election to provide a check on arbitrary power gets defeated.
- To protect freedom domestically and build support for a foreign policy that protects democratic rights and values abroad, it is essential to foster a stronger public understanding of democratic principles, especially among young people.

Democratic values and principles are core to India's identity. We need to safeguard India's Democracy by strengthening its pillars- the Legislature, Executive, Judiciary, and the Media.

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Q.49) Earthquake preparedness is not just about buildings — cities as a whole need to be reimagined. Elucidate.

<u>Indian Express</u>

> **Introduction:** Contextual introduction.
> **Body**: Explain some issues related to Indian policy on earthquake. Also write some Measures to improve the preparedness for earthquakes.
> **Conclusion**: Write a way forward.

Nearly 58% of the Indian landmass is vulnerable to earthquakes. According to the seismic zoning map of India prepared by the Bureau of Indian Standards (BIS), India has been divided into **four zones – II, III, IV and V.** Geologists have warned of a probable massive earthquake in the Himalayan state.

Issues related to Indian policy on earthquake:

- India's policy on earthquake preparedness operates primarily at the scale of **structural details**. It is guided by the **National Building Codes**.
- This includes specifying dimensions of columns, beams and details of the reinforcements that join these elements together.
- It ignores the buildings that were constructed before such codes were published in 1962. Such buildings form a large part of our cities.
- It assumes infallibility in the processes of enforcement. It **relies only on penalisation** and illegalities.
- It treats earthquakes **as a problem of individual buildings**. It assumes that buildings exist and behave in complete isolation from their urban context.

Measures to improve the preparedness for earthquakes:

- There is a need to create a system of **tax-based incentives for retrofitting** existing structures and enforcing **seismic codes with more efficiency.** This will generate a body of well-trained professionals and competent organisations.
- **Japan** is a good example in this case. It has invested **heavily in technological measures** to mitigate the damage from the frequent earthquakes that it experiences.
- Skyscrapers are built with **counterweights and other high-tech provisions** to minimise the impact of tremors.
- Small houses are built on flexible foundations and public infrastructure is integrated with **automated triggers** that cut power, gas, and water lines during earthquakes.
- The policy should start with **surveys and audits** that can generate **earthquake vulnerability maps**.
- Using such maps, enforcement, incentives, and response centres can be proportionally distributed across the urban terrain.
- A policy on earthquake preparedness will require a **visionary, radical and transformative approach.**

India's vulnerability to various earthquake hazards requires smart handling and long-term planning.

Q.50) Digital models for disease tracking are crucial, but there are also issues associated with these models. Discuss.

<u>Times of India</u>

> **Introduction:** Contextual introduction.
> **Body:** Explain importance of Digital models for disease tracking. Also write some issues associated with these models.
> **Conclusion**: Write a way forward.

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Digital approaches can improve the timeliness and depth of surveillance information. In India **Integrated Disease Surveillance Project** was started in 2004 and the **Integrated Health Information Platform** in 2019**.**The World Health Organization now routinely uses **HealthMap, ProMED** and similar systems to monitor infectious disease outbreaks, inform clinicians etc.

Importance of Digital models for disease tracking:

- Public health surveillance helps in the **identification, collation and analysis of disease occurrence**. It is the bedrock of national healthcare architecture**.**
- Internet-based disease detection and monitoring tools **offer real-time surveillance** with much greater temporal and spatial resolution compared to traditional surveillance systems. Recent epidemics and the COVID-19 pandemic highlight its importance to support public health prevention and containment measures.
- Digital disease surveillance is **less costly and time consuming** compared to traditional surveillance.
- Two key advantages- speed and volume may increasingly help health officials spot outbreaks quickly and cheaply.

Issues associated with these models:

- Public health institutions tracking disease occurrence based on data generated by states are the primary disease surveillance arms. But the **state's performance so far has been less optimal** as they often function in silos.
- Over the next decade, **having adequate skilled personnel** in public health surveillance may be a bigger challenge. For instance, **WHO's International Health Regulations** are binding on members.
- At the same time, the huge volume of digital data also comes with sufficient challenges to accuracy and privacy to make it **a "double-edged sword'.** Digital models are not regulated by a robust personal data protection bill.
- Social media is justifiably notorious for **spreading falsehoods**, which in the case of infectious diseases can have **deadly consequences**. Public health depends on trust in public officials, but that trust can quickly erode if a government releases faulty information.
- **No automated framework** that combines data streams, analyses them in a statistically robust manner, and produces actionable reports in near real-time has been developed.

Digital models are set to bring far-reaching changes in public health surveillance by expanding sources of data collation to the private sector, which is an important component of the overall healthcare system.

Q.51) Discuss the significance and challenges of Supreme Court-induced changes to the process of the cc appointment.

Indian Express , **ToI**

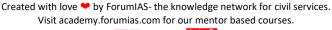> **Introduction:** Contextual introduction.
> **Body:** Explain significance of Supreme Court-induced changes to the process of the cc appointment. Also write some challenges.
> **Conclusion**: Write a way forward.

Recently, a five-member constitution bench directs that selection of the CEC and other members of the Commission should be made by a panel comprising the **PM, the leader of the opposition (LoP) and CJI,** altogether welcome. The constitution bench has said that the scheme it has prescribed would continue, till Parliament passes a law on the subject.

Significance of these changes:

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- By directing the Election Commission to be appointed by a non-partisan panel, the Supreme Court **strengthens democracy**. An independent committee will correct the existing method of selection and add sanctity to the process.
- As the executive enjoyed the benefit of appointing people as chosen by it as the CEC and ECs, this led to **perceptions of bias** of the Commission in favour of the ruling party.
- A vulnerable Election Commission would result in an insidious situation and detract from its efficient functioning.
- The SC's verdict, apart from **ensuring fairness** in the process, can act as a constitutional lesson in India's troubled times. It found that in India, there is "an unrelenting abuse of the electoral process".
- The judgment recognises the fine distinction between conventional democracy and constitutional democracy.

Challenges:

- A non-executive should not be made part of the commission's selection process, including the Chief Justice of India as it would amount to **judicial overreach and violation of separation of power.**
- Formal appointments processes are **no predictors of performance** or bulwarks against the underlying distribution of political power. E.g. the Supreme Court.
- Politicians and administrators have **wide social and institutional experience** than judges.
- The structures of **accountability matter more** than the process of selection. For instance, many ex-post heroes like T N Seshan, would have been disqualified on their prior reputations for political intrigue.
- It should **respect the independence of the executive** by not encroaching upon its domain.
- The **posts of ECs and the CEC are Constitutional** and any change in the appointment process can be done only by the Parliament.

Elections are the cornerstone of democracy, and the Election commissioners are crucial to that legitimacy. Therefore, to defend its functional independence, the guardian of elections itself urgently needs structural safeguards.

Q.52) Critically analyze India's stand on the Ukraine war.
The Hindu

> **Introduction:** Contextual introduction.
> **Body:** Explain India's stand on the Ukraine war. Also write some issues with it.
> **Conclusion:** Write a way forward.

Ukraine's bid for NATO membership and Russian interests in the Black Sea accompanied by the protests in the Ukraine are the major causes of the ongoing conflict. Recently, UNGA adopted a resolution, calling for an end to the war. The resolution was favoured by 141 members and opposed by seven, while 32 states abstained. India was one among the 32.

Indian position on the Ukraine crisis:

- India has refused to condemn Russia for the invasion. It has **refused to join the West's sanctions.**
- It has stepped up buying Russian fuel at a discounted price and has **consistently abstained from UN votes** on the war.
- Neither the **weakening of Russia nor the destruction of Ukraine** is in its interests. India wants an immediate end to the war and a **new security equilibrium** between great powers.
- India has given the reasons behind it that it wants to maintain a **strategic autonomy and has stressed on diplomacy and dialogue** as the only way forward.

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- India has decided to continue trade with Russia despite the sanctions imposed.
- Though India refused to endorse Russian aggression, Indian made some crucial diplomatic contributions such as, **a)** Underlined the importance of respecting the United Nations Charter, **b)** Emphasised the inviolability of territorial sovereignty, **c)** Warned against the use of nuclear weapons, **d)** Sought to draw attention to the economic impact of the war on the "Global South", **etc.**

Issues:
- India's abstaining has raised questions **a**bout **India's global commitment to nuclear disarmament** and strengthening the non-proliferation order.
- Russia is **deepening its ties with China**. India should ask itself whether it should retain its leverage over Russia through existing ties or lose it completely by joining the western coalition over moral commitments.
- To manage its continental interests and tackle its **continental security concerns**, India has to work with powers in the Eurasian landmass where the U.S. is practically absent, especially after its disastrous withdrawal from Afghanistan.

India should stick to its pragmatic neutrality, rooted in realism, and continue to push for a practical solution to the Ukraine crisis.

Q.53) What is the process of forest certification? Also, highlight its significance.
Indian Express

> **Introduction:** Contextual introduction.
> **Body:** Explain process of forest certification. Also write its significance.
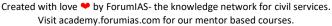> **Conclusion**: Write a way forward.

*Forest certification, a global movement initiated in 1990s after Rio Earth Summit, is a **market-based non-regulatory conservation tool** designed to promote sustainable management of forests and trees outside forests by an **independent third party**.* The council of Programme for Endorsement of Forest Certification (PEFC) is supporting Network for Certification and Conservation of Forests (NCCF's) initiative to raise the profile of forest certification and develop the market for certified products in India. Currently, forests in only Uttar Pradesh are certified.
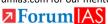
Process of forest certification:
- In the United States, three major forest certification options are available for landowners. These certification programs include the American Tree Farm System (ATFS), the Forest Stewardship Council (FSC), and the Sustainable Forestry Initiative (SFI). These certification programs differ in genesis, cost, philosophy, membership requirements, implementation, and recognition.
- The certification process is usually **different for the different certification types** as well as certification programs.
- The main steps in the forest certification process include:
  - selecting an appropriate certification system,
  - contacting the certifying organization,
  - gathering information and materials about forest and management activities,
  - undergoing a verification audit,
  - receiving the certification report with decision,
  - implementing required changes, and
  - scheduling follow-up audits at regular intervals.

Significance of forest certification:
- Given that forests of India serve important **ecological, economic and social functions** that also provide livelihood to over 275 million forest dependent people of this country, there is need for certification for sustaining and enhancing these roles of forests.

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- Forest certification **assures the public** that the benefits and functions of the forest, including clean air and water, wildlife, soil health etc., are maintained or protected during management and harvest.
- Certification also ensures that management does **not diminish the value of the future forest,** nor create hardships for local communities.
- Certification systems assure consumers that the **product they are purchasing meets certain standards.**
- Forest certification refers to an **independent, third-party evaluation** of the management of a particular forest against a certain standard.
- Forest certification has direct influences on forestland ownership, **forest product marketing**, and forest stewardship.
- It provides **greater access to markets**, better environmental practices and better long-term management planning.

A simple, transparent, easy to adopt and internationally accepted **i**ndigenous system of certifications will take into account India's national circumstances and will make available sustainably grown and managed forest products in the domestic market.

Q.54) Clean energy solutions are transforming women's livelihoods at the grassroots, but they need to be scaled up. Discuss
The Hindu

> **Introduction:** Contextual introduction.
> **Body:** Explain how clean energy solutions are transforming women's livelihoods at the grassroots. Also write some measures to improve further.
> **Conclusion**: Write a way forward.

Climate change affects women and girls disproportionately, as they are more vulnerable to threats posed by the crisis. From solar refrigerators to biomass-based cold storage to bulk milk chillers, distributed renewable energy (DRE) is transforming women's livelihoods at the grassroots. According to recent **Council on Energy, Environment and Water study,** out of the 13,000 early adopters of clean tech appliances, more than **80% are women**.

How clean energy is transforming women's livelihoods at the grassroots?

- Renewable energy powered technologies provide an additional advantage to women farmers and micro-entrepreneurs by **enhancing income opportunities** through mechanisation.
- They also free women from several gender assigned manual activities that are laborious.
- By 2030, India is expected to see **30 million women owned MSMEs,** employing around 150 million people. Renewable energy livelihood technologies have the potential to transform rural livelihoods, with women at the core of this transition.
- Health-related benefits as a result of less human suffering, reduced health-related expenditure as a result of less illness and the value of productivity gains resulting from less illness and fewer deaths.

What more can be done?

- **Leverage the experience of early women adopters:** DRE appliances are perceived as high risk purchases, especially by women users due to socio economic reasons. Technology providers must leverage early users to **share their experiences** with potential customers
- **Organise local events and demos**: People want to see a high-tech product before believing in its ability and promised benefits, especially women. It can help them **procure, finance and use** these machines.
- **Enable easy finance to purchase products:** e.g. Technology manufacturers and promoters should also ensure adequate after sales service and buy backs.

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- **Support backwards and forward market linkages:** Many rural products have larger market potential. Thus, finding and connecting producers to consumption hubs in urban areas are equally important to generate higher incomes.
- Collectivising women or **establishing business models** that enable them to sell to an intermediary can ensure a regular revenue stream.
- Multiple Ministries are working towards promoting livelihoods for women. They should embrace clean energy solutions to further their respective programmes and outcomes.

Restricted land rights, lack of access to financial resources, training and technology, and limited access to political decision-making spheres often prevent women from playing a full role in tackling climate change. They are crucial to climate change adaptation and mitigation.