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Current Affairs
(CONSOLIDATION)

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(PART – II)

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Polity and Governance

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Merger Under Tenth Schedule

Why in News

Recently, the Bahujan Samaj Party (BSP) has **issued a whip** in Rajasthan Assembly and asked all its six Member of Legislative Assemblies (MLAs) to vote against Indian National Congress (INC) government on floor test.

➢ However, all six BSP MLAs had joined the INC by announcing the **merger in September 2019.**

Key Points

➢ The BSP is arguing that a **state unit of a national party** cannot be merged **without the party being merged at the national level.** It has termed the merger of six MLAs as **illegal and unconstitutional.**

➢ It has cited **two decisions of the Supreme Court** to support its arguments:
  ○ *Jagjit Singh v State of Haryana 2006 case.*
    - In this case, four legislators from single-member parties in the Haryana Assembly, who said their parties had split and later joined the Congress. The court upheld the Speaker's decisions disqualifying them.
  ○ *Rajendra Singh Rana And Ors vs Swami Prasad Maurya 2007 case.*

- In the 2002 Uttar Pradesh elections, 37 MLAs — one-third of the BSP strength — "split" from the party after its government fell, to support Samajwadi Party. The SC ruled that the split cannot be recognised primarily because not all these MLAs split at once.

➢ **Constitutional Experts on Merger:**
  ○ According to **P.D.T. Achary**, merger under the **Tenth Schedule** (anti-defection law) **can take place only between two original political parties.** There are two conditions that need to be fulfilled for a merger under the **Tenth Schedule**.
    - There should be a **merger between two original political parties.**
    - Subsequently, **2/3rd of the members of that House** belonging to that party should accept the merger.
  ○ According to Achary, the anti-defection law basically **aims at protecting the party system and not just at curbing defection**.

➢ **Previous Similar cases:**
  ○ In June 2019, the Vice President issued orders to **"merge"** the Telugu Desam Party (TDP) with the ruling BJP in Rajya Sabha after four of TDP's five MPs defected.

Note:

- Although TDP still has a presence in the Upper House through its lone MP, the party was deemed to have merged only for the purpose of not attracting penalty under the Tenth Schedule for the four MPs who defected.
- The TDP, too, raised arguments similar to what BSP is now claiming that a "merger" can only take place at an organisational level of the party and not in the House.
  - In 2016, 12 out of 15 of TDP MLAs joined the ruling TRS. The Speaker recognised the defection as a merger since more than two-thirds had moved.

Governor's Power to Summon the House

Why in News

The recent Rajasthan government crisis has brought into the spotlight the role of the **Governor** in summoning the House of the State Assembly.

Key Points

➢ **The Rajasthan's Case:**
  - The Rajasthan Governor has returned the proposal by the State Cabinet, seeking to convene a session of the Assembly, for the second time, which would have allowed the Rajasthan chief minister to **prove his strength on the floor of the House.**
  - This has raised legal questions on the powers of the Governor to summon a House.

➢ **Powers to Summon the House:**
  - **Article 174** of the Constitution **authorizes the Governor to summon, dissolve and prorogue** the state legislative assembly.
  - However, the Governor can exercise the above only **as per Article 163** of the Constitution which says that the **Governor acts on the aid and advice of the Council of Ministers** headed by the Chief Minister.
  - In 2016, the **Supreme Court** in *Nabam Rebia and Bamang Felix vs Deputy Speaker case* **(the Arunachal Pradesh Assembly case)** said that the power to summon the House is **not solely vested in the Governor** and should be exercised with aid and advice of Council of Ministers and not at his own.

- The Court highlighted the facts that the **Governor is not an elected authority and is a mere nominee of the President**, such a **nominee cannot have an overriding authority over the representatives of the people**, who constitute the House or Houses of the State Legislature.
- Allowing the Governor to overrule the State Legislature or the State executive **would not harmoniously augur with the strong democratic principles** enshrined in the provisions of the Constitution. Specially so, because the Constitution is founded on the principle of **ministerial responsibility.**

➢ **Governor's Discretionary Power:**
  - Article 163 (1) essentially **limits any discretionary power of the Governor only to cases where the Constitution expressly specifies** that the Governor must act on his own and apply an independent mind.
  - The Governor can exercise his discretionary power under Article 174, **when the chief minister has lost the support of the House** and his strength is debatable.
    - Generally, when doubts are cast on the chief minister that he has lost the majority, the opposition and the Governor would rally for a **floor test.**
    - On numerous occasions, the courts have also clarified that when the majority of the ruling party is in question, a floor test must be conducted at the earliest available opportunity.
  - However in Rajasthan's case, despite requests from the chief minister, who is enjoying the majority, the Governor has used discretionary power twice and returned requests to call for a session.

Contempt of Court

Why in News

Recently, the **Supreme Court of India** *suo moto* initiated the proceedings for **criminal contempt of court** against lawyer-activist Prashant Bhushan for his tweet criticising the current Chief Justice of India and the role of some Chief Justices of India in the last six years.

Key Points

➢ **Constitutional Provisions:**

○ **Article 129:** Grants Supreme Court the power to punish for contempt of itself.

○ **Article 142(2):** Enables the Supreme Court to investigate and punish any person for its contempt.

○ **Article 215:** Grants every High Court the power to punish for contempt of itself.

○ However, the expression 'contempt of court' has **not been defined by the Constitution.**

➢ **Contempt of Courts:**

○ As per the **Contempt of Courts Act 1971, contempt refers** to the offence of showing disrespect to the dignity or authority of a court. The Act divides contempt into **civil and criminal contempt.**

● **Civil contempt:** It is willful disobedience to any judgment, decree, direction, order, writ or other processes of a court or wilful breach of an undertaking given to the court.

● **Criminal contempt:** It is any act which may result in:

■ **Scandalising the court** by lowering its authority.

■ **Interference** in the due course of a judicial proceeding.

■ An **obstruction in the administration** of justice.

○ The Contempt of Courts Act 1971 was **amended in 2006** to include **the defence of truth** under **Section 13** of the original legislation. Implying that the **court must permit justification by truth as a valid defence** if it is satisfied that it is in the public interest.

○ Further, **innocent publication** and distribution of some matter, **fair and reasonable criticism** of judicial acts and comment on the administrative side of the judiciary **do not amount to contempt of court.**

➢ **Punishment for Contempt of Court:**

○ The **Supreme Court and High Courts** have the power to **punish for contempt of court,** either with simple imprisonment for a term up to six months or with fine up to Rs. 2,000 or with both.

○ In **1991,** the **Supreme Court ruled** that **it has the power to punish for contempt not only of itself but also of high courts, subordinate courts and tribunals functioning in the entire country.**

○ On the other hand, High Courts have been given special powers to punish contempt of subordinate courts, as per **Section 10 of the Contempt of Courts Act of 1971.**

➢ **Issues with Contempt Law**

○ The law is in contrast with **Article 19(1)(a)** of the Constitution which gives the **right to freedom of speech and expression to all citizens,** while **"contempt provisions" curb people's freedom** to speak against the court's functioning.

○ The law is **very subjective** which might be used by the judiciary **arbitrarily to suppress their criticism** by the public.

Rajya Sabha Members Facing Criminal Charges

Why in News

According to a recent analysis by the **Association for Democratic Reforms** (ADR), about 24% of the sitting **Rajya Sabha members** have declared **criminal cases** against themselves.

Key Points

➢ **Data Analysis:**

○ Analysis of 229 of the 233 Rajya Sabha seats showed that 54 MPs had declared criminal cases.

○ It also found out from their self-sworn affidavits that **89%** have declared **assets estimated** at over **Rs. 1 crore**.

○ About **43% of members elected** to 17th Lok Sabha are **facing criminal charges** in the court of law.

○ This is the highest number of members of parliament facing serious criminal charges like rape, murder and kidnapping **since 2004.**

➢ **Association for Democratic Reforms:**

○ It is an **Indian non-governmental organization** established in **1999** situated in **New Delhi**.

○ With **National Election Watch (NEW),** ADR is striving to bring **transparency and accountability in Indian politics** and reduce the influence of **money and muscle power** in elections.

Criminalisation of Politics

➢ Criminalization of politics is the **involvement of the candidates with criminal charges** in politics through the elections and even getting elected to the Parliament

Note:

and state legislature. It takes place primarily because of the nexus between the criminals and the politicians.

➢ **Reasons:**

○ **Lack of Political Will: Section 8** of the **Representation of Peoples (RP) Act**, **1951** disqualifies a **person convicted** with a sentence of two years or more from contesting elections. However, those **under trial continued to be eligible** to contest elections.

● Therefore, in order to curb **criminalisation of politics**, Parliament needs to bring an amendment in the Act.

○ **Use of Muscle and Money Power:** Candidates with **serious criminal records** seem to do well despite their **bad public image,** largely due to their ability to finance their own elections and further fund their respective parties for different election activities.

○ **Vote Bank:** Criminals are being wooed by political parties and given cabinet posts because their muscle and money fetch crucial votes.

○ **Narrow Self-interests of Voters:** Some voters tend to view such candidates through a narrow prism of being able to represent their community interests by hook or by crook.

○ **Lack of Choices:** Sometimes voters are left with no options, as all competing candidates have criminal records.

➢ **Measures Taken by the Supreme Court :**

Case/Year	Judgment/Measures
Union of India (UOI) vs. Association for Democratic Reforms, 2002	The **Supreme Court** held that every candidate, contesting an election to the Parliament, State Legislatures or Municipal Corporation, has to declare their criminal records, financial records and educational qualifications.
Ramesh Dalal vs. Union of India, 2005	A sitting **Member of Parliament (MP)** or **Member of State Legislature (MLA)** shall also be subject to **disqualification** from contesting elections if he is **convicted and sentenced to not less than 2 years of imprisonment by a court of law.**
Lily Thomas vs. Union of India, 2013	**Section 8(4) of the Representation of the People Act, 1951** was declared unconstitutional which allowed MPs and MLAs who were convicted to continue in office till an appeal against such conviction was disposed of.

People's Union for Civil Liberties vs. Union of India, 2013	The Supreme Court asked the Election Commission to provide **'none of the above'** choice to voters to exercise their right to express **no confidence in all candidates.**
2017	The Supreme Court had directed the Centre to set up **special fast-track courts** to exclusively try lawmakers and politicians facing criminal cases.

➢ **Election Commission's Recommendations:** In 1997, Election Commission directed all the **Returning Officers (ROs) to reject** the nomination papers of any candidate who **stands convicted** on the day of filing the nomination papers even if his sentence is suspended.

○ It recommended that **if a person is found guilty** by a Commission of Inquiry then he shall be disqualified from contesting elections.

○ The **First Past The Post (FPTP) electoral system** shall be replaced by the **2-ballot system** under which a candidate is declared elected from a territorial constituency on the basis of majority principle.

● The 2-ballot system will make winning elections very difficult for criminals as they will have to garner the widest possible support from the voters to get the majority votes.

● Along with the 2-ballot system, the **negative vote** shall also be introduced.

➢ **Other Measures:**

○ **Right to recall:** It confers the **power on the registered voters** in a constituency to recall their elected representatives from the house **on the ground of non-performance**. It could empower the people at the grass-root level. The elected representative could be made truly accountable to the people.

○ **State Funding of Elections:** It means the government would extend **financial assistance to the political parties** to contest elections in part or in full, in-kind or in cash.

● Various **committees** (Dinesh Goswami, Inderjeet Committee, etc.) on the electoral reforms have recommended for state funding of elections.

● **State funding of elections** will curb the use of black money to a large extent and thereby will have a significant impact on limiting criminalization of politics.

Note:

Grant in Aid for Rural Local Bodies

Why in News

Recently, the Ministry of Finance has released a part of grants-in-aid of **Rs.15187.50 crore** for around **2.63 lakh Rural Local Bodies (RLBs)** of 28 States.

➢ This has been made on the recommendations of the **Ministry of Panchayati Raj** and the Department of Drinking Water and Sanitation, **Ministry of Jal Shakti**.

➢ This forms part of the **Tied Grant** as recommended by the **15th Finance Commission (FC)** for the **Financial Year (FY) 2020-2021**.

Key Points

➢ **Recommendation of 15th FC:** It recommended the grant in aid of **Rs. 60,750 crore** for (FY 2020-21) the RLBs which is the **highest ever allocation** made by the Finance Commission in any single year.

➢ **Allocation:** It will be allocated in two parts, namely **Basic Grant and Tied Grant** in **50:50** mode.

     ○ **Basic Grant:** These grants are **untied** and can be used by RLBs for **location-specific needs**, except for salary or other establishment expenditure.

         ● Untied funds are utilised for the works of **emergent nature** which are **normally not covered under the schemes** decentralized at the district level.

     ○ **Tied Grants:** These are used for the **basic services** of:

         ● Sanitation and maintenance of **Open-Defecation Free (ODF)** status.

         ● Supply of drinking water, rain water harvesting and water recycling.

➢ **Assistance:** The **Ministry of Panchayati Raj** would support the states in effective utilization of the grants by providing **Web/IT enabled platforms for planning, monitoring, accounting / auditing** of the works and funds flow at the level of each of the RLBs.

Delimitation in North-east Illegal: Former EC Expert

Why in News

Recently, a former legal advisor to the **Election Commission** (EC) has held that the Centre's order for setting up a **Delimitation Commission** for **Arunachal Pradesh, Manipur, Assam and Nagaland** is "**unconstitutional**" and "**illegal**".

➢ The **government constituted** a Delimitation Commission to redraw Lok Sabha and assembly constituencies of the **Union Territory Jammu and Kashmir** and the four northeastern states on **6th March 2020**.

➢ It is headed by the former **Supreme Court** judge Ranjana Prakash Desai.

Key Points

➢ **Background:**

     ○ **Last delimitation exercise** (**2002-08**) **kept out** Arunachal Pradesh, Assam, Manipur and Nagaland because the **data used for it from 2001 Census was challenged for being defective**.

     ○ The **tribal communities** in the four states **feared** that the delimitation exercise **would change the composition of seats reserved for them**, hurting their electoral interests.

     ○ The **Delimitation Act of 2002** was amended on **14th January 2008**, to empower the President to **postpone the exercise in these states** after violence erupted.

     ○ Subsequently, **Parliament decided that EC would carry out the delimitation exercise** in the four states and introduced the **Section 8A of the Representation of the People (RP) Act 1950** for this purpose.

         ● The decision of Parliament was based on **earlier precedence of the EC being vested with the authority to redraw boundaries** of constituencies including when **Delhi was delimited into 70 seats in 1991-92** and **Uttarakhand into 70 seats in 2000**.

➢ **Issue:**

     ○ The Centre's order for setting up a Delimitation Commission is **illegal because it violates the Representation of the People Act 1950**.

     ○ Section 8A of the RP Act 1950, introduced by Parliament in 2008, states that delimitation in the four northeastern states would fall within the EC's remit.

     ○ Hence, any delimitation exercise by the new Delimitation Commission would be **declared void and result in wastage of huge public funds**.

Issue of Grant of Remission to Convicts by States

Why in News

Recently, the Supreme Court (SC) referred to a seven-judge bench the issue of **whether states can grant the benefit of remission to convicts under the Constitution** by laying down a common policy.

Key Points

➢ The legal issue has arisen before SC while hearing the bail plea of a **murder case convict Pyare Lal.**

➢ The SC was told that Pyare Lal has been released from the jail after being granted the benefit of remission by the Haryana Governor **under Article 161 of the Constitution**, as per a 2019 policy of the state government.

  ❍ According to the policy, those **entitled to get relief included:**

   ● Male convicts who have been sentenced for life in a murder case and are 75 years of age and have completed eight years of sentence.

   ● Female convicts who have been sentenced for life in a murder case and are 65 years of age and have completed six years of sentence.

  ❍ The policy also included that the conduct of such prisoners has to remain satisfactory during confinement and they must not have committed any major jail offence in the last two years.

  ❍ **Article 161 of the Constitution** deals with the judicial **power of the Governor to pardon a convict**. Such power is also exercised by the **President under Article 72** of the Constitution.

➢ The larger bench will also look into **whether states can exercise such powers without placing "facts and materials" of each case before the Governor.**

  ❍ The SC noted that in the case of Pyare Lal, the Haryana government had **placed no facts or material before the Governor** and that the benefit was conferred by the Executive itself in terms of the Policy.

  ❍ The Governor did not have the occasion to look into the issues such as severity of the crime or the manner in which the crime was committed or the impact of the crime on the Society.

➢ In the *Maru Ram vs Union of India case 1980*, the SC had ruled that **no separate order for each individual case would be necessary** for granting the benefit of remission **but a general order must be clear enough to identify the group of cases**.

➢ However, decisions of SC rendered since the *Maru Ram case,* shows that the relevant material (without any political vendetta or party favouritism) must be placed before the Governor in order to enable him to exercise the power under Article 161, failure on that count could result in quashing of the concerned orders of remission.

➢ The larger bench will also look into whether the exercise of granting remission by states can override the requirements under **Section 433-A of the Code of Criminal Procedure (CrPC).**

  ❍ Under Section 433-A of CrPC, a person serving life term cannot be granted remission benefit without serving 14 years in prison.

Pardoning Power of President and Governor

➢ **Article 72 and Article 161** empowers the **President and the Governors respectively,** the powers **to grant pardons, reprieves, respites or remissions** of punishment or to **suspend, remit or commute** the sentence of any person convicted of any offence.

➢ The **pardoning power of the President** extends to the:

  ❍ Punishment or sentence for an offence against a Union Law.

  ❍ Punishment or sentence is by a court-martial (military court).

  ❍ Punishment is a Death sentence.

➢ The **pardoning power of the Governor** extends to the sentence of any person convicted of any offence against any State law.

  ❍ The Governor **cannot pardon against the death sentence and sentence of a Court Martial.**

➢ The scope of the pardoning power of the President under Article 72 is **wider** than the pardoning power of the Governor under Article 161.

➢ The meaning of the terms:

  ❍ **Pardon:** It removes **both the sentence and the conviction** and **completely absolves** the convict from all sentences, punishments, and disqualifications.

  ❍ **Commutation:** It denotes the **substitution of one form of punishment with a lighter form**

Note:

of punishment. For example, a death sentence may be commuted to rigorous imprisonment.

○ **Remission:** It implies **reducing the period of the sentence without changing its character.** For example, a sentence of rigorous imprisonment for five years may be remitted to rigorous imprisonment for one year.

○ **Respite:** It denotes **awarding a lesser sentence in place of one originally awarded due to some special fact**, such as the physical disability of a convict or the pregnancy of a woman offender.

○ **Reprieve:** It implies a **stay of the execution of a sentence (especially that of death) for a temporary period.** Its purpose is to enable the convict to have time to seek pardon or commutation from the President.

Refusal of Rajasthan Speaker's Plea by Supreme Court

Why in News

Recently, the **Supreme Court** (SC) has **refused Rajasthan Assembly Speaker's** plea to stop the **State's High Court** from deciding the **validity** of the **anti-defection** notices.

➢ Earlier, the Speaker had issued notice to the 19 dissident Congress MLAs of the ruling party on the ground of plotting a conspiracy to bring down the government.

Key Points

➢ **Background:**

○ 19 rebel MLAs of Rajasthan's ruling party (Congress) filed a petition before the High Court **challenging the disqualification notices** issued to them by the Assembly **Speaker** under the **Anti-Defection Law.**

  ● The disqualification notice was issued on MLAs' absence from **successive Congress Legislature Party (CLP) meetings** and a '**conspiracy to bring down the government**'.

○ In their writ petition, **citing violation of their freedom of speech and expression** the legislators argued that they **had neither given up their membership of the House** nor did their failure to attend the two CLP meetings render them liable for disqualification on the ground of defection.

○ Therefore, they challenged **Clause 2(1)(a) of the Tenth Schedule of the Constitution** and the validity of the **Rajasthan Assembly Members (Disqualification on the Grounds of Changing Party) Rules, 1989**.

○ **Clause 2(1)(a) of the Tenth Schedule** states that a member may be disqualified "if he has voluntarily given up his membership" of a political party.

○ They also contended that they could not be disqualified merely for disagreeing with the decisions and policies of some leaders outside the Assembly.

➢ **High Court's Stand:**

○ The High Court directed the **speaker** to defer action on the disqualification notices by stating that he cannot decide the matter.

○ It also directed him to extend the time to file replies to disqualification notices.

➢ **Speaker's Argument:**

○ **Unconstitutional:** Seeking a stay on the High Court's direction, the speaker stated that **it is unconstitutional and in derogation of the powers of the Speaker** under the Constitution.

○ **Non Intervention of HC:** Giving the reference to the *Kihoto Hollohan versus Zachillu and Others, 1992* he argued that his decision is totally in the domain of the Speaker to decide on disqualification of members, and **no court can intervene** in between.

  ● He also stated that HC has no jurisdiction to ask him to defer the proceedings.

  ● The proceedings under the **Tenth Schedule** before the Speaker are proceedings of the Legislature and as such cannot be interfered with, **as envisaged under Article 212** which has been read with para 6(2) of the Tenth Schedule.

○ **Show Cause Notice:** He said he had only issued **show-cause notices to the MLAs** on a complaint filed by the Congress chief.

  ● Show cause notice means an order that requires a party to explain why a certain course of action should not be taken against it. If the party cannot convince or fails to appear, that course of action is taken.

○ The notice was an opportunity for the MLAs to explain their conduct.

➢ **Supreme Court's Argument:**

- The SC has questioned about shutting down a legislator's **"voice of dissent"** with the threat of disqualification in a **democracy**.
  - It asked whether expressing dissent amounts to voluntarily giving up the party membership under **Paragraph 2(1)(a) of the Tenth Schedule of the Constitution** and inviting anti-defection proceedings.
  - It further stated that the Speaker is like a tribunal and he must not have acted with political intentions.
- The **Supreme Court** in the *Kihoto Hollohan versus Zachillu and Others case, 1992* said that **judicial review** cannot be available at a **stage prior** to the making of a **decision by the Speaker/Chairman.**
  - Nor would interference be permissible at an interlocutory stage of the proceedings.
  - The only exception for any **interlocutory interference (decree or judgment)** being cases of interlocutory disqualifications or suspensions which may have **grave, immediate and irreversible repercussions and consequences**.
  - Therefore, Constitutional courts cannot judicially review disqualification proceedings under the **Tenth Schedule** of the Constitution until the **Speaker or Chairman makes a final decision on merits.**
- **Reason for Limited Role of Courts:** The Bench explained that the reason for limiting the role of courts in ongoing defection proceedings is that the **office of the Speaker** is held in the **highest respect and esteem** in parliamentary traditions.
- **Judicial Review:** It had said that even the **scope of judicial review against an order of a Speaker or Chairman** in anti-defection proceedings would be confined to **jurisdictional errors**, that is infirmities based on the **violation of constitutional mandate, mala fide actions** and **non-compliance with rules of natural justice**.

No Postal Ballots for Above 65 in Bihar

Why in News

Recently, the **Election Commission of India** (ECI) has **decided against extending postal ballots to electors above 65 years of age** in the upcoming Bihar Assembly elections due to logistical challenges.

Key Points

- **Background:**
  - Earlier in June 2020, the Law Ministry, on the **recommendation of ECI**, had extended the postal ballot facility to electors over 65 years (being most vulnerable to Covid-19), **Covid-19** patients and those suspected to have it by notifying a change to the **Conduct of Election Rules, 1961**.
  - Earlier, postal ballots were **extended to Persons with Disabilities (PwD) and electors over 80 years** in November 2019 ahead of the Jharkhand and Delhi elections.
- **Working Mechanism:**
  - The postal ballot facility for electors above 65 years is different from the conventional postal service.
    - Usually, **ballot papers are distributed electronically** to electors and are **returned to the election officers via post.**
  - For above 65 and Covid-19 patients, it works as a **polling station on the move**, with the polling staff visiting the homes of such electors, having them fill out their ballots, sealing them in envelopes and taking it back.
    - It was done to **minimize vulnerability and exposure** at the polling stations for above 65 and to **not deprive** the Covid-19 patients and people under quarantine **of their voting rights**.
- **Challenges:**
  - After reviewing the preparations for the Bihar polls, the ECI has made this decision keeping in mind the **logistical, staff and safety protocol** related constraints.
  - For collecting votes of so many electors, **additional staff and security will be required** and would not be possible to arrange the facility for about 72 lakh electors, about 10% of the total 7.19 crore electors in the state.
  - State authorities are already preparing 34,000 additional polling stations in order to **limit electors to 1,000 at each location**. It also **requires additional polling personnel** which is an administrative challenge in itself.

Maratha Quota

Why in News

The **Supreme Court** (SC) is set to commence the final

hearing on the batch of **Special Leave Petitions** (SLPs-**Article 136**) **against Maratha reservation in Maharashtra** on a daily basis through video-conferencing.

➤ The apex court will also hear a petition challenging admission to postgraduate medical and dental courses under the quota in the state.

Key Points

➤ The SLPs **challenged the Bombay High Court (HC) decision**, which **upheld the constitutional validity of the Maratha quota** under the state's **Socially and Educationally Backward Classes (SEBC) Act, 2018**.

- ○ The SEBC Act provides for **reservation of seats for admission in educational institutions** in the state and for **reservation of posts for appointments in public services** and posts under the state.

➤ Maharashtra is **one of the few states which have more than 50% reservation.**

- ○ **Tamil Nadu, Haryana and Telangana** also exceed the reservation cap.

- ○ *Indra Sawhney case 1992* ruled that the **total reservation for backward classes cannot go beyond the 50% mark**.

➤ **Background:**

- ○ A group of aspiring medical students **challenged the constitutional validity of an amendment to the SEBC Act, 2018** allowing Maratha reservation for 2019-2020 admissions to MBBS courses.

- ○ In July 2019, the **Bombay HC dismissed** the petition.

- ○ The **SC refused to stay the judgement** and have, time and again, refused to put an interim stay on the quota.

- ○ Recently, the **SC refused to grant interim stay on a plea** by medical students, seeking a direction that the **12% quota not be made applicable for admissions** in postgraduate medical and dental courses for the **academic year 2020-21**.

➤ **Marathas:**

- ○ It is a **politically dominant community in Maharashtra** comprising mainly **peasants and landowners** and forms **nearly one-third of the population** of the state.

  - ● **Majority of the Chief Ministers of the state have been from this community** since the formation of the state in 1960.

○ Marathas are **mostly Marathi-speaking** but not all Marathi-speaking people belong to the Maratha community.

➤ **Bombay High Court Ruling:**

- ○ In **July 2019**, it ruled that the **16% quota granted by the state was not 'justifiable' and reduced it to 12% in education and 13% in government jobs**, as recommended by the 11-member **Maharashtra State Backward Class Commission** (MSBCC).

- ○ The limit of the reservation **should not exceed 50%** but in **exceptional circumstances and extraordinary situations, this limit can be crossed** subject to availability of quantifiable and contemporary data reflecting backwardness, the inadequacy of representation and without affecting the efficiency in administration.

- ○ While the **backwardness of the community** was not comparable with Scheduled Castes (SCs) and Scheduled Tribes (STs), it was **comparable with several other backward classes**, which find a place in the list of Other Backward Classes (OBC) pursuant to the **Mandal Commission**.

➤ **Findings of Maharashtra State Backward Class Commission:**

- ○ It surveyed about 45,000 families from two villages from each of 355 talukas with more than 50% Maratha population.

- ○ **Social Backwardness:**

  - ● 76.86% of Maratha families are engaged in agriculture and agricultural labour for their livelihood.

  - ● Nearly 70% reside in Kachha dwellings.

  - ● Only 35-39% have personal tap water connections.

  - ● During 2013-2018, total 13,368 farmers committed suicides and 23.56% of them were Marathas.

  - ● 88.81% of Maratha women are involved in physical labour for earning a livelihood, besides their physical domestic work.

- ○ **Educational Backwardness:**

  - ● 13.42% of Marathas are illiterate, 35.31% primary educated, 43.79% Secondary and Higher Secondary educated, 6.71% undergraduates and postgraduates and 0.77% technically and professionally qualified.

- ○ **Economic Backwardness:**

Note:

- 93% of Maratha families have an annual income of Rs. 1 lakh, which was below the average income of middle-class families.
- 37.38% of families were **Below Poverty Line** (BPL) against the state average of 24%.
- 71% own less than 2.5 acres of land, whereas only 2.7% of big farmers own 10 acres of land.

○ The commission **submitted its report on 15th November 2018** in which it established that the **Maratha community is socially, economically and educationally backwards** and also **established inadequacy of representation of the Maratha community in public employment** in the state.

➢ **Existing Total Reservation in Maharashtra:**

○ Following the **2001 State Reservation Act**, the total reservation was **52%**.

- This included quotas for SCs (13%), STs (7%), OBCs (19%), Special Backward Class (2%), Vimukta Jati (3%), Nomadic Tribe B (2.5%), Nomadic Tribe C-Dhangar (3.5%) and Nomadic Tribe D-Vanjari (2%).
- The quotas for Nomadic Tribes and Special Backward Classes have been carved out of the total OBC quota.

○ With the **addition of 12-13% Maratha quota**, the total reservation in the state is **64-65%**.

○ The **10% Economically Weaker Sections** (EWS) quota is **also effective** in the state.

National Financial Reporting Authority

Why in News

Recently, the **National Financial Reporting Authority (NFRA)** has constituted a T**echnical Advisory Committee (TAC)** to aid and advise the executive body of the NFRA on **issues relating to drafts of accounting standards and auditing standards.**

➢ The TAC comprises **seven members** including the **chairman - R. Narayanaswamy.**

Key Points

➢ **Constitution:** NFRA was constituted in **2018** by the Government of India under **section 132 (1) of the Companies Act, 2013.** It is an **audit regulator.**

➢ **Background:** The decision to constitute the NFRA was taken after the role of auditors and the **Institute of Chartered Accountants of India** came under the scanner for alleged lapses in various corporate scams including that at the Punjab National Bank.

➢ **Composition:** It consists of a **chairperson**, who shall be a person of eminence and having expertise in accountancy, auditing, finance or law, **appointed by the Central Government** and such **other members not exceeding 15.**

➢ **Functions and Duties:**

○ **Recommend accounting and auditing policies** and standards to be adopted by companies for approval by the Central Government.

○ Monitor and enforce compliance with accounting standards and auditing standards.

○ Oversee the **quality of service of the professions** associated with ensuring compliance with such standards and suggest measures for improvement in the quality of service.

○ Protect the **public interest.**

➢ **Powers:**

○ It can undertake investigation related to the following class of companies and bodies corporate, namely:

- Companies whose **securities are listed on any stock exchange** in India or outside India.
- **Unlisted public companies** having **paid-up capital** of not less than **Rs. 500 crores** or having **annual turnover** of not less than **Rs.1,000 crores** or having, in aggregate, **outstanding loans**, debentures and deposits of not less than **Rs.500 crores** as on the 31st March of immediately preceding financial year.
- Insurance companies, banking companies, companies engaged in the generation or supply of electricity.

○ Where professional or other misconduct is proved, it has the power to make an order for imposing **penalty** of—

- **not less than one lakh rupees,** but which may extend to five times of the fees received, in case of **individuals**; and
- not less than ten lakh rupees, but which may extend to ten times of the fees received, in case of **firms**.

Note:

- Its account is monitored by the **Comptroller and Auditor-General of India.**
- It is **headquartered** in **New Delhi.**

National Disaster Response Fund

Why in News

Recently, the Central Government has allowed **contributions from any person or institution** in the **National Disaster Response Fund** (NDRF) as per Section **46(1)(b) of the Disaster Management (DM) Act, 2005**.

Key Points

- **Formation:**
  - **National Calamity Contingency Fund** (NCCF) was renamed as **National Disaster Response Fund** (NDRF) with the enactment of the DM Act in 2005.
  - It is defined in **Section 46 of the Act**.
  - It is placed in the **"Public Account"** of Government of India under "**reserve funds not bearing interest**".
    - **Public Accounts:** Constituted **under Article 266 (2)** of the Constitution. It accounts for flows for those transactions where the **government is merely acting as a banker. For example, provident funds, small savings** etc. These funds do not belong to the government and have to be paid back at some time.
    - Expenditures from it are not required to be approved by the Parliament.
- **Role:**
  - It is **managed by the Central Government** for meeting the expenses for **emergency responses, relief and rehabilitation** due to any threatening disaster situation or natural disasters.
  - It supplements the **State Disaster Response Fund (SDRF)** in case of a disaster of severe nature, provided adequate funds are not available in the SDRF.
    - SDRF is the **primary fund available with the State governments** for responses to notified disasters to meet the expenditure for providing immediate relief.
    - The Centre contributes 75% of the SDRF allocation for general category States and Union Territories and 90% for special category States/UTs (Northeast States, Sikkim, Uttarakhand, Himachal Pradesh and Jammu and Kashmir).
- **Financing:**
  - Financed through the **levy of a cess on certain items,** chargeable to excise and customs duty and approved annually through the **Finance Bill**.
  - Currently, a **National Calamity Contingent Duty (NCCD)** is levied to finance the NDRF and additional budgetary support is provided as and when necessary.
  - NCCD is levied in the case of **goods specified in the Seventh Schedule** (goods manufactured or produced).
- **Monitoring:**
  - **The Department of Agriculture and Cooperation** under the Ministry of Agriculture and Farmer Welfare monitors relief activities for calamities associated with **drought, hailstorms, pest attacks and cold wave /frost** while **rest of the natural calamities** are monitored by the **Ministry of Home Affairs (MHA)**.
  - **Comptroller and Auditor General (CAG)** audits the accounts of NDRF.

Non-personal Data

Why in News

Recently, a government committee headed by Infosys co-founder Kris Gopalakrishnan has suggested that **non-personal data** generated in India **be allowed to be harnessed by various domestic companies and entities**.

- The committee has also suggested a **separate national legislation** and a **separate authority** to oversee non-personal data.
- It also **recommended mandatory sharing of non-personal data,** as it may be useful for Indian entrepreneurs to develop new and innovative services or products to benefit citizens.

Key Points

- **Definition:**
  - Non-personal data is any set of data **which does not contain personally identifiable information.** This means that no individual or living person can be identified by looking at such data.

- For example, order details collected by a food delivery service will have the name, age, gender, and other contact information of an individual, it will become non-personal data **if the identifiers such as name and contact information are taken out.**
  - ❍ The government committee, which submitted its report has classified non-personal data into **three main categories**, namely **public non-personal data**, **community non-personal data** and **private non-personal data**.
- ➢ **Public, Community, and Private Non-personal Data:**
  - ❍ **Public non-personal data:** It involves all the data collected by the government and its agencies during execution of all publicly funded works.
    - **E.g.** census, data collected by municipal corporations on the total tax receipts.
  - ❍ **Community non-personal data:** It involves any data identifiers about a set of people who have either the **same geographic location, religion, job, or other common social interests.**
    - **E.g.** The metadata collected by ride-hailing apps, telecom companies, electricity distribution companies.
  - ❍ **Private non-personal data:** It can be defined as those which are produced by individuals which can be derived from **application of proprietary software or knowledge**. E.g data generated by companies like Google, Amazon etc.
- ➢ **Importance of Non-personal Data:**
  - ❍ These data sets will help to map consumer biases and ensure **targeted delivery of services**. It will unlock the doors of economic value and innovation in the country.
- ➢ **Sensitivity of Non-personal Data:**
  - ❍ Unlike personal data, non-personal data is more likely to be in an anonymised (without particulars or details) form.
  - ❍ However, in certain categories such as data related to national security or strategic interests such as locations of government laboratories or research facilities, even if the data provided in anonymised form can be dangerous.
    - Possibilities of such harm are obviously much higher if the original personal data is of a sensitive nature.

- Therefore, the **non-personal data arising from sensitive personal data may be considered as sensitive non-personal data.**
- ➢ **Issues Involved:**
  - ❍ The data sets will heavily **favour big tech companies.**
    - Only big tech companies possess the capital and infrastructure to create such large volumes of data. Others will find it difficult to match the capabilities of these technology giants.
  - ❍ As a signatory to **Trade-Related Aspects of Intellectual Property Rights (TRIPS)**, India extended copyright protection to computer databases in 1999.
    - In such a scenario, there is a challenge of demarcation between non-personal data that cannot be shared, and non-copyright non-personal data that can be used as a public resource.
  - ❍ There is **no clarity over the grievance redressal mechanism** in the committee's report.

Consumer Protection Act, 2019

Why in News

The **new Consumer Protection Act, 2019** came into force on **20th July 2020** and it will empower consumers and help them in protecting their rights through its various notified rules and provisions.

- ➢ The new act will be swift and less time consuming compared to the **older Consumer Protection Act, 1986** in which single-point access to justice was given making it a time-consuming exercise.
  - ❍ The old act provided for a **three-tier consumer dispute redressal machinery** at the **National** (**National Consumer Disputes Redressal Commission**), **State** and **District** levels.

Key Points

- ➢ The Consumer Protection Act, 2019 establishes the **Central Consumer Protection Authority** (CCPA) whose primary **objective** will be to promote, protect and enforce the rights of consumers.
  - ❍ **It is empowered to:**
    - Conduct investigations into violations of consumer rights and institute complaints/prosecution.

- Order recall of unsafe goods and services.
- Order discontinuance of unfair trade practices and misleading advertisements.
- Impose penalties on manufacturers/endorsers/ publishers of misleading advertisements.

➢ **Rules on E-commerce and Unfair Trade Practices:** The government will notify the **Consumer Protection (E-commerce) Rules, 2020** under the Act whose broad provisions are given below.

- ❍ **E-commerce** entities are **required to provide information** to consumers, relating to return, refund, exchange, warranty and guarantee, delivery and shipment, modes of payment, grievance redressal mechanism, payment methods, security of payment methods, charge-back options and country of origin.
  - These are necessary for **enabling the consumer to make an informed decision** at the pre-purchase stage.
- ❍ These platforms will have to **acknowledge the receipt of any consumer complaint within 48 hours** and **redress the complaint within one month** from the date of receipt. They will also have to appoint a grievance officer for consumer grievance redressal.
- ❍ The Consumer Protection (E-commerce) Rules, 2020 are **mandatory and are not advisories**.
- ❍ Sellers **cannot refuse to take back goods or withdraw services or refuse refunds**, if such goods or services are defective, deficient, delivered late, or if they do not meet the description on the platform.
- ❍ The rules also **prohibit the e-commerce companies from manipulating the price** of the goods or services to gain unreasonable profit through unjustified prices.

➢ **Product Liability:**

- ❍ A manufacturer or product service provider or product seller will be held **responsible to compensate for injury or damage** caused by defective product or deficiency in services
- ❍ **Basis for product liability action:**
  - Manufacturing defect.
  - Design defect.
  - Deviation from manufacturing specifications.
  - Not conforming to express warranty.
  - Failing to contain adequate instructions for correct use.
  - Service provided-faulty, imperfect or deficient.

➢ **Punishment for Manufacture or Sale of Adulterated/ Spurious Goods:**

- ❍ In case of the first conviction, a competent court may suspend any licence issued to the person for a **period of up to two years** and in case of second or subsequent conviction, may **cancel the licence permanently.**

➢ **Alternate Dispute Resolution Mechanism of Mediation:**

- ❍ A complaint will be referred by a Consumer Commission for mediation, wherever scope for early settlement exists and parties agree for it.
- ❍ The mediation will be held in the **Mediation Cells** which will be established under the aegis of the **Consumer Commissions**.
- ❍ There will be **no appeal against settlement through mediation**.

➢ **Simplification of the Consumer Dispute Adjudication Process:**

- ❍ **Empowering the State and District Commissions to review** their own orders.
- ❍ Enabling a consumer to file complaints electronically and in consumer commissions that have jurisdiction over the place of his residence.
- ❍ Video-conferencing for hearing and deemed admissibility of complaints if the question of admissibility is not decided within the specified period of 21 days.

➢ **Other Rules and Regulations:**

- ❍ As per the **Consumer Disputes Redressal Commission Rules**, there will be **no fee for filing cases up to Rs. 5 lakh**.
- ❍ The credit of the amount due to unidentifiable consumers will go to the **Consumer Welfare Fund (CWF)**.
- ❍ State Commissions will furnish information to the Central Government on a quarterly basis on vacancies, disposal, the pendency of cases and other matters.
- ❍ Apart from these general rules, there are **Central Consumer Protection Council Rules**, provided for the constitution of the **Central Consumer Protection Council** (CCPC).
  - It will be an **advisory body** on consumer issues, headed by the Union Minister of Consumer Affairs, Food and Public Distribution with the

Note:

Minister of State as Vice Chairperson and 34 other members from different fields.

- It will have a **three-year tenure** and will have Minister-in-charge of consumer affairs from two States from each region- North, South, East, West, and North-East Region.

Regulation of Government Advertising: CCRGA

Why in News

Recently, the **Supreme Court**-mandated **Committee on Content Regulation in Government Advertising (CCRGA)** issued a notice to the Delhi government, seeking clarifications on a recent advertisement placed by it in Mumbai editions of prominent newspapers.

➢ However, according to the Delhi government, CCRGA doesn't have jurisdiction over the Delhi government. The advertisement content of Delhi government is regulated by its own State-level committee.

Key Points

➢ **CCRGA:**
  ○ As per the directions of Supreme Court in 2015, the Government of India had set up a **three member body** in 2016 to look into content regulation of government funded advertisements in all media platforms.
  ○ It is **empowered to address complaints** from the general public and can also take suo-moto cognizance of any violation of the Supreme Court guidelines and recommend corrective actions.

➢ **Supreme Court Guidelines:**
  ○ The content of government advertisements **should be relevant to the government's constitutional and legal obligations** as well as the citizen's rights and entitlements.
  ○ The advertisement materials should be designed to meet the objectives of the campaign and to ensure maximum reach in a cost effective way.
  ○ It should be accurate and not presenting pre existing policies and products as new. The advertisement content **should also not promote the political interests of the ruling party.**

Government Order for PC of Women in Army

Why in News

Recently, the **Ministry of Defence** has issued the **formal Government Sanction Letter** for **grant of Permanent Commission (PC) to Women Officers in the Indian Army**.

Key Points

➢ The order specifies grant of PC to **Short Service Commissioned** (SSC) Women Officers in the **remaining 8 streams of the Indian Army**.
  ○ These **10 streams include** Army Air Defence (AAD), Signals, Engineers, Army Aviation, Electronics and Mechanical Engineers (EME), Army Service Corps (ASC), Army Ordnance Corps (AOC), Intelligence Corps, Judge and Advocate General (JAG) and Army Educational Corps (AEC).
  ○ **Before the order, women officers are allowed a PC in theJAG and AEC**.

➢ In anticipation, the Army Headquarters had set in motion a series of preparatory actions for the conduct of the **Permanent Commission Selection Board** (PCSB) for the eligible women officers.
  ○ The Selection Board will be scheduled as soon as all eligible SSC Women Officers exercise their option and complete requisite documentation.

➢ **Issue:**
  ○ Under the SSC scheme, women were **commissioned into the Army for a period of 10 years, extendable up to 14 years**.

Note:

○ Women were, however, **restricted to roles in specified streams** such as Army Education Corps, Corps of Signals, Intelligence Corps and Corps of Engineers. These specified streams **excluded combat arms** such as infantry and armoured corps.

○ While **male SSC officers could opt for permanent commission** at the end of 10 years of service, this option was not available to women officers. **Women officers were kept out of any command appointment and could not qualify for a government pension**, which **starts only after 20 years of service** as an officer.

➢ **Background:**

○ The case was first **filed in the Delhi High Court by women officers in 2003** and had **received a favourable order in 2010**.

○ However, the **order was never implemented** and was **challenged in the Supreme Court by the government**.

● In its appeal, the g**overnment cited "physical" and "physiological limitations"** in granting command positions to women.

○ In the **February 2019 policy statement**, the **Government endorsed the PC for SSC women officers** in 10 streams of the 'Combat Support Arms' and 'Services' sections.

● However, it was said that the women officers **would not be offered any command appointments, and would serve only in staff posts**.

○ In **February 2020**, the SC held that there is a **need for an administrative will and 'change of mindset'** and **directed the government to grant PC and command postings in all services other than combat** to women Army officers.

Permanent Commission for Women

➢ The Ministry of Defence has taken steps to **ensure implementation of the grant of PC** to women officers and all three services have allowed permanent recruitment of women in select streams including medical, education, legal, signals, logistics and engineering.

○ **Indian Air Force:** Women Officers recruited through the SSC in the IAF have the option of seeking PC in all streams except the flying branch.

○ **Indian Navy:** In **March 2020, the SC cleared the way for PC to women in Indian Navy** as well.

● The Navy has allowed PC of women in a host of departments such as logistics, naval designing, air traffic control, engineering and legal.

○ **Indian Army:** Women officers are granted PC in the Indian Army in **all the ten branches** where women are **inducted for SSC.**

Government Servants as Gram Panchayat Administrator

Why in News

Recently, the Bombay High Court passed an interim order directing that a **government servant of the local authority** be appointed as an **administrator** of **gram panchayats** in Maharashtra.

➢ It is for the 15,000 panchayats where the terms of these officers have ended or would be ending.

➢ These administrators include **sarpanch, secretary of the panchayats** and **gram sevaks**.

Key Points

➢ **Petition Against Recent Decisions:** The order came after petitions were filed against recent **Government Resolutions (GR)** issued by the State Rural Development Department and **Maharashtra Village Panchayat (Amendment) Ordinance, 2020**.

○ Through these, the Maharashtra government **ordered the appointment of administrators to all gram panchayats** by Zilla Parishad Chief Executive Officers (CEO) in consultation with their **respective district ministers**.

○ The resolution and ordinance **were challenged on various grounds** related to the **appointment of private individuals** as administrators of gram panchayats.

○ It also challenged the **section 151 of the Maharashtra Village Panchayats Act** by allowing the **appointment of administrators** in case the **State Election Commission** (SEC) could not hold **elections** due to a **natural calamity**, **pandemic**, financial emergency or administrative emergency.

➢ **High Court's Argument:**

○ **Questioned Private Appointments:** The Court ordered that the **administrator to be appointed**, **should be a government servant** or an officer from the local authority.

Note:

- If not available and the appointment of a **private individual is to be made**, then each such order **shall record the reasons** because of which such officer was not available.
- The criteria that administrators have to be "a resident of the village and on the voters' list'' is a **directory**, not **mandatory** in nature.
  ○ **Local Authority Officers:** The court emphasised that **local authority offices** should be the first choice for appointment as an administrator.
  ○ **Impact on Local Governance:** The Court admitted that **working of the gram panchayat** will be affected if the administrator is not appointed, however, it also emphasised the need to address the concerns regarding the appointment of the private individual.
    - According to the court, **private individuals appointment** is not warranted in law and such mass appointments will **have a lasting adverse impact** on the local governance in **terms of efficiency, impartiality** and **effectiveness** of the work.
- ➢ **State Government's Argument:**
  ○ **Urgent Need:** It stated that there is an urgent need for administrators to run the panchayats as pandemic has halted the election process.
  ○ **Overburdened Officers:** There are a large number of gram panchayats in the State and the government servants are already overburdened. So, it is difficult to appoint them as administrators.

Parliamentary vs Presidential Form of Government

Why in News

Recently, it has been suggested that India **should adopt the presidential form of government** instead of the **parliamentary** style of democracy, inherited from the British.

➢ These suggestions have been given in the **backdrop of frequent elections** and related administrative as well as financial burden owned by India.

Key Points

➢ **Arguments Against the Parliamentary System:**

Parliamentary System of Government

➢ **There are two executives:**
  ○ The nominal executive is the head of state i.e the President while the real executive is the Prime Minister, who is the head of government.
➢ In such a system, the role of president or monarch is primarily ceremonial and the Prime Minister along with the cabinet wields effective power.
➢ Countries with such a system include Germany, Italy, Japan, the United Kingdom and Portugal.
➢ The Constitution of India provides for a parliamentary form of government, both at the Centre and in the States.
  ○ **Articles 74 and 75 deal** with the parliamentary system of government at the Union level and **Articles 163 and 164** contain provisions with regard to the States.
➢ **The executive is responsible to the legislature** for its policies and acts.

Presidential System of Government

➢ There is only **one executive.**
➢ In this system, the President is both head of state and the government. For example, the USA, South Korea etc.
➢ The executive is **not responsible to the legislature** for its policies and acts and is constitutionally independent of the legislature in respect of its term of office.

  ○ **Unqualified Legislators:** The parliamentary system has created unqualified legislators, who have sought election only in order to wield executive power.
    - It limits **executive posts to those who are electable** rather than to those **who are able**. For example, the prime minister cannot appoint a cabinet of his choice and has to cater to the wishes of the political leaders of several parties.
  ○ **Powerful Executive:** Most of the laws are drafted by the executive and parliamentary input into their formulation and passage is minimal. It has been seen that the ruling party issues a whip to its members in order to ensure unimpeded passage of a bill.
    - Since defiance of a whip itself attracts disqualification, MPs blindly vote as their party directs.
    - Hence, the parliamentary system does not permit the existence of a legislature distinct from the executive.

Note:

○ **Fickle Legislative Majority:** It has forced governments to concentrate less on governing than on staying in office and obliged them to cater to their coalitions.

  ● It puts insurance on **defections and horse-trading**. The **Anti-Defection Act of 1985** has failed to cure the problem since the bargaining has shifted to getting enough **MLAs to resign to topple a government** while promising them offices when they win the subsequent by-elections.

○ **Distorted Voting Preference:**

  ● It has distorted the voting preferences of an electorate that knows which individual it wants to vote for but not necessarily which party.

➢ **Arguments in Favour of the Presidential System:**

○ **Stable Executive:** It establishes a stable executive which does not depend upon the **fluctuating will of the legislature** especially in case of coalition governments.

  ● A system of directly elected chief executives at all levels, invulnerable to the whims of the legislature and with clearly defined authority in their respective domains would permit India to deal more efficiently with its critical economic and social challenges.

○ **Ability Over Electability:** Cabinet posts would not be limited to those who are electable rather than those who are able.

  ● The President can appoint anyone as secretaries (equivalent to minister).

○ **Effective Check and Balance:** It establishes the presidency and the legislature as two parallel structures. This allows each structure to **monitor and check the other**, hence preventing the abuse of power.

○ **Role of Citizens:** At the end of a fixed period of time, the public would be able to judge the individual's performance, rather than on political skill at keeping a government in office.

  ● Further, the Indian voter will be able to vote directly for the individual he or she wants to be chosen as the head rather than a majority of **Members of Parliament** and **Legislative** assembly.

➢ **Argument Against the Presidential Form:**

○ **Lack of Cooperation:** A weakness of the system is its failure to ensure the **co-operation between law-makers and administrators**.

● Frequent conflicts between the legislature and the executive may lead to **deadlocks.**

○ **Autocratic:** A presidential system **centralises power in one individual** unlike the parliamentary system, where the Prime Minister is the first among equals. The surrender to the authority of one individual, as in the presidential system, is dangerous for democracy.

○ **Concerns over Separation of Powers:** If the **legislature is dominated** by the same party to which the **President belongs**, he may prevent any move from the legislature.

➢ **Benefits of the Parliamentary System:**

○ **Ensures Diverse Representation:** By looking at the diversity and the number of parties from different states, India needs a diverse cabinet to fulfil the aspirations of millions.

  ● Hence, the parliamentary system ensures **regional representation** by selecting candidates from different parts of the country.

○ **Basic Structure of Constitution:** It is part of the **basic structure of the Constitution**. Altering the parliament system would face legal hurdles.

○ **Prevents Authoritarianism:** Since the executive is responsible to the legislature and can vote it out in a motion of no confidence, there is no authoritarianism. Also, unlike the presidential system, power is not concentrated in one hand, rather in a **group of individuals** (Council of Ministers).

○ **Better Coordination:** Since the executive is a part of the legislature and generally the majority of the legislature support the government, it is easier to pass laws and implement them.

○ **Matured System:** It is an old system and can give news ideas with its experience in a democratic setup.

Plea Bargaining

Why in News

Several citizens of various countries, who were accused of violating visa conditions and government guidelines following the **Covid-19 pandemic**, have obtained release from court cases in recent days by **means of plea bargaining.**

Note:

Key Points

- ➢ **Plea Bargaining:**
  - ○ It refers to a person charged with a criminal offence **(accused) negotiating with the prosecution for a lesser punishment** than what is provided in law **by pleading guilty to a less serious offence.**
  - ○ It primarily involves **pretrial negotiations between the accused and the prosecutor.** It may involve **bargaining on the charge or in the quantum of sentence.**
- ➢ **Provision in India:**
  - ○ **Plead Guilty:** There has always been a provision in the **Code of Criminal Procedure (CrPC)** for an accused **to plead 'guilty' instead of claiming the right to a full trial,** but it is **not the same as plea bargaining.**
  - ○ **Plea Bargaining:** Plea bargaining was **introduced in 2006** as part of a set of amendments to the **CrPC** as **Chapter XXI-A**, containing **Sections 265A to 265L.**
  - ○ Cases for which the plea bargaining is allowed are **limited.**
    - ● Only someone who has been charged for an offence that **does not attract the death sentence, life sentence or a prison term above seven years** can make use of the scheme under Chapter XXI-A. It is **also applicable to private complaints** of which a criminal court has taken cognisance.
    - ● Other categories of cases that **cannot** be disposed of through plea bargaining are those that involve offences **affecting the "socio-economic conditions"** of the country, or **committed against a woman or a child below the age of 14.**
- ➢ **Procedure in India:**
  - ○ The plea bargaining process **can be initiated only by the accused.** This provision is **different from the one in other countries like the USA** where the prosecutor plays a key role in bargaining with the suspected offender.
  - ○ The accused will **have to apply to the court** for invoking the benefit of bargaining.
  - ○ Thereafter, the court may permit the **prosecutor, the investigating officer and the victim (if any) to hold a meeting** for a "satisfactory disposition of the case".

- ○ Once mutual satisfaction is reached, the court formalises the arrangement by way of a report signed by all the parties and the presiding officer.
  - ● The accused **may be sentenced to a prison term that is half the minimum period** fixed for the offence. If there is no minimum term prescribed, the sentence should run up to **one-fourth of the maximum sentence stipulated in law.**
  - ● The outcome may also involve **payment of compensation** and other expenses to the victim by the accused.
- ➢ **Arguments in Favour:**
  - ○ As per the **Justice Malimath Committee** on reforms of the criminal justice system (formed in 2000):
    - ● This ensures **speedy trial**, ends uncertainty over the outcome of criminal cases, **saves litigation costs** and relieves the parties of anxiety.
    - ● It would also have a dramatic **impact on conviction rates.**
    - ● It is common in the USA, and has been a successful method of **avoiding protracted and complicated trials.** As a result, conviction rates are significantly high there.
  - ○ **Prolonged imprisonment of undertrials** without any progress in the case for years and **overcrowding of prisons** are also other factors that may be cited in support of reducing pendency of cases and decongesting prisons through plea bargaining.
  - ○ It may help offenders make a **fresh start in life.**
- ➢ **Arguments Against:**
  - ○ People who are pushed to plea bargain are those **who do not have the wherewithal to arrange for bail.**
  - ○ Even courts are also very particular about the voluntary nature of the exercise, as **poverty, ignorance and prosecution pressure** should not lead to someone pleading guilty of offences that may not have been committed.
    - ● The Judiciary in its earlier verdicts (especially before the introduction of the process) had **disapproved of bargaining with offenders**, and pointed out that lenient sentences could be considered as part of the circumstances of the case after a regular trial. **Mere acceptance or admission of the guilt should not be a ground for reduction of sentence.**

Note:

○ Further, it may **hamper the victim's right to fair trial**, involvement of coercion by the investigating agencies and corruption in the process.

○ Some argue that it is **against Article 20 (3)** of the Constitution which provides **immunity to an accused against self-incrimination.**

G20 Digital Economy Ministers Meeting

Why in News

Recently, a **virtual meeting of G20 Digital Economy Ministers** was hosted by **Saudi Arabia** in which Indian Union Minister for Electronics and Information Technology represented India.

➤ **Saudi Arabia is holding the presidency** of **G20** currently.

Key Points

➤ Few major initiatives taken by India to tackle Covid-19 were highlighted:

○ Early **lockdowns** which helped in curbing the spread of the virus as well as preparing for the upcoming challenges effectively.

○ **Digital innovations for managing Covid-19:**

• Initiatives like **Aarogya Setu mobile app**, **Covid-19 Quarantine Alert System** (geofencing system for monitoring quarantined patients) and **Covid-19 Savdhan** (bulk messaging systems).

○ **Digital innovations for helping people in general:**

• **Direct Benefit Transfers** and **digital payments** ensured that even the weakest in the society was provided various financial relief during the lockdown.

➤ India Emphasised Upon:

○ Emerging technologies like **Artificial Intelligence** should be **leveraged for inclusive growth and development** especially in healthcare and education.

○ In the wake of a **pandemic** like **Covid-19**, there is a need for **building a resilient global supply chain**.

• **India's potential as an attractive destination for investment** closely integrated with global supply chains was also brought into focus.

○ All **digital platforms need to be accountable and sensitive** towards concerns related to defence and data privacy of citizens of sovereign countries.

• The comments follow the **Indian government's move to ban 59 Chinese applications** citing a threat to national security and sovereignty.

➤ **India's Step for Data Protection:**

○ India is soon going to put in place a robust **personal data protection law** (**Personal Data Protection Bill 2019**) which will not only address the data privacy-related concerns of citizens but also ensure availability of data for innovation and economic development.

AuditOnline Application for Local Bodies

Why in News

The **Ministry of Panchayati Raj** has decided to **conduct an online audit of accounts of about 50,000 Gram Panchayats (GPs)** through its application **AuditOnline** during the current financial year (2020-21).

➤ This will be the **first such exercise.**

Key Points

➤ **Online Audit of Accounts:** 50,000 GPs' books of accounts for 2019-20 will be audited with a focus on how they used **Finance Commission (FC) grants.**

○ **50,000 is equivalent to the 20% of the estimated 2.5 lakh GPs** across the country.

○ In the **next financial year (2021-22),** the exercise will be scaled up to **cover all the GPs**.

○ The **15th FC recommended an allocation of Rs. 60,750 crore for rural local bodies during 2020-21,** almost the same as last year under the 14th FC.

➤ **AuditOnline:**

○ It is an **application developed as a part of Panchayat Enterprise Suite (PES) under e-panchayat Mission Mode Project (MMP)** initiated by the Ministry of Panchayati Raj (MoPR).

Benefits of e-Audit

○ It facilitates the financial audit of accounts at **all the three**

levels of Panchayats viz District, Block and Village Panchayats, **Urban Local Bodies (ULB)** and **Line department** by Auditors.

○ It not only facilitates the online and offline audit of accounts but also serves the purpose of **maintaining the past audit records** of the auditee with associated list of the auditors and audit team involved in the audit.

○ Also the **information remains available in public domain** and for usage by other PES applications.

➢ **Benefits of Online Audit:**

○ Online audit with the option of physical verification **assumes greater relevance given the pandemic** and the lockdown.

● As some works (done under other schemes) are geo-tagged, auditors can do a sample check by visiting the site.

○ Further, it **ensures accountability** in the utilisation of funds at the ground level.

● In the offline system, **timely availability of records** is a major issue. However, in the online system, the auditors will be able to see online all documents related to work approval and payments. They can even ask for additional documents such as photographs as a proof of work done.

○ Moreover, an online audit **can be monitored at all levels: district-state-centre.**

➢ **Challenge:**

○ More than 15% of Panchayats in several states have not completed their books of accounts for the year 2019-20.

● Completing and closing the accounts is a prerequisite for the online audit.

● While 100% of Panchayats in Maharashtra and Haryana have closed their 2019-20 accounts, no Panchayat has done this in Arunachal Pradesh and Bihar. States like Punjab and Himachal Pradesh are also low performers.

Panchayat Enterprise Suite

➢ The Ministry of Panchayati Raj (MoPR) has undertaken e-Panchayat Mission Mode Project (e-Panchayat MMP) with a view t**o introduce and strengthen e-Governance in Panchayati Raj Institutions (PRIs)** across the country and build associated capacities of the PRIs for effective adoption of the e-Governance initiative.

➢ Under e-Panchayat, a suite of **11 Core Common Applications** has been deployed that address nearly the entire spectrum of Panchayats' functioning viz. from internal core functions such as Planning, Monitoring, Budgeting, Accounting, Social Audit etc. to citizen service delivery operations like issue of certificates, licenses etc.

➢ Together these 11 software Applications **constitute the Panchayat Enterprise Suite (PES)**. A list of these 11 Applications is tabulated below:

S. No.	PES Application Name	Description
1	Local Government Directory - LGD	Captures all details of local governments and assigns unique code. Also maps Panchayats with Assembly and Parliamentary Constituencies.
2	Area Profiler	Captures geographic, demographic, infrastructural, socio-economic and natural resources profile of a village/panchayat. Universal database for planning of all sectoral programmes and also provides details of Elected Representatives, etc.
3	PlanPlus	Helps Panchayats, Urban Local Bodies and line departments in preparing Perspective, Annual and Action Plans.
4	PRIASoft	Captures receipt & expenditure details through voucher entries and automatically generates cash book, registers, etc.
5	ActionSoft	Facilitates monitoring of physical & financial outcomes/outputs under various programmes.
6	National Asset Directory (NAD)	Captures details of assets created/ maintained; helps avoid duplication of works.
7	ServicePlus	A dynamic metadata-based service delivery portal to help in providing electronic delivery of all services in all States. The

Note:

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		functionality of the erstwhile Grievance Redressal Application has also been subsumed into this Application.
8	Gram Manchitra (GIS Application)	Gram Manchitra is a geo-spatial planning application for Gram Panchayat users to better visualize the various developmental works to be taken up across different sectors and provide a decision support system for Gram Panchayat Development Plan.
9	Training Management	Portal to address training needs of stakeholders including citizens, their feedback, training materials etc.
10	National Panchayat Portal (NPP)	Dynamic Web site for each Panchayat to share information in the public domain.
11	AuditOnline	AuditOnline aims to facilitate audit of Government Institutions online.

BIS-Care

Why in News

Recently, the **Union Minister for Consumer Affairs, Food and Public Distribution** has launched the **Bureau of Indian Standard** (BIS) Mobile App '**BIS-Care**' and three portals namely the **Standardization, Conformity Assessment and Training Portals of e-BIS** for consumers.

➢ BIS is the **National Standard Body of India** for the harmonious development of the activities of **standardization, marking and quality certification** of goods.

Key Points

➢ **BIS-Care App:**
  ○ The app can be operated on any Android phone and is operational in **Hindi and English** language.
  ○ Consumers can **check the authenticity of the ISI-marked and hallmarked products** and lodge **complaints** using this app.
  ○ It is important to ensure that consumers are aware of the standards and quality products and help in eliminating the supply of sub-standard products.

➢ **e-BIS:**
  ○ e-BIS is an **integrated portal** covering all functions of BIS, enlisting the services of outside agencies for factory and market surveillance and development of mobile app-based and **Artificial Intelligence** (AI) enabled surveillance methods.
  ○ Certification and surveillance to enforce the implementation of standards is an important aspect of BIS functioning which is also strengthening its capacity of enforcement by the implementation of e-BIS.

➢ **Other Steps Taken:**
  ○ BIS has been playing an important role in the **formulation of Quality Control Orders** (QCO) to make the standards mandatory.
    • It has actively collaborated with various Ministries and Departments to help them issue QCOs for various products.
    • After standards become mandatory, manufacturers, both domestic and foreign, have to comply with them.
  ○ BIS is developing a **portal on Consumer Engagement**, which will facilitate the online registration of Consumer Groups, submission of proposals and approval thereof and complaint management.
  ○ BIS plans to implement **One Nation, One Standard** which is under examination and will be launched soon.
    • For that purpose, it has formulated a scheme for the recognition of other **Standard Development Organizations** in the country with the objective of harmonization of the standard formulation.
  ○ The **Standard National Action Plan** has been approved and important sectors of the economy for the development of standards have been identified.
  ○ BIS **developed Covid-19 standards** for Cover-all and Ventilators and **issued norms for grant of licence** for N95 Masks, surgical masks and eye protectors which has resulted in an **increased production of ISI-marked Personal Protection Equipment (PPE) items**.
  ○ BIS has **expanded and modernised its labs** and has been creating testing facilities for drinking water and assaying of gold jewellery.

Note:

- It has formulated a **comprehensive Training Policy** and has been **imparting training to various stakeholders** through its **National Institute of Standardization** at Noida.
- There have been efforts to **integrate the standards into the curriculum of professional education** in the country and for that, an **Approach Paper** has been developed and shared with the Ministry of Human Resource Development, **All India Council for Technical Education** (AICTE) and other stakeholders.

National Education Policy, 2020

Why in News

Recently, the Union Cabinet has approved the **new National Education Policy (NEP), 2020** with an aim to introduce several changes in the Indian education system - **from the school to college level.**

➢ The NEP 2020 aims at making **"India a global knowledge superpower".**

➢ The Cabinet has also approved the **renaming** of the Ministry of Human Resource Development to the **Ministry of Education**.

➢ The NEP cleared by the Cabinet is **only the third major revamp of the framework of education** in India since independence.
  - The **two earlier education policies** were brought in **1968 and 1986**.

Key Points

➢ **School Education:**
  - **Universalization** of education from **preschool to secondary level** with **100 % Gross Enrolment Ratio (GER)** in school education by **2030**.
  - To bring 2 crore out of school children back into the mainstream through an **open schooling system**.
  - The current **10+2 system** to be **replaced** by a new **5+3+3+4** curricular structure corresponding to **ages 3-8, 8-11, 11-14, and 14-18 years respectively.**
    - It will bring the uncovered age group of **3-6 years** under school curriculum, which

has been recognized globally as the **crucial stage for development of mental faculties of a child.**
  - It will also have 12 years of schooling with three years of Anganwadi/ pre schooling.
- **Class 10 and 12 board examinations to be made easier**, to test core competencies rather than memorised facts, with all students allowed to **take the exam twice**.
- **School governance** is set to change, with a **new accreditation framework and an independent authority** to regulate both public and private schools.
- Emphasis on **Foundational Literacy and Numeracy**, no rigid separation between academic streams, extracurricular, vocational streams in schools.
- **Vocational Education** to start from **Class 6 with Internships.**
- Teaching up to at **least Grade 5** to be in **mother tongue/ regional language**. No language will be imposed on any student.
- Assessment reforms with **360 degree Holistic Progress Card**, tracking Student Progress for achieving Learning Outcomes
- A new and comprehensive **National Curriculum Framework for Teacher Education** (NCFTE) 2021, will be formulated by the **National Council for Teacher Education (NCTE)** in consultation with **National Council of Educational Research and Training (NCERT)**.
  - By 2030, the minimum degree qualification for teaching will be a 4-year integrated B.Ed. degree.

Transforming Curricular & Pedagogical Structure
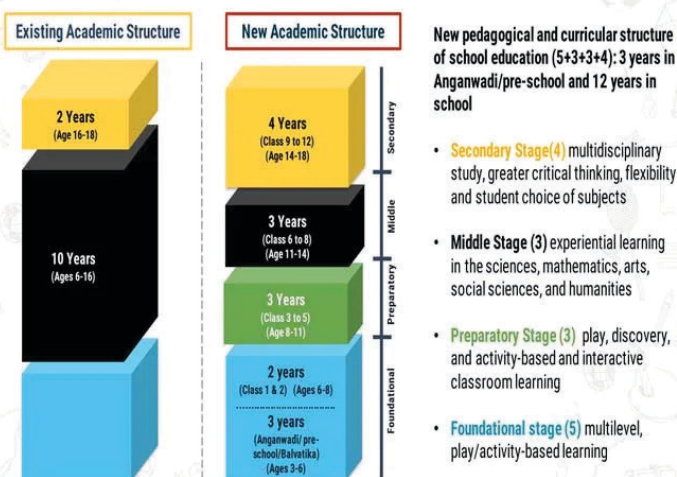
Note:

➢ **Higher Education:**

○ **Gross Enrolment Ratio** in higher education to be **raised to 50 % by 2035**. Also, **3.5 crore seats** to be added in higher education.

  ● The **current** Gross Enrolment Ratio (GER) in higher education is **26.3 %**.

○ Holistic Undergraduate education with a flexible curriculum can be of **3 or 4 years with multiple exit options** and appropriate certification within this period.

○ **M.Phil** courses will be **discontinued** and all the courses at undergraduate, postgraduate and PhD level will now be interdisciplinary.

○ **Academic Bank of Credits** to be established to facilitate Transfer of Credits.

○ **Multidisciplinary Education and Research Universities (MERUs)**, at par with IITs, IIMs, to be set up as models of best multidisciplinary education of global standards in the country.

○ The **National Research Foundation** will be created as an **apex body** for fostering a strong research culture and building research capacity across higher education.

○ **Higher Education Commission of India (HECI)** will be set up as a **single umbrella body** for the entire higher education, **excluding medical and legal education**. Public and private higher education institutions will be governed by the **same set of norms** for regulation, accreditation and academic standards. Also, HECI will be having **four independent verticals namely,**

  ● National Higher Education Regulatory Council (NHERC) for **regulation,**

  ● General Education Council (GEC) for **standard setting,**

  ● Higher Education Grants Council (HEGC) for **funding,**

  ● National Accreditation Council(NAC) for **accreditation.**

○ **Affiliation of colleges** is to be **phased out in 15 years** and a stage-wise mechanism to be established for granting graded autonomy to colleges.

Learning plan
A look at the key features of the new education policy: • R.V.S. PRASAD

• Public spending on education by States, Centre to be raised to 6% of GDP
• Ministry of Human Resource Development to be renamed Ministry of Education
• Separate technology unit to develop digital education resources

SCHOOL EDUCATION
• Universalisation from age 3 to Class 10 by 2030
• Mission to ensure literacy and numeracy skills by 2025
• Mother tongue as medium of instruction till Class 5 wherever possible
• New curriculum to include 21st century skills like coding and vocational integration from Class 6
• Board exams to be easier, redesigned

HIGHER EDUCATION
• New umbrella regulator for all higher education except medical, legal courses
• Flexible, holistic, multi-disciplinary UG degrees of 3-4 years' duration
• 1 to 2 year PG programmes, no M.Phil
• College affiliation system to be phased out in 15 years

  ● Over a period of time, every college is expected to develop into either an autonomous degree-granting College, or a constituent college of a university.

➢ **Other Changes:**

○ An autonomous body, the **National Educational Technology Forum (NETF)**, will be created to provide a platform for the **free exchange of ideas** on the use of technology to enhance learning, assessment, planning, administration.

○ National Assessment Centre- **'PARAKH'** has been created to assess the students.

○ It also paves the way for **foreign universities to set up campuses** in India.

○ It emphasizes setting up of **Gender Inclusion Fund, Special Education Zones** for disadvantaged regions and groups.

Digital drive
The new education policy has emphasised the integration of technology in all levels of learning. Some features of the policy:

Technology in education
■ An autonomous body, the National Educational Technology Forum, will be created for the exchange of ideas on use of technology to enhance learning, assessment, planning and administration
■ A dedicated unit for the purpose of creating digital infrastructure, digital content and capacity building will be set up in the ministry
■ Integration of technology will be done to improve classroom processes

Teacher education
■ By 2030, the minimum degree qualification for teaching will be a four-year integrated B.Ed. degree

Financial support
■ Meritorious students belonging to SC, ST, OBC and other socially and economically disadvantaged groups will be given incentives
■ Private institutions will be encouraged to offer scholarships to their students

Professional education
■ Standalone technical universities, health science universities, legal and agricultural universities will aim at becoming multi-disciplinary institutions
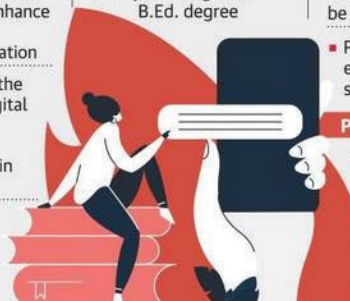
Note:

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❍ National Institute for **Pali, Persian and Prakrit** , Indian Institute of **Translation and Interpretation** to be set up.

❍ It also aims to **increase** the public investment in the Education sector to reach **6% of GDP** at the earliest.

● Currently, India **spends around 4.6 % of its total GDP on education.**

AIM-iCREST: NITI Aayog

Why in News

Recently, the **Atal Innovation Mission (AIM)** has launched an incubator capabilities enhancement program **'AIM-iCREST'**.

➢ Atal Innovation Mission (AIM) is a **flagship initiative set up by the NITI Aayog** to promote a culture of innovation and entrepreneurship in the country.

Key Points

➢ AIM-iCREST is an **Incubator Capabilities Enhancement program for a Robust Ecosystem** focused on **creating high performing Startups.**

➢ It has been designed to act as a **growth support for AIM's Atal and Established Incubators** across the country.

❍ For the same, AIM has joined hands with Bill & Melinda Gates Foundation and Wadhwani Foundation - organizations that can lend credible support and expertise in the entrepreneurship and innovation space.

➢ The **AIM's incubators are set to be upscaled and provided requisite support** to foster the incubation enterprise economy, that will help them to significantly enhance their performance.

❍ This will be complemented by **providing training to entrepreneurs,** through technology driven processes and platforms.

❍ The focus will be on **supporting start-up entrepreneurs in knowledge creation and dissemination** as well as in developing robust and active networks.

➢ **AIM's Atal and Established Incubators:**

❍ **Business incubators** are institutions that **support entrepreneurs in developing their businesses,** especially in initial stages.

● Incubation is usually done by institutions which have experience in the business and technology world.

➢ **Atal Incubation Centres:**

❍ AIM intends to support the establishment of new incubation centres called **Atal Incubation Centres (AICs)** that would nurture innovative start-ups in their pursuit to become scalable and sustainable business enterprises.

➢ **Established Incubation Centres:**

Atal Innovation Mission

➢ AIM is Government of India's flagship initiative to promote a culture of innovation and entrepreneurship in the country.

➢ It's **objective** is to develop new programmes and policies for fostering innovation in different sectors of the economy, provide platform and collaboration opportunities for different stakeholders, create awareness and create an umbrella structure to oversee the innovation ecosystem of the country.

➢ **Major Initiatives:**

❍ **Atal Tinkering Labs:** Creating problem solving mindset across **schools in India.**

❍ **Atal Incubation Centers:** Fostering world class startups and adding a new dimension to the incubator model.

❍ **Atal New India Challenges:** Fostering product innovations and aligning them to the needs of various sectors/ministries.

❍ **Mentor India Campaign:** A national mentor network in collaboration with the public sector, corporates and institutions, to support all the initiatives of the mission.

❍ **Atal Community Innovation Center:** To stimulate community centric innovation and ideas in the **unserved /underserved regions of the country** including Tier 2 and Tier 3 cities.

❍ **Atal Research and Innovation for Small Enterprises (ARISE):** To stimulate innovation and research in the MSME industry.

Note:

- ❍ In recent years, academia, industry, investors, small and big entrepreneurs, government organizations, and non-governmental organizations have taken an initiative to set up incubation centres across the country.
- ❍ AIM envisages to **upgrade these Established Incubation Centres (EICs) to world-class standards.**

Protesting is a Fundamental Right: UN

Why in News

Recently, the **United Nations (UN)** Human Rights Committee has reaffirmed that **protesting peacefully, online or in person, is a fundamental human right.**

➢ This statement has come in the backdrop of **increasing demonstrations** over issues like **political rights and racial justice.**

Key Points

➢ **UN Human Rights Committee:** It is tasked with monitoring how countries implement the **International Covenant on Civil and Political Rights (ICCPR) 1976**, which under **Article 21** guarantees the right to peaceful assembly.

➢ **Latest Interpretation of the Right to Peaceful Assembly:**
  - ❍ **Fundamental Human Right for People**: To gather **to celebrate or to air grievances** in **public** and in **private spaces**, outdoors, indoors and **online** is a fundamental human right.
  - ❍ **Protesters:** Everyone, including children, foreign nationals, women, migrant workers, asylum seekers and refugees, can exercise the right of peaceful assembly.
  - ❍ **Protection:** Protesters have the **right to wear masks or hoods to cover their face** and that Governments should not collect personal data to harass or intimidate participants.
  - ❍ **Role of Journalists and Human Rights Observers:** They have the right to monitor and document any assembly, including violent and unlawful ones.
  - ❍ **Government Obligations:**
    - Governments **cannot prohibit protests by** making "generalised references to public order or public safety, or an unspecified risk of potential violence".
    - Governments **cannot block internet networks** or close down any website because of their roles in organising or soliciting a peaceful assembly.

➢ **Significance:** The Committee's interpretation will be **important guidance for judges in national and regional courts** around the world, as it now forms part of what is known as '**soft law**'.
  - ❍ The interpretation is a form of legal advice (not mandatory) from the Committee that monitors **the ICCPR.**

➢ **Indian Scenario:**
  - ❍ India is a **state party to the ICCPR.**
  - ❍ The right to protest, to publicly question and force the government to answer, is a fundamental political right of the people that flows directly from a democratic reading of **Article 19 of the Constitution of India.**
    - **Article 19 (1) (a)** states that all citizens shall have the right to freedom of **speech and expression.**
    - **Article 19 (1) (b)** states that all citizens shall have the right to **assemble peaceably and without arms.**
    - However, the State can impose **reasonable restrictions** on the exercise of the right of assembly on **two grounds**, namely, **sovereignty and integrity of India** and **public order** including the maintenance of traffic in the area concerned.
  - ❍ Further, Indian courts have reiterated that the **right to protest is a fundamental right** in the *Ramlila Maidan Incident vs Home Secretary, Union Of India & Ors. case, 2012).*

International Covenant on Civil and Political Rights
➢ It is a key international human rights treaty, providing a range of protections for civil and political rights.
➢ The **ICCPR,** together with the **Universal Declaration of Human Rights** and the **International Covenant on Economic Social and Cultural Rights,** are considered the **International Bill of Human Rights.**
  - ❍ The Bill influences the decisions and actions of Government, State and Non-State actors to make economic, social and cultural rights a top priority in the formation and implementation of national, regional and international policy and law.

Note:

> The ICCPR obligates countries that have ratified the treaty to **protect and preserve basic human rights,** such as the right to life and human dignity; equality before the law; freedom of speech, assembly, and association; religious freedom and privacy; freedom from torture, ill-treatment, and arbitrary detention; gender equality; the right to a fair trial; right family life and family unity and minority rights.

> The Covenant **compels governments** to take administrative, judicial and legislative measures in order to protect the rights enshrined in the treaty and to provide an effective remedy.

> The Covenant was adopted by the UN General Assembly in 1966 and came into force in 1976. **173 countries including India** have ratified the Covenant.

India Report on Digital Education, 2020

Why in News

Recently, the Ministry of Human Resource Development (MHRD) has launched **India Report on Digital Education, 2020.**

> Recently the MHRD has been **renamed as the Ministry of Education.**

Key Points

> **The Report:**
> ○ It has been prepared by the **digital education division of MHRD** in consultation with education departments of the states and union territories.
> ○ It **elaborates the innovative methods** adopted by the MHRD, for **ensuring accessible and inclusive education** to children at home and reducing learning gaps during the **Covid-19 pandemic**.

> **MHRD Initiatives:**
> ○ It has initiated many projects to assist teachers, scholars and students in their pursuit of learning like **DIKSHA platform, Swayam Prabha TV Channel, On Air - Shiksha Vani, e-PathShala** and telecast through TV channels.
> ○ It also released **guidelines on digital education** called **'PRAGYATA'.**

> **State Initiatives:**
> ○ States and Union Territories have provided digital education at the doorstep of the students. Some of them are:
>   • **Social Media Interface for Learning Engagement (SMILE)** in Rajasthan.
>   • **Project Home Classes** in Jammu.
>   • **Padhai Tunhar Duvaar** (Education at your doorstep) in Chhattisgarh.
>   • **Unnayan Initiatives** in Bihar.
>   • **Mission Buniyaad** in NCT of Delhi.
>   • **Kerala's own educational TV channel** (**KITE VICTERS**).
>   • **E-scholar portal** as well as free online courses for teachers in Meghalaya.
> ○ They **used social media tools** like WhatsApp Group, Online classes through YouTube channel and Google meet to connect to the students.
> ○ Some of the states/UTs like Lakshadweep, Nagaland and Jammu & Kashmir have also **distributed tablets, DVDs and pendrives, equipped with e-contents** to students.
> ○ They have **also distributed textbooks at children's doorsteps to ensure inclusive learning i**n remote areas where internet connectivity and electricity is poor.
> ○ Several states have also focussed on the **mental well-being of the children e.g Delhi conducted happiness classes**.
>   • MHRD has also launched the **'Manodarpan' initiative**, which aims to provide psychosocial support to students, family members and teachers for their mental health and well-being during the times of Covid-19.

Economic Scenario

Highlights

- Display of 'Country of Origin' Must for e-Commerce Site
- Investments in India
- Direct Monetisation for Funding Deficit: SBI
- Signs of Economic Recovery: CII
- Report on Active Pharmaceutical Ingredients: TIFAC
- MP's Claims for Basmati GI Tag
- Vallarpadam Terminal
- Zoram Mega Food Park: Mizoram

- Increase in Gold Prices
- Restrictions on Public Procurement
- Financial Stability Report: RBI
- Centre's Inability to Pay GST Dues
- 100% FDI in Air India for NRIs
- Dispute Panels Against India: WTO
- Higher Food Prices and Nutrition Security
- Electronics Manufacturing in India

Display of 'Country of Origin' Must for e-Commerce Site

Why in News

Recently, the Central government has told (via an affidavit) the Delhi High Court that all **e-commerce** entities have to **ensure the mandatory declaration of 'country of origin'** of imported products sold on their site.

➢ The **Consumer Protection Act 2019** also mandates to display the 'country of origin' by the e-commerce entities.

Key Points

➢ The affidavit came in response to a **Public Interest Litigation (PIL)** seeking directions to the Centre to ensure that the name of the manufacturing country is displayed on products being sold on e-commerce sites.

➢ The petitioner has sought implementation of the **Legal Metrology Act, 2009** and the **Legal Metrology (Packaged Commodities) Rules, 2011,** which **mandate that country of origin be displayed** on products being sold on e-commerce sites.

   ○ Enforcement of the provisions of the said Act and Rules rests with the States and Union Territories governments.

➢ The petitioner has contended that enforcement of the mandate is in sync with the recent **'Vocal for Local'** and **'Atma Nirbhar' Bharat** push by the government of India.

○ Earlier, the Central government has also **mandated for all sellers on the Government e-Marketplace (GeM) to list the Country of Origin** while registering new products.

   ● GeM is a **platform for public procurement.**

Issues Involved

➢ Most of the e-commerce sites function as a **'marketplace-based'** e-commerce model in which they **only act as an 'intermediary'** i.e they merely provide their information technology platform to connect third-party sellers with their potential consumers.

   ○ The other form of e-commerce model is **'Inventory-based,'** where the entities offer services or goods for sale from their **own inventory.**

➢ The e-commerce entities say that they **have ensured that a data field** pertaining to 'country of origin' is available on their system, which may be filled in by a seller when creating a new product listing.

➢ However, they **have not made it mandatory,** because the law does not mandate a disclosure of the 'country of origin/manufacture/assembly', in the case of India-manufactured goods.

Investments in India

Why in News

According to a recent survey by **Projects Today,** overall **fresh investment announcements in India**

Note:

slumped to the lowest in five years in the first quarter of the financial year 2020-21.

➢ The period saw extended **pandemic-induced lockdowns**.

➢ During this time, **Tamil Nadu emerged as the country's top investment destination**.

➢ Projects Today is an **independent firm that tracks investment projects** in the country.

Key Points

➢ Investments **improved every passing month** in the quarter (April to June).

  ○ In **April**, there was an announcement of 260 new projects worth Rs. 20,181.6 crore.

  ○ In **May**, it rose to 436 new projects worth Rs. 37,922 crore.

  ○ In **June**, after the announcement of Unlocking 1.0 of the economy, there was a further surge in the number of new projects. In all, the month saw the announcement of 545 new projects with a total investment of Rs. 39,755.43 crore.

    ● **Reliance secured investments** from some of the world's largest firms such as **Google, Facebook (Jio-Facebook Deal) and Intel**.

➢ **However, fresh project expenditure from Central government agencies dipped** in June 2020, though it is expected to rise in coming months.

  ○ With **falling revenues due to the lockdown and mounting expenses due to the pandemic**, the government has blocked the initiation of approved/appraised new schemes by various ministries and departments for the next 9 months or till 31st March 2021.

    ● **Atmanirbhar Bharat** and **Pradhan Mantri Garib Kalyan Yojana** have been insulated from the expenditure cut measures.

  ○ The coming quarters will also **demonstrate the efficacy of the Centre's stimulus packages**, that included financial and fiscal reforms along with steps to enhance the agriculture and small scale industries, in attracting foreign and domestic private capital.

➢ Investment projects were largely **dominated by the government sector** and **private promoters also announced new projects**.

➢ Apart from investments, **fresh capacity additions are expected in the healthcare and pharma** sectors with immediate effect.

  ○ Covid-19 has led companies to do **intensive research for its vaccinations** which need fundings.

  ○ The pandemic gave **boost to the production of Personal Protection Equipment (PPEs), masks, sanitisers etc.** because of more **emphasis on personal hygiene and products related** to it.

  ○ Development of **various anti-viral and immunity boosting medicines** also went up.

➢ States like **Tamil Nadu and Maharashtra held investors meet and signed MoUs**, **Uttar Pradesh, Madhya Pradesh and Karnataka reworked labour laws**, started **building land banks** and **sent proposals to foreign companies**.

➢ **Major Challenges:** Country's **slow-moving official machinery, archaic land and labour laws** are some of the things **preventing foreign companies** from bringing in their technology and capital to India.

Direct Monetisation for Funding Deficit: SBI

Why in News

Recently, a report by the **State Bank of India (SBI)** has recommended **direct monetisation** as a possible way of funding the Centre's deficit at lower rates, without increasing inflation and affecting debt sustainability.

Key Points

➢ **Direct Monetisation:**

  ○ It simply means that the **Reserve Bank of India (RBI)** directly funds the Central government's deficit against government bonds or securities.

  ○ Until 1997, the government used to sell securities directly to the RBI. This allowed the government to technically **print equivalent amounts of currency to meet its budget deficit.**

  ○ However, this practice was **stopped over its inflationary impact** and in favour of fiscal prudence.

  ○ This is **different from the "indirect" monetisation** that RBI does when it conducts the **Open Market Operations (OMOs)** and/ or purchases bonds in the secondary market.

Note:

➢ **Increasing Debt:**

○ Most agencies expect **India's Gross Domestic Product (GDP) to contract by more than 5% in FY 2020-21** as a result of slump in economic activity. This has **also led to reduction in revenues of the government.**

   ● This means the **government will run short of its revenue targets**, and will be forced to raise debt.

○ Further, SBI noted that the GDP collapse is pushing up the debt-to-GDP ratio by at least 4%.

   ● India's debt-to-GDP ratio is projected to rise to around Rs. 170 lakh crore or 87.6% of GDP in FY21, from Rs 146.9 lakh crore (72.2% of GDP) in FY20.

   ● The higher debt-to-GDP ratio means, less probability of the country to pay back its debt and the higher its risk of default.

➢ **Recommendations of the SBI Report:**

○ The report argued that the **Fiscal Responsibility and Budget Management (FRBM) Act, 2003** also allows direct monetisation of deficit in certain exceptional circumstances, the **Covid-19 pandemic** being one such.

   ● It expects this not to be inflationary, given the stagnant demand in the country.

○ The report argued that **bringing growth back is more important to debt sustainability as compared to fiscal conservatism (**which involves lower levels of public spending, lower taxes and lower government debt).

   ● As the current level of foreign exchange reserves are sufficient to meet any external debt obligations. Also, since most of the debt is domestically owned, the debt servicing of the internal debt is also not an issue.

   ● The real challenge is the contraction of economic growth, which can turn **interest rate-growth differential into a positive trajectory**.

     ■ **Interest rate - growth differential** is a key metric watched by agencies to gauge debt sustainability.

   ● A **negative interest rate-growth** differential, which denotes growth is higher than interest rate on debt, is important from a sustainability perspective, as higher growth means government's revenue expansion will outstrip any spike in debt repayment.

Signs of Economic Recovery: CII

Why in News

Recently, the **Confederation of Indian Industries (CII)** has said that there are early signs of a **V-shaped recovery** in the economy in the immediate aftermath of the **lockdown.**

Key Points

➢ **Economic Recovery:**

○ Economic recovery is being **driven mostly by agriculture and rural lending**.

   ● CII noted that rural lending by **Non-Banking Financial Companies (NBFCs)** is at about 80% of the usual levels.

○ The **Fast-Moving Consumer Goods (FMCG), pharma and construction** have also contributed to the positive trends of economic recovery.

   ● FMCG is likely to grow at 15-20%, on account of an increase in in-house consumption of food and greater demand for sanitation and hygiene products.

   ● The construction sector, which has a large employment multiplier impact on the economy is also recovering back, with most construction sites resuming operations.

➢ **Reasons:**

○ The positive recovery has been predicted based on the increase in **Goods and Services Tax (GST)** collections, railway freight traffic, petrol consumption, peak power demand and electronic toll collections.

○ There are also expectations of a **bumper harvest** in the wake of a normal monsoon.

➢ **Suggestions:**

○ In order to nurture the nascent signs of economic recovery, CII has argued t**o mitigate the uncertainties** that are currently prevailing due to mini lockdowns imposed due to **Covid-19 pandemic**.

   ● It has argued to **limit the containment zones** to micro areas to ensure that business activities are allowed to function seamlessly.

○ CII has recommended a **dashboard approach**, where the progression of infections would trigger

Note:

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predictable responses in a way that would reduce uncertainty and boost consumer and industry confidence.

Report on Active Pharmaceutical Ingredients: TIFAC

Why in News

Recently, the **Technology Information Forecasting and Assessment Council (TIFAC)** has brought a report titled **'Active Pharmaceutical Ingredients- Status, Issues, Technology Readiness, and Challenges'**.

➤ TIFAC is an autonomous organization under the Department of Science & Technology, Government of India.

Key Points

➤ **Recommendations from the Report:**

○ I**ndigenous production of Active Pharmaceutical Ingredients (APIs)** needs to be scaled up to a level where the production is economically viable.

○ Need for Mission mode Chemical Engineering with defined targets for uninterrupted synthesis of API molecules.

○ **To create mega drug manufacturing clusters** with common infrastructure in India.

○ **Developing a Technology platform for biocatalysis** for cost optimization and **investing in the fermentation sector** of large capacity.

● **Biocatalysis** refers to the use of natural substances from biological sources (such as enzymes) to speed up (catalyze) chemical reactions.

○ Attention to technologies like hazardous reactions, cryogenic reactions, and membrane technology.

● **Cryogenic reactions** are chemical reactions performed at very low temperatures (below −150 °C).

● **Membrane technology** covers all engineering approaches for the transport of substances between two fractions with the help of permeable membranes.

○ **Focus on antiviral drugs**, which require nucleic acid building blocks - Thymine, Cytosine, Adenine and Guanine - none of which are manufactured in India because of lack of manufacturing plants.

○ **Government encouragement for Indian companies** working in chemical segments such as steroids, amino acids, carbohydrates, nucleosides, etc., to collaborate for technology development or quick technology transfer.

○ Need for **closer academia-industry interaction** for technology development and commercialization.

➤ **India's Pharmaceutical Industry:**

○ It is **third largest in the world, in terms of volume, behind China and Italy**, and fourteenth largest in terms of value.

○ It has a strong network of 3,000 drug companies and about 10,500 manufacturing units with a domestic turnover of Rs 1.4 lakh crore in 2019, with exports to more than 200 countries in the world.

○ Recently, India has approved two schemes, namely the Scheme on **Promotion of Bulk Drug Parks and Production Linked Incentive (PLI)** and Scheme to promote domestic manufacturing of critical Key Starting Materials/Drug Intermediates and Active Pharmaceutical Ingredients in the country.

➤ **Issues Involved:**

○ **Low-profit margins and non-lucrative industry** forced domestic pharmaceutical companies to stop manufacturing APIs and start importing, which is a cheaper option with increased profit margins on drugs.

○ With the availability of cheaper APIs from China, **the pharmaceutical industry relies heavily on imports.** The imports from China have been increasing steadily and now stand around 68%.

Note:
Active Pharmaceutical Ingredients (APIs), also called bulk drugs, are significant ingredients in the manufacture of drugs. The Hubei province of China is the hub of the API manufacturing industry.

MP's Claims for Basmati GI Tag

Why in News

Recently, the **All India Rice Exporters' Association** (AIREA) has appealed to the government to preserve and protect the integrity of **Basmati rice**, following Madhya Pradesh (MP) government's pressure on the central government for seeking **Geographical Indication (GI) tag** for Basmati produced in 13 districts of MP.

Note:

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➢ AIREA argues that if MP is included in the GI list of Basmati crop then it will harm the reputation of Indian Basmati as well as the national interest.

Key Points

➢ **Basmati and GI tag:**
  ❍ India is the only producer of premium Basmati and it has been grown from time immemorial in the **Indo-Gangetic Plains** (IGP) area of India and 18 districts of Pakistan's Punjab.
    ● It had been a tough battle for the country to protect Basmati name from the encroachment of various nations which all came out with their own versions of Basmati.
  ❍ APEDA got GI tag for the region located in IGP below the foothills of the Himalayas, spread across **seven states** (**Himachal Pradesh, Jammu and Kashmir, Punjab, Haryana, Uttarakhand, Western Uttar Pradesh (26 districts) and Delhi**) in May 2010.
  ❍ **Reasons Given:** The **origin and reputation** of Basmati rice as a 'long-grain, aromatic rice' from the IGP is **found in tradition, folklore, scientific and culinary literature and political-historical records**.
    ● Dehraduni Basmati, Amritsar Basmati and Tarawari Basmati are few varieties which have become famous over the period of hundreds of years.
➢ **Claims and Efforts Made by Madhya Pradesh:**
  ❍ MP claims that **its rice possesses the same characteristics and qualities** as that of the rice grown in the IGP.
  ❍ It also claims that **nearly 80,000 farmers** of the state are growing Basmati in **13 districts** and **exporting worth Rs. 3,000 crore annually**.
  ❍ MP appealed in Madras High Court where its plea was rejected in February 2020.
    ● In 2016, **Intellectual Properties Appellate Board** (IPBA) in **Chennai** had given the decision in favour of the APEDA.
    ● Despite these orders, MP has been repeatedly agitating and raising banter through political and bureaucratic channels.
➢ **Basis of Rejection:**
  ❍ Under the **World Trade Organisation's Trade-Related Aspects of Intellectual Property Rights (WTO TRIPs) agreement**, physical attributes are not enough for a product to earn a GI tag.

❍ As per the **Goods (Registration and Protection) Act in 2003**, 'reputation' to a geographical area is central to the recognition of a GI product and only seven states have that reputation.
  ● MP falls in the **Madhya Bharat Pathar (plateau)** and started cultivation of varieties of Basmati rice only around the middle of the first decade of this century.
  ● Even if the rice grown in MP has all the required characteristics it would not still entitle such rice to qualify as Basmati.
➢ **Possible Effects of Inclusion of MP in GI list:**
  ❍ It will **nullify APEDA's efforts to secure and protect Indian Basmati** since 1995 by taking up over 1,000 legal actions in nearly 50 countries.
    ● APEDA has spent around Rs. 250 crores in promoting Basmati rice, defending its GI status and shaping it into a global brand.
  ❍ If MP gets permission, **Pakistan and China will grab the opportunity** to start sowing Basmati. **All those 50 and more nations who had been restricted f**rom calling any of their aromatic rice with even 'Basmati-like' names will also **start growing it and contend for its status**.
  ❍ It will **deprive over 20 lakh farmers of seven states from the economic premium** of growing this unique product. Therefore, the commercial considerations cannot be sacrificed for expanding the area of GI.

Vallarpadam Terminal

Why in News

Recently, the **Ministry of Shipping** reviewed the development of the **country's first trans-shipment hub** - **Kochi International Container Trans-shipment Terminal (ICTT)**.

➢ ICTT is **locally known as the Vallarpadam Terminal.**

Key Points

➢ **Trans-shipment Hub:**
  ❍ It is a **terminal** at a port which handles containers, stores them temporarily and transfers them to other ships for the onward destination.
  ❍ It basically **acts as a switching point** for cargo carried by deep-sea vessels operating on trans-continental trade routes.

Note:

➢ **Vallarpadam Terminal:**
   ○ It is a **part of the Cochin Port** in Kochi**, Kerala.** It is located on **Vallarpadam Island**.
   ○ It was built with an **investment of about Rs. 3,200 crore,** shared by the government and the Dubai-government-owned entity (Dubai Ports World).
   ○ It was opened in February 2011 and can handle cargo up to one million TEUs (Twenty-foot equivalent units) per annum.
   ○ It is proposed to be a **leading trans-shipment hub of South Asia.** This is because of its:
     ● Proximity to International sea routes.
     ● Location with respect to all Indian feeder (secondary/smaller) ports.
     ● Proximity to key hinterland markets of India.
     ● Large infrastructure to manage large ships and capacity to scale it up as per requirement.

➢ **Expected Benefits:**
   ○ It will **cut India's dependence on neighboring hub ports** such as Colombo in Sri Lanka, Jebel Ali in Dubai and Port Klang in Malaysia to send and receive container cargo, thus saving time and cost for exporters and importers.
   ○ It is in line with the Prime Minister's vision of **Atmanirbhar Bharat.** It will ensure that Indian cargo trans-ship through an Indian Port.
   ○ It will **facilitate the setting up of port based industries** and their allied facilities such as Container Freight Station, Island Container Depots, etc. in Kerala which will generate additional employment opportunities.

Zoram Mega Food Park: Mizoram

Why in News

Recently, the government has operationalized the **first Mega Food Park (MFP) of Mizoram i**.e. **Zoram Mega Food Park.**

➢ It has been set up under the 'Mega Food Park Scheme'.

Key Points

➢ **Zoram MFP:**
   ○ It is located in Khamrang village in Kolasib District, Mizoram.

○ It is spread over 55 acres of land and is set up at a cost of Rs. 75.20 crores.
○ It is not only expected to benefit the people of Mizoram but also that of adjoining districts in Assam.
   ● **Assam** already has a MFP in its Nalbari district- **North East Mega Food Park**.
○ It will **boost the North-East Region's potential to become the organic destination of the world** due to its rich agricultural and horticultural produce.
   ● **Sikkim** has already been **declared as an organic state.**

➢ **Mega Food Park Scheme:**
   ○ **Launched in: 2008-09** under the purview of the **Ministry of Food Processing Industries**.
   ○ **Aim:** To provide a mechanism to link agricultural production to the market by bringing together farmers, processors and retailers so as to ensure maximizing value addition, minimizing wastage, increasing farmers income and creating employment opportunities particularly in the rural sector.
   ○ **Components:**
     ● The Scheme is based on the **"Cluster" approach** and envisages creation of state of art support infrastructure in a well-defined agri / horticultural zone for setting up of modern food processing units in the industrial plots provided in the park with a well-established supply chain.
     ● A Mega food Park typically consists of **supply chain infrastructure** including collection centers (cc), primary processing centers (ppc) central processing centers (cpc), cold chain and around 25-30 fully developed plots for entrepreneurs to set up **food processing** units.
   ○ Financial Assistance:
     ● The central government provides financial assistance **upto Rs. 50 Crore per Mega Food Park (MFP) project.**
     ● The MFP project is **implemented by a Special Purpose Vehicle (SPV)** which is a Body Corporate registered under the Companies Act, 2013.
   ○ **Status:**
     ● Presently, 18 MFP Projects are under implementation in various states and 19 Mega Food Parks have already become functional in the States.

➢ It is in line with the '**Make in India**' and '**Atma Nirbhar**' vision of the Government of India.

Note:

Mega Food Park Model: An Illustration
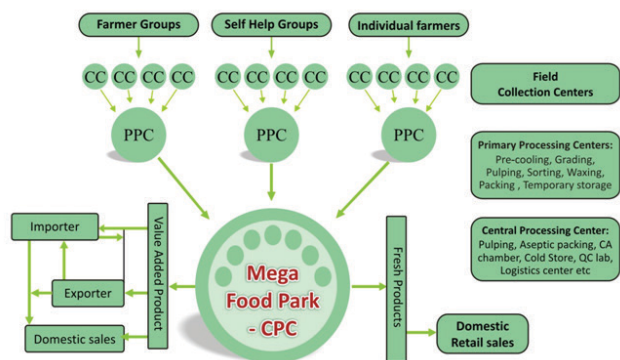
Increase in Gold Prices

Why in News

Recently, the gold prices crossed Rs. 50,000 per 10 grams after nine years in India.

➤ Gold prices in India are dictated by international prices. **India is the world's second-largest gold consumer after China.**

Key Points

➤ **Reasons:**
  ○ Global uncertainties triggered by **Covid-19 pandemic**, **weak dollar**, **low-interest rates environment** and **stimulus programmes** have increased the demand for gold.
  ○ Rising virus cases and **USA-China tensions** have also led to increase in the gold price.

➤ **Gold as Safe Haven:**
  ○ Whenever stock markets, real estate and bonds fall across the world, investors turn to gold to park their funds. It is considered as a **safe haven for investors during periods of uncertainties.**
  ○ As gold is **highly liquid** and carries no default risk. It is scarce which has historically preserved its value over time.
    ● **Liquidity** describes the degree to which an asset can be quickly bought or sold.
  ○ Further, **supply growth of gold has changed little over time**, in contrast to **fiat money (paper currency),** which can be printed in unlimited quantities to support monetary policy.

○ Gold is an integral part of wedding ceremonies in India. It is traditionally used as a **hedge against inflation.**
    ● Global economies are considering stimulus to boost growth which may lead to increase in inflation further.
○ Gold has **surged nearly 40% in the last one year** while the **Sensex** (benchmark index of Bombay Stock Exchange**) showed a loss of 0.41%** in the same period.

➤ **India's Gold Market:**
  ○ According to the **World Gold Council (WGC)**, households in India may have around 24,000-25,000 tonnes of gold. Various temples across the country also hold sizable gold holdings.
  ○ The **Reserve Bank of India** bought 40.45 tonnes of gold in the financial year 2019-20, taking its total **holdings** of the gold to 653.01 tonnes.
    ● It is a **part of RBI's forex reserves.**
  ○ **India's gold demand in 2019** was 690.4 tonnes compared to 760.4 tonnes in 2018.
    ● The **demand has reduced in 2020** due to lockdown caused by pandemic.
  ○ Around 120-200 tonnes of gold are estimated to be **smuggled** into India every year.

Restrictions on Public Procurement

Why in News

Recently, the Government of India **imposed restrictions on public procurement from bidders of countries that share a land border with India**, citing grounds of defence and national security.

➤ This was done by amending the **General Financial Rules 2017.**

➤ Earlier the government had made it mandatory for sellers on the **Government e-Marketplace (GeM)** portal to clarify the country of origin of goods when registering new products.

➤ The government also amended **Foreign Direct Investment (FDI)** rules mandating prior approval for investment by entities in countries that share land borders with India.

Note:

Key Points

➢ **Reason:**

○ According to experts, this decision has been taken to **prevent the influx of Chinese products and investments** into India, following the **clashes between Indian and Chinese troops** in Galwan Valley.

○ To push for **Atmanirbhar Bharat** (self-reliant India).

➢ **New Order:**

○ Bidders from these countries will be eligible only if they are **registered with the Registration Committee (Competent Authority)** constituted by the D**epartment for Promotion of Industry and Internal Trade (DPIIT).**

● For national security reasons, the Registration Committee shall not be required to give reasons for rejection/cancellation of registration of a bidder.

○ Bidders will also be required to take **mandatory political and security clearance from the ministries of External Affairs and Home respectively.**

○ The **order will not apply to procurement by the private sector.**

➢ **Order Mandatory for State Governments:**

○ The Central government has invoked the provisions of **Article 257(1) of the Constitution**, directing the state governments to implement this order for all public procurement.

● For State government procurement, the Competent Authority will be constituted by the states but political and security clearance from Central government ministries will remain necessary.

➢ **Relaxations:**

○ Relaxation will be provided for procurement of **Covid-19** medical supplies till 31ˢᵗ December 2020.

○ The order for prior registration **will not apply for countries** to which India extends **lines of credit** or **provides development assistance**, even if they share a land border with India.

● India shares its border with China, Nepal, Bhutan, Pakistan, Bangladesh, Afghanistan and Myanmar.

● As per official data, out of these, the government

has extended lines of credit to **Bangladesh, Nepal, Myanmar.**

● India also provides various developmental assistance to **Bhutan and Afghanistan.**

Financial Stability Report: RBI

Why in News

Recently, the **Reserve Bank of India (RBI)** released its **Financial Stability Report (FSR)** for the month of July 2020.

➢ The FSR reflects the collective assessment of the **Sub-Committee of the Financial Stability and Development Council** (FSDC - headed by the Governor of RBI) on risks to financial stability and the resilience of the financial system.

➢ The Report also discusses issues relating to development and regulation of the financial sector.

Key Points

➢ **Increase in Bad Loans:**

○ The **Gross Non-Performing Assets (GNPA)** ratio of all Scheduled Commercial Banks (SCBs) may increase from 8.5% in March 2020 to 12.5% by March 2021.

○ The GNPA ratio may also worsen to as high as 14.7% by the end of the current financial year, if the adverse economic impact of the **Covid-19 pandemic** would be 'very severe'.

○ According to experts at least 5% of the **moratorium** loans could turn into NPA if Covid-19 impact persists in the economy.

● In the wake of Covid-19, the RBI had announced a six months loan moratorium to all term loans. The moratorium was first given for March-May (2020) but was later extended to June-August (2020).

● The **Covid-19 lockdown** had a significant impact on all industrial activities in the economy resulting in major income loss. This has impacted their loan repayment ability.

○ This may lead to **Gross Domestic Product (GDP) contraction by 8.9%** in 2020-21.

➢ **Decreasing Capital Adequacy Ratio:**

- The **Capital Adequacy Ratio (CAR)** ratio could slide to 13.3% in March 2021 under the normal scenario and to 11.8% under the very severe stress scenario.
  - CAR is the **ratio of a bank's capital in relation to its risk weighted assets and current liabilities.** It is also known as **Capital-to-Risk Weighted Asset Ratio (CRAR)**. Indian SCBs are required to maintain a CAR of **9%.**
- Earlier the CAR of SCBs decreased to 14.8% in March 2020, from 15% in September 2019.

➢ **Risk Aversion by Banks:**
- Risk aversion in Public Sector Bank (PSBs) was more as compared to private banks. PSBs chose to give money only to high-quality borrowers.
  - However, the risk aversion tendency is also increasing in private banks.
- RBI has warned that extreme risk aversion would have adverse effects on the economy.

➢ **Risk to Financial System:**
- Indian financial system remained stable, despite the significant downside risks to economic prospects.
- The downside risks to short term economic prospects are high due to the lockdown induced disruptions to both supply and demand side factors, diminished consumer confidence and risk aversion.

➢ Issues Involved:
- Recently, the former RBI Governor Urjit Patel has criticised the government for diluting the **Insolvency and Bankruptcy Code (IBC)** and the powers of the RBI.
  - He has said that this has undermined the efforts made since 2014 to clean up the bad loan mess.
- The government uses ownership of banks as a means for day-to-day macroeconomic management rather than primarily for efficient intermediation between savers and borrowers.
- Banks have poor asset quality, lack of profitability, loss of capital, excessive risk exposure, poor conduct, and liquidity concerns.
- There is also a **lack of a mechanism** to address bank failures.
- Stress on **Non-banking Finance Companies (NBFCs)** and **mutual funds** is emerging as a strain on the financial system.

Centre's Inability to Pay GST Dues

Why in News

In a recent meeting, the **Parliamentary Standing Committee on Finance** has been informed that the government is not in a position to pay the **Goods and Services Tax** (GST) **share of States** as per the current revenue sharing formula.

Key Points

➢ The Centre had released the **final instalment of Rs. 13,806 crore of GST compensation for the FY 2019-20**.
- It comes as a relief for States seeking to finance efforts to ramp up public health-care capacity and contain **Covid-19** effects.
➢ For the **FY 2020-21**, there is going to be a **revenue shortfall** due to the **pandemic**.
- Even the **GST collections for March 2020 also saw a dip**.
➢ For such times, the **GST Act** has **provisions to rework the formula for paying compensation** to the State governments if the **revenue collection drops below a certain threshold**.

GST Compensation
➢ The GST became applicable from **1st July 2017** after the enactment of the **101st Constitution Amendment Act, 2016** and with it, a large number of central and state indirect taxes merged into a single tax.
➢ The Centre **promised compensation** to the States for any shortfall in tax revenue due to GST implementation for a **period of five years**. This promise **convinced a large number of reluctant States to sign** on to the new indirect tax regime.
➢ As per the GST Act, states are **guaranteed compensation for any revenue shortfall below 14% growth** (**base year 2015-16**) for the **first five years ending 2022**.
➢ GST compensation is **paid out of Compensation Cess every two months** by the Centre to states.
- The Compensation Cess is **collected on the supply of select goods** (luxury and sin goods) **and/or services or both** till 1st July 2022.

Note:

- ❍ All the taxpayers, except those who export specific notified goods and those who have opted for the **GST composition scheme,** are liable to collect and remit the GST compensation cess to the central government.
- ❍ Subsequently, the central government distributes it to the states.

Concerns

➢ **Deviated Priorities:** The committee held its first meeting after the **lockdown** and instead of discussing the state of the Indian economy amidst the ongoing pandemic and the fight against it, it chose the topic of '**Financing the Innovation Ecosystem and India's Growth Companies**' which is not so relevant given the times.

➢ **Unclear Finances:** The **Budget 2020-21 may no longer be relevant** since it was based on certain assumptions about the revenue collections and there is **no clarity so far from the government on overall revenue shortfall** this year.
- ❍ There is **no clarity over the efficacy of the government's rescue package** in the form of **different Economic Stimulus**.

➢ **Widening Gaps:** The **gap between the compensation cess and the payment to states is expected to widen further** with expected economic contraction denting GST collections as well.
- ❍ Compensation cess inflows could reduce because of **people curbing discretionary spending on luxury goods** in order to conserve capital in the pandemic-hit economy.

➢ **More Difficult Payments: Paying compensation to States this year is going to be even more difficult** for the Centre because, for the FY 2019-20, the Compensation cess was almost Rs. 70,000 crore less than the payments due to States.
- ❍ It was **overcome** by tapping cess balances from the **first two years of GST implementation** and from the **Consolidated Fund of India** by debiting **Integrated GST (IGST) funds**.
  - ● **IGST is levied on inter-State supply of goods and services** and some of this levy collected in 2017-18, had not yet been allocated to States.

➢ **Delayed Meetings:** The **GST Council** was **scheduled to meet in July** to try and work out the formula to

rework the compensation **but the meeting has not been convened** so far.

100% FDI in Air India for NRIs

Why in News

Recently, the **Ministry of Finance** has allowed **Non Resident Indians** (NRIs) to have **100% Foreign Direct Investment** (FDI) in Air India.

➢ For the same, necessary amendments have been made in the **Foreign Exchange Management Rules (Non-debt Instruments), 2019.**

Key Points

➢ **Background:**
- ❍ In March 2020, the **Cabinet approved a policy** to permit foreign investment up to 100% by those NRIs who are Indian Nationals in Air India through the automatic route.
- ❍ Foreign investments in Air India Limited, including that of **foreign airlines shall not exceed 49%** either directly or indirectly except in case of those NRIs, who are Indian nationals.

➢ **New Rules:**
- ❍ **Category of Citizens:** The amendment removes the exception which permitted **Overseas Citizens of India** (OCI) 100% FDI in air transport, but not Air India.
  - ● This **category of citizens has been replaced with NRIs,** now allowed to commit 100% FDI in air transport, including Air India, through automatic route.
- ❍ **Role of RBI:** The **Reserve Bank of India** (RBI) has been vested with the sole **power to issue/interpret the rules** regarding **100% FDI of NRIs.**
  - ● Previously, it was required to do so in consultation with the Central Government.

➢ **Significance:**
- ❍ **Disinvestment:** It would likely to **smoothen the divestment of Air India** and have an impact on the sale of the national carrier.
  - ● Substantial **ownership and effective control of Air India** will have to remain in the hands of **Indian nationals** after the divestment.

Note:

- Further, it will lead to increased FDI inflows and thereby contribute to higher investment, income and employment.

○ **Liberalisation of FDI:** The amendment is meant to liberalise and simplify the FDI policy to provide **ease of doing business** in the country.

○ **Global Visibility of Air India:** The amendment would boost Brand India and provide **global visibility, alternate sources of capital** and **broaden the investor base** for Air india.

○ **Need for Privatisation:** Privatisation is necessary as airlines have been under strain due to **Covid-19 pandemic**.

- Further, the **government may not be in a position** to fulfill the demands being made by Air India in the current situation, like providing measures for relief to its employees.

Dispute Panels Against India: WTO

Why in News

Recently, the **Dispute Settlement Body** (DSB) of the **World Trade Organisation** (WTO) has set up **two dispute settlement panels** targeting import duties imposed by India on a number of **Information and Communication Technology (ICT) products** including mobile phones.

➢ It was done on the **request of Japan and Taiwan**, taking up the number of panels constituted to examine the same tariff-related issue to three.

➢ In **June 2020**, the **European Union** (EU) had a panel established against India on the same issue.

Key Points

➢ The panels would determine whether **India's customs duties on imports of certain ICT products infringe the WTO's norms or not**.

➢ The panels have been set up to decide on **20% customs duty levied by India** on mobile phones and some other ICT products.

○ India decided to levy **10% customs duty** on these products for the first time in July 2017 which was **increased to 15% in the same year**.

○ These custom duties were **further increased to 20%** despite opposition from a number of WTO members.

○ The EU, USA, China, Singapore, Taiwan, Canada, Japan and Thailand initiated consultations with India on the matter claiming that the move substantially affects them.

➢ The **goods covered in the complaint** include telephones for cellular networks or for other wireless networks; base stations; machines for the reception, conversion and transmission or regeneration of voice, images or other data, etc.

➢ **Complainants' Arguments:**

○ Japan and Taiwan said that their **failed consultations with India prompted** them to submit the requests for panels.

○ Japan, Taiwan and the EU have argued that **these products fall within the scope of the relevant tariff lines** for which India has set the **bound rate of 0% for its WTO schedule of commitments**.

- **Bound Rates** are the **legally bound commitments on customs duty rates**, which **act as ceilings** on the tariffs that member governments can set.

- **Once a rate of duty is bound**, it **may not be raised without compensating** the affected parties

○ They held that India is applying tariffs on ITC goods falling under five **tariff lines** in excess of the 0% bound rate and that for some products, the applied tariff rate was **as high as 20% some times**.

- **Tariff Line** refers to the classification codes of goods, applied by individual countries, that are longer than the 6-digit level of the **Harmonized System** (HS).

- HS is a **system of code numbers for identifying products**. The codes are **standard up to six digits**. Beyond that countries can introduce national distinctions for tariffs and many other purposes.

➢ **India's Stand:**

○ India managed to **block Japan's first request** for a panel on the grounds that the complaint **undermined India's sovereignty**.

○ India also **rejected the EU's suggestion of agreeing to one consolidated panel** combining complaints from all three of them and saving time and resources.

○ India argued that all **three complainants are seeking to get the country to take on commitments under the Information Technology Agreement-II (ITA-II) which it never agreed to**.

Note:

Information Technology Agreement-II

➤ Few developed countries **proposed to broaden the scope and coverage of the ITA**.

➤ At the **Nairobi Ministerial Conference in December 2015**, over 50 members concluded the **expansion of the Agreement**, which now covers an additional 201 products valued at over USD 1.3 trillion per year.

➤ Its **aim** was to **increase the coverage of IT products** on which customs duty would be bound at zero, **addressing non-tariff measures** and **expanding the number of signatory countries** to include countries such as Argentina, Brazil and South Africa.

➤ **India has decided not to participate** in this for the time being because India's experience with the ITA-I has been most discouraging, which almost wiped out the IT industry from India.

➤ The **real gainer** from that agreement has been **China which raised its global market share from 2% to 14% between 2000-2011**. China is a **significant exporter of ICT goods.**

Higher Food Prices and Nutrition Security

Why in News

Recently, the **Tata-Cornell Institute for Agriculture and Nutrition in New York** has conducted a study titled "**Pandemic Prices: Covid-19 Price Shocks and their Implications for Nutrition Security in India**".

➤ It **analysed prices of cereals** (wheat and rice) and **non-cereals** (onion, tomatoes, potatoes, five pulses and eggs) **in 11 tier-1 and tier-2 cities from 1ˢᵗ March-31ˢᵗ May 2020 compared to the same period in 2019**.

Key Points

➤ Following the **lockdown**, all food groups **witnessed a rise in prices**, but the rise in prices was higher for non-cereals compared to cereals.

➤ After the **lockdown was lifted, prices of cereals and non-cereals stabilised quickly** while those of **protein-rich pulses continued to remain high**.

➤ **Data Analysis:**
   ○ **Wheat and Rice:** Retail prices were either stable or cheaper than weeks preceding the lockdown and last year.

   ○ **Potato, Onions and Tomatoes:** The prices went high initially but later on stabilised. Onion prices went as high as 200-250%.

   ○ **Eggs:** The prices fell initially (because of fear of coronavirus through poultry) but increased by March-end and then stabilised two months later.

   ○ **Pulses:** The prices rose during the lockdown and continued to remain higher than the pre-Covid-19 levels.

➤ **Concerns:**
   ○ The relative stability in cereal prices and enhanced prices of pulses will most likely **distort spending and consumption decisions** resulting in a **staple-based, protein-deficient diet** hampering the **food security** in the country.

   ○ The relatively higher prices of more nutritious food make it **difficult for the poor and marginal population to access** such nutrient-rich food.
   ● As a result, the proportion of such foods in the diets goes further down and is **replaced by less nutritious and calorie-dense foods**.

   ○ It will **worsen the nutritional status of women and children** across India, and more so in the impoverished regions of the country.

   ○ The study also **criticised the amendment to the Essential Commodities Act, 1955** which **deregulated** cereals, edible oils, oilseeds, pulses, onions and potatoes.

➤ **Suggestions:**
   ○ The government can **ensure the provision of supplementary protein by timely interventions to stabilise** the increase in prices.

   ○ Policies that **insulate non-staple supply chains from price shocks and fluctuations** are necessary.

   ○ **Abolishing outdated restrictions to address farm sector bottlenecks** is very important.

Electronics Manufacturing in India

Why in News

Recently, the Government of India **unveiled three schemes** with an outlay of about Rs. 48,000 crore to **promote electronics manufacturing** in India. **These schemes are:**

Note:

- ➢ Production Linked Incentive (PLI) Scheme.
- ➢ Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS).
- ➢ Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme.

Key Points

- ➢ The Indian electronics sector is **tremendously growing** with the **demand expected to cross USD 400 billion by 2023-24**.
- ➢ **Domestic production has grown** from USD 29 billion in 2014-15 to nearly USD 70 billion in 2019-20 (**Compounded Annual Growth Rate** of 25%).
- ➢ Most of this production takes place in the **final assembly units** (last-mile industries) located in India and **focussing on them** would help **develop deep backward linkages**, thus inducing industrialisation.
  - ❍ This was an idea propounded by **economist Albert O Hirschman** in his theory of '**Unbalanced Growth**'.
  - ❍ The **Economic Survey 2019-20** also promoted this idea and suggested "**assembly in India for the world**", especially in "**networked products**", in a bid to create four crore well-paid jobs by 2025 and eight crore jobs by 2030.
    - This is the **strategy that helped China** become the economic superpower it is today.
  - ❍ The recently launched **PLI Scheme** plans to achieve this goal by granting an **incentive of 4-6% for domestic production**.

Challenges

- ➢ **Missing Profits:**
  - ❍ Despite the impressive growth of electronic production in India, the **net value added by production units is very low**.
  - ❍ The net value addition ranges **between 5% and 15%**, as most components are imported rather than locally sourced.
  - ❍ It implies that **local value addition is a mere USD 7-10 billion** out of a global market of USD 2.1 trillion.
- ➢ **Limited Indigenous Capability in Upstream Industries:**
  - ❍ In the era of **global supply chains**, the **value addition at the final stages of production is very low**, especially in electronics because the more complicated processes, involving greater value addition, occur prior to assembly, in '**upstream**' **industries**.

- ❍ These include the **production of processors, display panels, memory chips, cameras**, etc.
- ❍ Currently, these **imports nearly constitute 80% of these components**, with approximately **67% of the imports coming from China** alone.
- ➢ **Absence of Foundries:**
  - ❍ In the absence of **foundries** (**semiconductor fabrication plants where microchips are produced**), India has to **rely on foreign contractors to produce microchips**.
    - There are about **170 commercial foundries globally** but India does not have a single one.
    - Chip manufacturers like Intel, TSMC and Samsung choose other countries instead of India **citing uncertain domestic demand and poor cost efficiencies** here.
  - ❍ **Challenges in Set-up of Foundries:**
    - It **requires massive capital expenditure** to the tune of USD 2 billion and more.
    - Foundries are also required to **adopt newer technologies and processes** almost every 18 months to ensure competitiveness which means **high capital depreciation** and often accounts for 50-60% of the production cost.
    - **Domestic players** have also shown low interest due to their **inability to compete with tech giants in research and development (R&D) and investment**.
    - Due to this, proposals to develop foundries in Gujarat and Uttar Pradesh in recent years were abandoned.
  - ❍ Many industry experts also cite the **lack of a foundry as contributing to low R&D** in this sector in India, which results in **poor talent retention** and eventually '**brain drain**'.
  - ❍ The **Indian Space Research Organisation** (ISRO) and the **Defence Research and Development Organisation** (DRDO) have their own foundries but their use is **restricted for space and defence systems**, respectively.
- ➢ **National Security Considerations:**
  - ❍ Most of the chips, as well as components used in Indian communication and critical systems, **are imported**.
  - ❍ This could **hamper national security and sovereignty** as **backdoors could be programmed in chips**

Note:

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during manufacturing, which could **compromise networks and cyber-security**.

- **Backdoor** refers to any method by which authorized and unauthorized users are able to get around normal security measures and gain high-level user access on a computer system, network or software application.

➢ **Increasing Imports:**
- ○ It is expected that **electronics imports will soon overtake crude oil as India's largest import commodity** which will result in assembly units ending up as little more than mere packaging units.

Suggestions

➢ **Increasing Investments:** The **total outlay of Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS) must be increased** from the current Rs. 3300 crore, to attract the microchip giants.
- ○ The government launched SPECS to provide a **25% incentive on capital expenditure for semiconductor manufacturing** among other core components.
- ○ The **economic impact of a foundry is immense** and ranges from 6 to 23 times the investment in the plant.

- According to a recent report, a single foundry can offset imports worth USD 8 billion over a projected period and have a further multiplier effect of USD 15 billion on the **Gross Domestic Product** (GDP).

➢ **Profiting from Anti-Chinese Sentiments:** Due to the **USA's allegations on China** for worsening **Covid-19** and **India-China conflict** and **recent developments as a result of it**, numerous multinational companies (MNCs) are shifting their production out of China.
- ○ The **USA** and the **UK** have **blocked China's access to chip making tools** and **designated Chinese telecom giants as national security threats**.
- ○ It is a golden **opportunity for India to act fastly on it and attract** this outgoing investment.

➢ **Pushing Make in India:** There is a need to promote semiconductor manufacturing alongside assembly units in India.
- ○ This will **induce greater local production of components** and also fuel the growth of the industry as a whole, making **Make in India** successful.
- ○ In 2019, the Union Cabinet gave its approval to the **National Policy on Electronics 2019** which envisions positioning India as a **global hub for Electronics System Design and Manufacturing**.

■■■

Note:

International Relations

Highlights

- *India-Indonesia Defence Ministers' Dialogue*
- *RBI Signs Currency Swap for Sri Lanka*
- *India-EU Virtual Summit*
- *Agreement on Scientific Cooperation Between India and EU*
- *ICJ on Qatar Blockade*
- *China has Crossed its 1960's LAC Claims*
- *China Proposes Territory Swap with Bhutan*
- *UN ECOSOC Meet*
- *Azad Pattan: PoK Hydel Project*
- *India-Iran*

- *Tech Cold War Between USA and China*
- *US-India Strategic Energy Partnership*
- *Third G20 FMCBG Meeting*
- *Collaboration with Israel in Defence Sector under FDI*
- *India-UK Free Trade Agreement*
- *AIIB and India*
- *Hong Kong's Extradition Treaties Suspended*
- *Russia Accused of Testing Anti-Satellite Weapon*
- *New Supreme Court Building of Mauritius*

India-Indonesia Defence Ministers' Dialogue

Why in News

Recently, the **Defence Ministers' Dialogue** between **India and the Republic of Indonesia** has been held in Delhi.

➢ The **Indonesian Defence Minister General Prabowo Subianto** is in India for strengthening the ties between the two maritime neighbours.

Key Points

➢ At the dialogue, India and Indonesia aimed at injecting a new momentum to their strategic partnership by expanding security cooperation in a range of areas including **defence industries and technology sharing**.

➢ India conveyed satisfaction on the military to military interactions and indicated that the defence cooperation between both nations has witnessed an upswing in recent years, in consonance with the **Comprehensive Strategic Partnership** between the two sides.

➢ The issue of **possible export of BrahMos cruise missile to Indonesia** by India and ways to **further deepen maritime security cooperation** figured prominently in the talks.

➢ Even though both countries acknowledge **China's aggressive posturing in eastern Ladakh** and the **South China Sea**, there was **no official statement** on it.

India-Indonesia

➢ Both of them have agreed to **work together for peace, security, and prosperity** in order to achieve their shared vision on maritime cooperation in the **Indo-Pacific region**.

  ○ The **Strait of Malacca** - waterway connecting the Andaman Sea (Indian Ocean) and the South China Sea (Pacific Ocean) - runs between the Indonesian island of Sumatra to the West and peninsular (west) Malaysia and extreme southern Thailand to the east.

➢ Both of them recognise the **threat of extremism and terrorism** and have agreed to work closely bilaterally and globally to tackle them.

➢ India is working with Indonesia to **strengthen the ties in the areas of defence, security, connectivity, trade and investment and people-to-people exchanges**.

➢ **Trade and Commerce:**

  ○ **Bilateral trade has increased** from USD 4.3 billion in 2005-06 to USD 21 billion in 2018-19.

  ○ Indonesia has emerged as the **second largest trading partner of India** in the **ASEAN** region.

  ○ India is the **second largest**

buyer of coal and crude palm oil from Indonesia and **imports minerals, rubber, pulp and paper and hydrocarbons reserves**.

○ However, there is a **need for greater market access for Indian commodities in Indonesia** including, pharmaceutical, automotive and agricultural products.

➢ Both countries are members of **G20**, the **Non-Aligned Movement** (NAM), **East Asia Summit** and the **United Nations**.

➢ **Comprehensive Strategic Partnership**:

○ The two countries inked a **defence cooperation agreement in 2018** which aimed at reflecting the elevation of the relationship between the two countries to a comprehensive strategic partnership.

➢ **2019 marked the 70th anniversary** of the establishment of diplomatic relations between India and Indonesia.

○ In **September 2019**, Indonesia announced that the **country's capital would be relocated** to **East Kalimantan province** on Borneo island from **Jakarta**.

➢ **Bilateral Exercises:**

○ **Exercise Samudra Shakti** the bilateral **maritime** exercise.

○ **Garuda Shakti** is the **joint military exercise** between India and Indonesia.

RBI Signs Currency Swap for Sri Lanka

Why in News

Recently, **India and Sri Lanka** had a **virtual meeting** in the wake of the **Covid-19 pandemic**.

➢ It was attended by the officials from the Ministry of External Affairs, Ministry of Finance, representatives of the Sri Lankan government and the **Export-Import (Exim) Bank**.

○ Exim Bank is the premier export finance institution of India.

Key Points

➢ The **Reserve Bank of India** has agreed to a **USD 400 million currency swap facility** for **Sri Lanka till November 2022** to **boost the foreign reserves** and **ensure the financial stability of the country**.

○ **Currency Swaps** are used to obtain foreign currency loans at a better interest rate than could be obtained by borrowing directly in a foreign market.

● Central banks and Governments engage in currency swaps with foreign counterparts **to meet short term foreign exchange liquidity requirements** or to **ensure adequate foreign currency to avoid Balance of Payments (BOP) crisis** till longer arrangements can be made.

○ The decision comes five months after **Sri Lankan Prime Minister Mahinda Rajapaksa had visited New Delhi** and a recent **bilateral discussion** on rescheduling Colombo's outstanding debt repayment to India.

○ Sri Lanka owes **USD 960 million** to India.

➢ Government and industry representatives from both countries also participated in a webinar on '**Deepening Economic Collaboration between India and Sri Lanka**', organised by the **Federation of Indian Chambers of Commerce and Industry** (FICCI) in association with other institutes.

○ Sri Lanka highlighted that **non-tariff barriers in receiving countries create difficulties** in market access.

● A **nontariff barrier** is a way to restrict trade by using barriers other than a tariff. These include quotas, embargoes, sanctions, and levies.

○ To resolve that, it **urged FICCI to collaborate with the Sri Lankan Mission** in New Delhi to **help boost the export of its spices and concentrates** to the Indian market.

Current Dynamics of India-Sri Lanka Relations

➢ Sri Lanka has not commented anything on the ongoing **conflict between India and China**, both of which are its closest partners.

➢ Sri Lanka has **not taken any final decision on the East Container Terminal (ECT) project** at the **Colombo Port**.

○ There have been widespread protests alleging the Sri Lankan Government of giving away national assets to India even though **Sri Lanka's Port Authority will retain 100% ownership** of the facility.

○ In **2019**, **Sri Lanka, India and Japan signed a tripartite Memorandum of Cooperation** and **agreed to jointly develop the ECT Project**.

Note:

- In **November 2019**, India announced a **USD 450 million Line of Credit to Sri Lanka**, to **help strengthen its infrastructure and economy** which showed a proactive, relation-building approach.
- India **assisted Sri-Lanka in tackling Covid-19** and also **helped in the 'Suwa Seriya' ambulance service**. The assistance shows **good links in the health sector**, including telemedicine, between both countries.
- **Popular Tamil leaders in Sri Lanka still invoke India** on the pending political solution to the **Tamil question**, which at times **can give an impression of India interfering in internal matters of Sri Lanka**.
  - In **1983**, India played an active role in the war between **Sri Lankan Tamils and the Sinhalese majority**.
  - In **1987**, the **Indo-Lanka Accord** was signed to provide a political solution to Sri Lanka's conflict.
  - It proposed the **establishment of a provincial council system and devolution of power** for nine provinces in Sri Lanka (also known as **The Thirteenth Amendment**).
  - However, Tamil leaders **feel helpless and keep appealing to India** but with its growing geopolitical concerns in the region, **India is unlikely to take any strong position** on the issue now.
- **Concerns:**
  - The Sri Lankan President pointed towards **India's varying amounts of developmental assistance in the northern Tamil region** and **highlighted the discriminatory tendencies**.
  - **India's attitude and relationship with her immediate neighbours** depend on their **appreciation of India's regional security concerns**.
    - India expects her neighbours to **serve as buffer states** in the event of an extra-regional threat and **not proxies of the outside powers**.
- **Suggestions:**
  - Both countries can **explore possible collaborations in textiles, information technology and agribusiness**, few of the sectors on which India has a stronghold.
  - Sri Lanka should **facilitate, protect and promote a liberal ecosystem for Indian investors** and welcome Indian businesses in **developing industrial zones, automotive components, pharma, textiles and engineering**.
  - There should be **continued high-level engagement on building economic and people-to-people links**.

- Both of them should focus on increasing the volume and quality of people-to-people links, without assuming they will naturally result from geographical proximity.

India-EU Virtual Summit

Why in News

Recently, **India and the European Union (EU)** held their 15th "annual" summit after a gap of more than two years.

- The practice was put off due to **disagreements over trade and investment** that define their bilateral ties.

Key Points

- **India-EU Strategic Partnership:**
  - **India-EU Strategic Partnership: A Roadmap to 2025** has been endorsed between India and EU as a **common roadmap to guide joint action** and further strengthen the Strategic Partnership over the next five years.
  - **Same Values:** India and EU both are **"unions of diversity"**, sharing values of **democracy, rule of law and human rights.** Both are equally convinced of the necessity to preserve the rules-based international order and effective multilateralism.
  - **Common Interests:** Both have a common interest in each other's security, prosperity and sustainable development. They can contribute jointly to a safer, cleaner and more stable world.
- **Trade Pact:**
  - India and EU have agreed to **launch a high-level trade dialogue** to foster progress on "balanced, ambitious and mutually beneficial" trade and investment agreements, address trade irritants and discuss supply chain linkages.
    - High-level trade dialogue will be held between the EU trade commissioner and India's Commerce Minister.
  - India and EU had launched talks for having a wide-ranging **Free Trade Agreement (FTA)**, officially called broad-based **Bilateral Trade and Investment Agreement (BTIA)**, long ago in 2007.
    - The BTIA was proposed to encompass trade in goods, services and investments.
    - However, the talks stalled in 2013 over **differences on market access** and **movement of professionals.**

Note:

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○ The **EU is India's largest trading partner grouping (countrywise USA is India's largest trading partner),** while **India is the EU 's ninth biggest trading partner.**

➤ **Civil Nuclear Cooperation:**

○ A civil nuclear cooperation agreement was signed between the **European Atomic Energy Community or Euratom** and **Department of Atomic Energy, India**.

○ The agreement will focus on research and development cooperation for peaceful uses of nuclear energy and on new ways of using nuclear energy.

➤ **Defence and Security Cooperation:**

○ The two sides also agreed to scale up defence and security ties which included:

● The launch of a **new maritime security dialogue.**

● Consultations on crisis management and deeper cooperation between the Indian Navy and the European Union Naval Force Atalanta.

● The EU's counter-piracy military operation in the western Indian Ocean.

○ The EU officials described the recent **India-China border standoff** on the Line of Actual Control (LAC) as a matter of considerable concern.

○ India's **Central Bureau of Investigation (CBI) and Europol** launched negotiations to c**ombat organised crime and terrorism**.

● Both decided to intensify cooperation to tackle terror and its financing, radicalisation and abuse of the internet for such activities.

● Pakistan's support for terrorism aimed at India and other countries in the region was also figured in the discussions.

➤ **Other Negotiations:**

○ A joint declaration on **circular economy** and resource efficiency.

● A circular economy is an economic system aimed at eliminating waste and the continual use of resources.

○ The renewal of a **science and technology cooperation** agreement and stepping up **cooperation in environment and climate change**.

➤ **Issues Involved:**

○ The EU is critical about India's **protectionist** measures on tariffs, on opening up India's services sector for

European Companies and the termination of bilateral investment treaties with 25 EU member states.

● The EU also views India's recent **Atma Nirbhar Bharat Abhiyaan** as an initiative which might lead to protectionism**.**

○ The trade relationship is also far below the potential, with India accounting for less than 3% of EU's total trade.

○ The EU has been critical over the removal of **Article 370** in Jammu and Kashmir as well as the **Citizenship Amendment Act,** which according to India is an internal matter**.**

Agreement on Scientific Cooperation Between India and EU

Why in News

Recently, India and the European Union (EU) agreed to **renew** the **Agreement on Scientific Cooperation** for the **next five years (2020-2025)** during the virtual **15th India-EU Summit**.

Key Points

➤ **Renewal of Agreement on Scientific Cooperation:**

○ India and the EU have agreed to further collaborate in research and innovation based on the **principles of mutual benefit and reciprocity**, as established in the **India-EU Agreement on Science and Technology (2001)** which **expired** on 17th May 2020.

○ Both parties are also committed to launch the **renewal procedure** for the above agreement and **acknowledge 20 years of cooperation** on **research and innovation**.

➤ **Significance:**

○ It is expected to enhance research and innovation cooperation in different fields like Water, Energy, Healthcare, Agritech & Bioeconomy, Integrated Cyber-Physical Systems, Information and Communication Technologies, Nanotechnology, and clean technologies, etc.

○ It will also **strengthen the institutional linkages** in research, exchange of researchers, students, startups and attract co-investment of resources for co-generation of knowledge.

European Union

➤ European Union (EU), is an international organization comprising **27 European countries** and governing common economic, social, and security policies.

➤ The EU was created by the **Maastricht Treaty**, which entered into force on November 1, **1993**.

➤ The treaty was designed to enhance European political and economic integration by **creating a single currency (the euro)**, a unified foreign and security policy, and common citizenship rights and by advancing cooperation in the areas of immigration, asylum, and judicial affairs.

➤ **India-EU Science and Technology Cooperation:**

  ❍ **Science and Technology:** India-EU Science & Technology Steering Committee meets **annually** to review scientific cooperation.

  ● The **Ministry of Earth Sciences (MoES)** and the **European Commission (EC)** have established a Co-Funding Mechanism (CFM) to support joint research projects selected under European Research & Innovation Framework Program **'Horizon 2020'** related to **climate change and polar research**.

➤ **Space Technology:** Indian Space Research Organisation (ISRO) has had a long standing cooperation with the European Union, **since the 1970s**.

  ❍ ISRO and the European Space Agency are working towards enhancing cooperation in earth observation. It also involves the **Copernicus programme** signed in 2018.

❍ Copernicus is the **European Union's Earth observation programme.**

India-EU Relations

➤ **Evolution of Diplomatic Relations:**

  ❍ India being amongst the first countries to establish diplomatic relations with the European Economic Community in **1962**.

  ❍ The **first India-EU Summit** was held in **Lisbon(Portugal)** in **2000**. Since then, fifteen annual bilateral Summits have been held between India and the EU.

  ❍ The relationship was **upgraded to a 'Strategic Partnership'** during the **5th India-EU Summit** held at the **Hague (Netherlands)** in **2004**.

  ● The bilateral Strategic Partnership encompasses dialogue mechanisms covering a wide range of issues including trade, energy security, science & research, non-proliferation and disarmament, counter terrorism, cyber security, counter-piracy, migration and mobility, etc.

➤ **Trade and Investment:**

  ❍ The **EU as a whole** was **India's largest trading partner** while **India** was EU's **9th** largest trading partner in **2018**.

  ❍ India is also the **fourth largest service exporter** to the EU and the **sixth** largest destination for **service exports** from the EU.

  ❍ EU is the **largest source of Foreign Direct Investment (FDI)** into India.

  ● Over the period April 2000 to June 2018, FDI equity flows from the EU countries into $ 90.7 billion, which is about **24% of the total FDI inflows to India**.

  ● Among countries, **Singapore** is the **largest source of FDI** in India during 2019 with $ 14.67 billion investment followed by **Mauritius** ($ 8.24 billion).

  ❍ India and the EU are in the process of negotiating a bilateral **Broad-based Trade and Investment Agreement (BTIA)** since **2007.**

ICJ on Qatar Blockade

Why in News

Recently, the **International Court of Justice** (ICJ) refused an appeal by **Bahrain, Saudi Arabia, Egypt and**

the **United Arab Emirates** (UAE) which challenged the authority of the **International Civil Aviation Organisation** (ICAO) to adjudicate on the legality of the **Qatar blockade**.

➢ ICJ is the top **United Nations** (UN) court and ICAO is the international aviation agency of the UN.

➢ UAE, Bahrain, Saudi Arabia and Qatar are located in the **Persian Gulf Region** and are the members of the **Gulf Cooperation Council** (GCC).

Key Points

➢ **Qatar Blockade:**

○ In **June 2017**, Qatar's neigh- bouring Arab nations of Sau- di Arabia, UAE, Bahrain and Egypt **shut off shipping routes and air space with Qatar** for its **alleged support for** terrorism and its **ties with Iran**.

● It severed their diplomatic and economic ties with Qatar.

○ However, **Qatar denied supporting Islamic ex- tremism** and has openly **condemned its isolation** as a clear attack on its sovereignty.

○ All four neighbours issued a **13-point list of demands for Doha** (capital of Qatar) to comply with in order to restore erstwhile relations.

● Some of the demands included Qatar closing down news outlets such as **Al-Jazeera**, end ties with radical Islamist groups like the **Muslim Brotherhood**, scale down ties with Shia-majority Iran and remove Turkish troops stationed in the country.

○ Since 2017, the **blockade of Qatar has included**:

● Closing of its only land border with Saudi Arabia.

● Stopping Qatari ships from entering ports anywhere in the Saudi coalition.

● Blocking Qatari planes from flying in their airspace.

● Expelling Qatari citizens from these countries as part of the measures.

➢ **Dispute at the ICJ:**

○ Qatar approached the ICAO, alleging that its rights of free passage under the **1944 Convention on Civil Aviation** were violated by the blockade.

○ Saudi Arabia and its allies argued that the **ICJ should have the authority** to settle the dispute instead of the ICAO because the **dispute goes beyond the aviation matters**.

○ In 2018, the **ICAO ruled against the Saudi coalition**, holding that it did have jurisdiction to hear the case and its ruling was **recently backed by the ICJ** too.

○ The blockade **still remains in force** and the ICAO is expected to **deliver its verdict in 2021**. The ruling will be in Qatar's favour and will be a major win for the country and its **national carrier, Qatar Airways**.

China has Crossed its 1960's LAC Claims

Why in News

According to the records of 1960 boundary talks, the Chinese troops have gone beyond China's own territorial claims at Pangong Tso Lake and Galwan Valley.

➢ The records also raise questions on recent statements from Indian officials that China is not present anywhere on Indian territory.

Key Points

➢ **Official Records:**

○ The 1960's documents show that the Chinese claim over the **Pangong Tso Lake** was at near **Finger 8**, around 8 km east of where China now says the **Line of Actual Control (LAC)** is. Now the Chinese troops are at **Finger 4.**

● The Fingers refer to mountain spurs on the bank of the Lake, and run from 1 to 8, west to east.

○ The documents show that, in the **Galwan Valley**, the LAC ran east of the bend of the Galwan river, called the **Y-nallah,** which is now claimed by China.

● The Y-nallah was the site of the recent clash between Indian and Chinese troops.

Note:
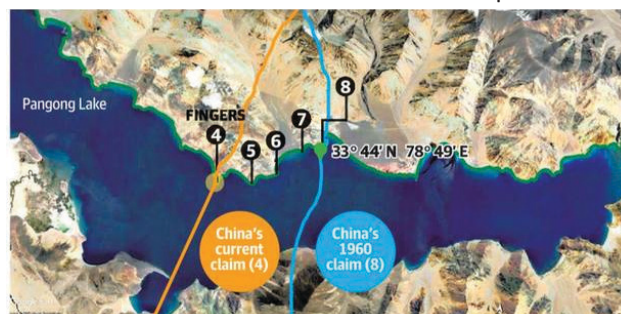
COORDINATES FROM 1960 OFFICIAL REPORT; LAC ALIGNMENT IS APPROXIMATE

- The clash took place following a dispute during the de-escalation process, triggered when the Chinese troops put up a tent near the bend.

➤ **Reason for Increased Claims:**
  ○ The Chinese are now likely interpreting their perception of the LAC in a manner that seeks **to redefine or maximise old claims** along new lines, as cartography and terrain knowledge have improved, which offer them **tactical advantage** and **more 'domination'** in key areas along the LAC.
  ○ **Strengthening of India's border infrastructure** (e.g. construction of **Darbuk-Shyok-Daulat Beg Oldie road**) may also be the reason.

China Proposes Territory Swap with Bhutan

Why in News

Recently, China has offered Bhutan a **'package solution'** to its boundary dispute. Although the package solution is not specified, it may be seen as a **revival of the 1996 proposal by China for a territory swap**.

Key Points

➤ **Territory Swap:**
  ○ In 1996, China wanted **to exchange the valleys to the north of Bhutan** (an area of 495 square kilometres) **with the pasture land to the west (including Doklam)**, totalling 269 square kilometres.
  ○ The deal would have benefited Bhutan by giving it the larger chunk of land and resolving its tensions with China.
  ○ However, **it was a huge concern for India,** as the Doklam swap would have given **China access to the strategically sensitive 'chicken neck' of the Siliguri corridor**.

Disputed areas between Bhutan and China
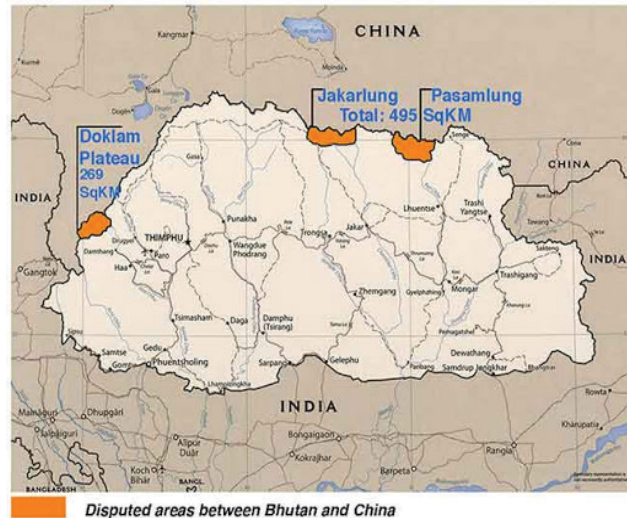
➤ **Repeated Claim Over Sakteng:**
  ○ China also **repeated** its **claim on Bhutan's eastern boundary at Sakteng**.
  ○ Earlier, China has made the claim over Sakteng at an online meeting of the **58th Global Environment Facility (GEF) Council**, while unsuccessfully objecting to the funding request to develop the **Sakteng Wildlife Sanctuary** project in eastern Bhutan.
  ○ China claims that the **boundary between China and Bhutan has never been delimited.** It has had disputes over the **eastern, central and western sectors of Bhutan.**
  ○ However, **Bhutan outrightly rejected the claim** made by China by saying that Sakteng is an integral and sovereign territory of Bhutan.
  ○ According to Bhutan, China and Bhutan have a **dispute in only two sectors** of the border, **one in the north (central), Pasamlung and Jakarlung** and **second in the west, Doklam.**
  ○ There has been no mention of eastern Bhutan, where Sakteng is based, in 24 previous rounds of boundary negotiations held between the two countries between 1984 and 2016.

➤ **Reason Behind the New Offer:**
  ○ The aim may be **to pressure Bhutan** into concluding a deal quickly on terms on offer, otherwise, the claims may keep increasing.
  ○ The **similar offer was made to India on Arunachal Pradesh**, which subsequently expanded to include a **Chinese claim on Tawang in 1985.**

➤ **Concerns for India:**

○ In 2017, China had intruded into **Doklam plateau**, which is claimed by Bhutan, leading to a standoff between Indian and Chinese armies.

○ Even after the **India-Bhutan Friendship Treaty** of 2007, the **Indian military is virtually responsible for protecting Bhutan** from the kind of external threat that the Chinese military poses.

● According to the **India-Bhutan Friendship Treaty of 1949**, Bhutan allowed India to 'guide' its foreign policy and defence affairs.

● However, the 1949 treaty was **amended in 2007 to respect the sensitivities of Bhutan** regarding its sovereignty.

● Under the **India-Bhutan Friendship Treaty of 2007**, the two sides have agreed to **cooperate closely** with each other on issues relating to their national interests.

● Neither Government shall allow the use of its territory for activities harmful to the national security and interests of the other.

○ **Referring to India, China has held that a third party should not point fingers** in the China-Bhutan border issue.

UN ECOSOC Meet

Why in News

Recently, the **United Nations' Economic and Social Council (ECOSOC)** has held a high-level dialogue on the subject '**Multilateralism after Covid-19: What kind of UN do we need at the 75th Anniversary?**'

➢ The Prime Minister of India gave a speech focusing on **India's battle against the Covid-19 pandemic** and emphasised upon the **need of multilateralism in achieving sustainable peace and prosperity**.

➢ He also indicated **India's push for a permanent seat in the UN Security Council**.

➢ The UN will celebrate its **75th anniversary on 24th October 2020**.

Key Points

➢ **Covid-19 and Current Indian Scenario:**

○ India has **crossed the 1 million mark** for Covid-19 cases recently, making it the **third highest incidence** in the world.

○ India also has the **third highest recoveries** at about 644,000, **after the USA and Brazil**.

○ However, its **recovery rate is about 63%**, which ranks **India at number 42** in the world.

➢ **India's Efforts Against Covid-19:**

○ India has **extended assistance** to more than 150 countries.

● For example, assistance in materials and services to Afghanistan, Bangladesh, Bhutan, the Maldives (**Operation Sanjeevani**), Nepal and Sri Lanka.

○ India set up a **South Asian Association for Regional Cooperation** (SAARC) **Covid-19 Emergency Fund** in the South Asian neighbourhood.

○ **PM Cares Fund** to deal with any kind of emergency or distress situation like posed by the current pandemic.

○ **Atmanirbhar Bharat Abhiyan** with **various economic stimulus packages** worth Rs. 20 lakh crore aimed towards achieving the mission of self reliance.

Multilateralism

➢ It is the **process of organizing relations between groups of three or more states**.

➢ It generally comprises certain qualitative elements or principles that shape the character of the arrangement or institution. **These principles are:**

○ **Indivisibility of interests** among participants.

○ Commitment to **diffuse reciprocity**, i.e. not an equivalence of obligations or concessions in any one exchange but a balance in an ongoing, potentially indefinite, series of exchanges with a group of partners instead of expectations of direct obligations or concessions by a particular member.

○ System of **dispute settlement** intended to enforce a particular mode of behaviour.

➢ Multilateralism has a long history but it is principally associated with the era after **World War II**, during which there was a rapid growth of multilateral agreements.

○ The organizations most strongly embodying the principle of multilateralism are to be found in **trade** like the **World Trade Organization** (WTO) and **security** like the **North Atlantic Treaty Organization** (NATO).

➢ Multilateral institutions have played a **significant role in postwar global governance** and are arguably

Note:

more stable than other forms of organization because the **principles underlying them appear to be more durable and more able to adapt** to external changes.

Azad Pattan: PoK Hydel Project

Why in News

Recently, **Pakistan and China** have signed an agreement for the **700 MW Azad Pattan hydel power project** on the Jhelum river in Sudhnoti district of **Pakistan occupied Kashmir (PoK)**.

➢ The USD 1.5-billion project is under the **China Pakistan Economic Corridor (CPEC)**.

Key Points

➢ The Azad Pattan project is one of the **five hydropower schemes** on the Jhelum (the other four are **Mahl, Kohala, Chakothi Hattian and Karot projects**).
  ○ **Azad Pattan, Kohala and Karot** are being developed under the **CPEC framework.**

➢ It is a run-of-the-river scheme with a 90-metre-high dam and a 3.8 sq km reservoir.

➢ It will be developed on the **'Build, Own, Operate, Transfer (BOOT)' model**.
  ○ It is expected to be **commissioned by 2024**.
  ○ The project will be **transferred to the government of Pakistan after 30 years.**

➢ **Concerns for India:**
  ○ **Territorial Integrity:** India has **protested the construction of dams** and other infrastructure in PoK and Gilgit Baltistan, which are territories claimed by it as part of Jammu and Kashmir.
    ● Earlier India had also objected to the **construction of the Diamer-Bhasha dam** (on Indus river) in the Gilgit-Baltistan region of the PoK.
  ○ **Conflict With China:** The signing of the Hydel project comes at a time when India and China have been involved in **military conflicts** following the **Galwan Valley** incident in the Ladakh region.
    ● Through these projects, **China and Pakistan have been consolidating** their presence in the Indian region.
  ○ **Chabahar Rail Project:** Recently**, Iran along with China** has gone ahead with the construction of the

Chabahar rail project without India's assistance citing funding delay.
  ● Chabahar has been considered as **India's strategic response** to counter CPEC.
  ○ **Not Based on International Norms:** These projects do not follow the principles of openness, transparency and financial responsibility given by the International agencies.
  ○ **Security Concerns:** China may use its **economic power** to increase its geopolitical leverage as these projects give a hold to China in the western Indian Ocean with the **Gwadar port,** located near the strategic **Strait of Hormuz.**
    ● The Strait of Hormuz is a **vulnerable point for India**, which sources more than 60% of its oil supplies from the Middle East.

India-Iran

Why in News

Recently, the Ministry of External Affairs (MEA) has confirmed that **India is no longer involved in the Farzad-B gas field project of Iran.**

➢ Further, it said that India has **not received any response from Iran** since December 2019 on the future of the **Chabahar-Zahedan railway project** as well.

➢ It cited **policy changes by the Iranian government**, **Iran's uncertain finances** and the **USA sanctions situation** as the reasons behind the decisions on Indian infrastructure projects in Iran.

Key Points

➢ **Chronology:**

TIMELINE: CHABAHAR AND FARZAD-B

Dec 25, 2002: A consortium of ONGC Videsh, IOC and Oil India signs contract for carrying out exploration at Farzad-B block

Jan 25, 2003: Former PM Atal Bihari Vajpayee and then Iran president Seyyed Mohammad Khatami sign a deal to develop Chabahar port complex and Chabahar-Fahranj-Bam railway link

June, 2009: Farzad-B contract expires

May 6, 2015: Union minister Nitin Gadkari signs an MoU with Iran

May 22, 2016: PM Narendra Modi visits Tehran; discusses Chabahar and Farzad with Iranian President Hassan Rouhani

Dec 3, 2017: Rouhani inaugurates first phase of port

Jan 2018: Iran and India sign pact worth $2 bn for cooperation in rail

Feb 10, 2018: Iran signs agreement to lease the operational control of Chabahar port

Jul 2020: Iran shows the door to India in both Chabahar and Farzad-B projects

Note:

➢ **Farzad-B Gas Field:**
  ○ It is located in the **Persian Gulf** (Iran).
  ○ The contract for exploration of the field was signed in 2002 by Indian **consortium comprising ONGC Videsh, Indian Oil Corporation and Oil India**.
  ○ The contract expired in 2009 after the declaration of commerciality of the field, based on the gas discovery.
    ● It has **gas reserves of more than 19 trillion cubic feet.**
    ● The **Oil and Natural Gas Corporation** (ONGC) has invested approximately **USD 100 million.**
  ○ Since then, the consortium has been trying to secure the contract for development of the field.
    ● The major dispute between India and Iran was over setting up of two pipelines and also over money to be quoted on the development plan.
    ● Around 75% of the deal was finalised by May 2018, when the **USA unilaterally withdrew from the nuclear deal** and announced sanctions on Iran.
  ○ In **January 2020**, India was informed that in the immediate future, **Iran would develop the field on its own** and would like to **involve India appropriately at a later stage.**

➢ **Chabahar-Zahedan Railway Project:**
  ○ In the '**New Delhi Declaration**' signed in 2003, both countries had decided to jointly develop the Chabahar Port complex.
    ● The Port development was exempted from the sanctions.
    ● India's main investment in the Chabahar Port, where it has taken over **operations of one terminal**, had progressed well in the last few years, handling 82 ships with 12 lakh tonnes of bulk cargo in 8200 containers since December 2018.
  ○ A contract to **develop the 628-km railway line (Chabahar-Zahedan)** along the Iran-Afghanistan border was signed in **2016.**
    ● **Indian Railways Construction Ltd.** (IRCON) was appointed by the Government of India to assess the feasibility of the project. It was working with CDTIC, an Iranian company.
    ● It had completed the site inspection and review of the feasibility report. The Iranian side was to nominate an authorised entity to finalise outstanding technical and financial issues. India waited for the same.
    ● However, Iran started work on the railway project in July 2020.
    ● India is **not part of this project** as of now since there is a lack of clarity on whether it will attract the USA sanctions. However, it has conveyed to Iran that it is open to joining the project later.
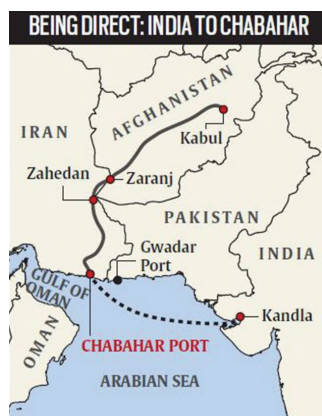
➢ **Concerns for India:**
  ○ Iran's growing proximity to China.
  ○ Further, Iran seems to be sceptical of India's diplomatic ties with the USA.
  ○ **Farzad-B gas Field:**
    ● India needs gas and Iran remains one of the best options as geographically, Iran is closest to India of all the countries in the Persian Gulf region.
    ● Further, it could have improved India-Iran ties as the crude oil import from Iran remains impacted due to the USA sanctions.
  ○ **Chabahar** is not only a key to maritime relations between both the countries, but also provides an opportunity for India to reach Russia and Central Asia.
    ● Further, it allows India to bypass Pakistan which has blocked Indian aid to Afghanistan and all trade overland.

Tech Cold War Between USA and China

Why in News

Recently, the USA blocked China's access to chip making tools and designated Chinese telecom giants

Note:

Huawei, ZTE as national security threats. However, with the **5G rollout** approaching, the move will impact several countries including India.

➢ Recently, the **United Kingdom also reversed its earlier decision** and **blocked Huawei from its 5G network rollout.**

Key Points

➢ **USA-China Tech Relation:**
  ○ China has **traditionally resisted** against American big-data companies such as **Facebook and Google to operate within its jurisdiction.**
  ○ However, both the Countries still have significant dealings on the technology side.
    ● Last year, Apple recorded USD 100 million of daily sales in China, while Huawei Technologies reported record revenues primarily from its exposure in western markets, including the USA.
  ○ The latest steps by USA against Huawei mark the **first real prohibitory action** by a western government in nearly two decades.
    ● This has been done on the ground that China's equipment is **designed to aid snooping**.
    ● There have been apprehensions that American telecoms players are too much dependent on subsidised Chinese technology.

➢ **Impact of Ban on Chip Making Tools:**
  ○ Huawei could face shortages in its supply of specialist chips for which it relies on the USA.
  ○ Technological cold war could extend beyond the USA and China, and compel other countries, including India, to effectively choose between one of the camps.
    ● Some of the countries perceive the same threat as that of the USA, and others are wary of trade sanctions by the USA.
  ○ This could have a bearing on the growing competition to dominate next-generation technologies such as 5G networks and **artificial intelligence**.
    ● The other leaders in the telecoms network equipment market are the European players such as Ericsson and Nokia, and South Korea's Samsung.
    ● India's Reliance Jio has also designed and developed a complete 5G solution from scratch.
  ○ Impact the plans of most countries preparing to transition to a 5G regime, including India.

➢ **India's Position:**
  ○ **In 2009,** the Department of Telecommunications (DoT) had advised Indian mobile companies to suspend deals with Chinese equipment makers after fears that Chinese equipment were being **used for hacking and spying.**
  ○ However, India did not took strong actions on any of DoT's recommendations. Indeed, much of India's telecom growth story has been supported by Chinese companies in both hardware and software.
  ○ The approach changed after the **standoff in Ladakh**, wherein India has asked state-owned telecom service providers to exclude Chinese companies from the scope of their network upgrade contracts.
    ● India also justified the **ban on 59 mobile apps** with Chinese links on grounds of a threat to national security.
  ○ This was part of the **wider decision to signal curbs on Chinese investments** and tech companies in the country.
  ○ The border clashes and the USA action could now force India into the anti-China camp.

US-India Strategic Energy Partnership

Why in News

Recently, India and the USA have participated in a **virtual ministerial meeting** of the **U.S.-India** Strategic Energy Partnership (SEP) to review progress, highlight major accomplishments, and prioritize new areas for cooperation.

➢ The SEP was established in **April 2018** whose objective is to encourage meaningful engagements through robust **government-to-government cooperation** and **industry engagement**.

➢ The **next Ministerial meeting** will be held in **2021**.

Key Points

➢ **Description:**
  ○ The SEP organizes **inter-agency engagement** on both sides across **four primary pillars** of cooperation:
    ● Power and Energy Efficiency,
    ● Oil and Gas,
    ● Renewable Energy,

- Sustainable Growth.
  - ○ The SEP also supports USA efforts under the **AsiaEDGE initiative,** which establishes **India as a strong energy partner** in the **Indo-Pacific region**.
- ➢ **Major Outcomes:** Number of achievements and priorities for new work under the SEP were announced by both sides. These can be **broadly segregated** under the **four primary pillars of cooperation,** as given below:
1. **Power and Energy Efficiency:**
   - ○ **Modernizing the Power System:** Both countries have been collaborating on the integration of **new technologies** into the smart grid; modernizing the power distribution sector i.e. rooftop solar, deployment of Smart Meters etc.
     - The two countries are leading joint research and development (R&D) through **Advance Clean Energy-Research (PACE-R)** on **smart grids and energy storage** to increase resilience and reliability of the electric grid.
   - ○ New areas of research on **transformational power generation** based on **supercritical CO_2 (sCO_2) power cycles** and **advanced coal technologies** for power generation including carbon capture, utilization, and storage (CCUS) were also initiated.
     - sCO_2 is a **fluid state of carbon dioxide** where it is held at or above its critical temperature and critical pressure.
   - ○ Commitment to advance **civil nuclear cooperation** i.e. recent progress on the **Westinghouse** (USAs Electric Company) **nuclear reactor project at Kovvada**, **AndhraPradesh** were also discussed.
   - ○ It also promotes continued bilateral R&D engagement on advanced civil nuclear energy technologies through the **U.S.-India Civil Nuclear Energy** Working Group.
2. **Oil and Gas:** A Memorandum of Understanding (MoU) was signed to begin cooperation on **Strategic Petroleum Reserves operation.**
   - ○ The possibility of **India storing oil in the U.S. Strategic Petroleum Reserve** was also discussed.
   - ○ Both sides have noted the significant increase in the bilateral hydrocarbon trade through SEP touching 9.2 billion USD during 2019-20 and marking a **93% increase since 2017-18**,
     - Through the **U.S.-India Natural Gas Task Force**, it affirmed to promote greater hydrocarbon trade between the two countries.
3. **Renewable Energy:** The both sides launched a **public-private Hydrogen Task Force** to help scale up technologies to **produce hydrogen from renewable energy and fossil fuel sources** and to bring down the cost of deployment for enhanced energy security and resiliency.
   - ○ **Efficient Buildings and Clean Technologies:** A MoU was signed to collaborate on India's first-ever **Solar Decathlon in 2021**, establishing a **collegiate competition** to prepare the next generation to design and build high efficiency buildings powered by renewables.
     - In response to the **Covid-19 pandemic**, **United States Agency for International Development (USAID)** and **Energy Efficiency Services Ltd (EESL)**, India has jointly initiated **"Retrofit of Air Conditioning to Improve Air Quality for Safety and Efficiency" (RAISE)** for healthy and energy efficient buildings.
     - Launched collaboration between the **USA Department of Energy (DOE) National labs** and the **Indian National Institutes under the Ministry of New & Renewable Energy** as part of the **South Asia Group for Energy (SAGE), supported by USAID**, for joint research on development of advanced clean technologies.
   - ○ Information exchange on **sustainable biofuel production (bioethanol and renewable diesel)** and use for air and sea transport were also discussed.
   - ○ It will also explore cooperation on utilizing the economic value of converting bio-waste into biogas.
4. **Sustainable Growth:** The best practices are being adopted through **methodologies in energy data management and capacity building in energy modeling**.
   - ○ **USAID** and **NITI Aayog** jointly launched the **India Energy Modeling Forum** to build a network of modeling communities and its linkage with Government for analytical work and policy making exercise.
   - ○ **Empowering Women in the Energy Sector:** USAID launched the **South Asia Women in Energy (SAWIE) platform** focused on the power sector and both the countries have been working to incorporate **gender-focused activities** across the technical pillars.

Note:

Third G20 FMCBG Meeting

Why in News

Recently, India has virtually participated in the **3ʳᵈ G20 Finance Ministers and Central Bank Governors (FMCBG)** meeting under the **Presidency** of **Saudi Arabia.**

➤ It discussed the global economic outlook amid evolving **Covid-19 pandemic** crisis along with other **G20 finance track priorities** for the year 2020.

➤ The **first meeting was held in February 2020 at Riyadh, Saudi Arabia**.

Key Points

➤ **G20 Action Plan:**
  ○ The importance and relevance of the **G20** action plan were highlighted.
  ○ It was endorsed in response to Covid-19 in April 2020.
  ○ It has a list of collective commitments under the pillars of **Health Response, Economic Response, Strong and Sustainable Recovery and International Financial Coordination**, aimed at coordinating G20 efforts to fight the pandemic.

➤ **India's Response:**
  ○ India emphasised the need to **balance supply-side and demand-side measures** in response to Covid-19.
  ○ India also spoke about the **procyclicality of credit rating downgrades** by the rating agencies and its deterrent impact on policy options, particularly for **Emerging Market Economy** (EMEs).
    ● **Procyclic ratings** are stricter during an economic downturn than an expansion. As a result, firms receive **overly pessimistic ratings in a recession**, relative to during an expansion.
  ○ **International coordination is required** in addressing the **spill-over effects of exit strategies** related to covid-19 lockdowns.
    ● **Spillover effect** refers to the impact of unrelated events in one nation on the economies of other nations.

➤ **G20 Finance Track deliverables:** FMCBG discussed the developments on G20 Finance Track deliverables under the Saudi Arabian Presidency. **India** discussed **two such deliverables:**

○ First, **Enhancing access to opportunities for Women, Youth and Small Market Economies (SMEs)** and a **menu of policy options on access to opportunity.**

○ Second, **International Taxation agenda** and the **intended deliverable of formulating a solution** for addressing challenges related to **digital taxation.**

○ It is in line with the recent decision of the **United States Trade Representative (USTR)** to **initiate an investigation into taxes adopted** or under consideration by 10 nations (including India) on revenues of American digital service companies like Netflix, Airbnb, etc.

○ In response to it, the central government has stated that **it will not extend the deadline for payment of equalisation levy** by non-resident **e-commerce** players, even though a majority of them are yet to deposit the first instalment of the tax.
  ● The **equalization levy is aimed** at **taxing foreign companies** which have a significant local client base in India but are billing them through their offshore units, effectively escaping the country's tax system.

G-20

➤ It is an **informal group of 19 countries** and the **European Union (EU)**, with **representatives** of the **International Monetary Fund** and the **World Bank**.
  ○ The G20 membership comprises a mix of the world's largest advanced and emerging economies, representing about two-thirds of the world's population, 85% of global gross domestic product, 80% of global investment and over 75% of global trade.

➤ **Headquarter:** The **G20 operates as a forum** and not as an organisation. Therefore, it **does not have any permanent secretariat**.

➤ **Origin:**
  ○ **1997-1999 Asian Financial Crisis:** This was a ministerial-level forum which emerged after G7 invited both developed and developing economies. The finance ministers and central bank governors began meeting in 1999.
  ○ Amid the 2008 Financial Crisis, the world saw the need for a new consensus-building at the highest political level. It was decided that the G20 leaders would begin meeting once annually.

➤ **Members:**

Note:

- ❍ **Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the UK, the USA and the EU**.
- ❍ One nation holds the chair every year, known as the '**G20 Presidency**'. **Saudi Arabia is holding the 2020 chair**.
- ❍ The 2021 summit will be held in **Italy.**

Collaboration with Israel in Defence Sector under FDI

Why in News

India has collaborated with the Israeli defence companies under the new liberalised **Foreign Direct Investment** (FDI) regime in **defence manufacturing.**

➢ Earlier, the government had increased the limit for **FDI in defence** through the automatic route from **49% to 74%**.

Key Points

➢ **Context:** Recently, the Defence Ministry has given **emergency powers to the Armed Forces** to procure weapons systems up to Rs. 300 crore on an urgent basis without any further clearances **to cut short the procurement cycle**.
- ❍ Therefore, Indian Armed Forces are undertaking a series of emergency defence purchases amid ongoing **tensions with China on the border**.
- ❍ The Army has decided to order launchers, **Spike Anti-Tank Guided Missiles** (ATGM) and additional **Heron Unmanned Aerial Vehicles** (UAV), from Israel through the emergency procurement route.

India-Israel Defence Cooperation

➢ **Description:** The strong bilateral ties are driven by India's long-sought goals of **military modernisation**, and Israel's comparative advantage in **commercialising its arms industries**.
- ❍ The ambit of defence cooperation has widened to include other domains like **space, counter-terrorism, and cyber security and intelligence sharing** besides Israeli arms sales to India.
- ❍ **India** was the **largest arms customer of Israel in 2017** with sales worth 715 million USD.

- ❍ According to the **Stockholm International Peace Research Institute (SIPRI) report**, **Israel** is the **third largest supplier of defence items** to India after **Russia and the USA,** the first and second respectively.
➢ **Historical Ties:** The strategic cooperation between the two countries began during the **Sino-India War of 1962**.
- ❍ In 1965, Israel supplied M-58 160-mm mortar ammunition to India in the war against Pakistan.
- ❍ It was one of the few countries that **chose not to condemn India's Pokhran nuclear tests in 1998**.
- ❍ It continued its arms trade with India even after the sanctions and international isolation after the nuclear tests.
➢ **Significance:**
- ❍ **Patrolling and Surveillance:** The Israeli imports eases the operational ability of armed forces in wartime.
- ❍ **Make in India:** The export-oriented Israeli defence industry and its openness to establishing joint ventures complement both '**Make in India**' and '**Make with India**' in defence.
- ❍ **Trusted Supplier:** Israel has always been a 'no-questions-asked supplier', i.e., it transfers even its most advanced technology without placing limits to its use.
- ❍ **Ready to Use Technology:** India suffers from many constraints in defence production and acquisition ,Israel fills these shortcomings by **supplying ready-to-use critical technologies,** even on short notices.
➢ **Challenges:**
- ❍ **Influence of USA:** Some of the **Israeli technologies utilise USA components** because of which the USA has veto powers over the sale of those technologies. Hence, it may cause hurdles in transportation of technologies.
- ❍ **Cold War Politics:** The potential of **India-Israel ties** have been sacrificed on the altar of Cold War politics. Factors like **Arab–Israeli conflict, Iran-Israel conflict, constant interference of countries like Russia and USA** in such issues and overall relationship of India with these countries have impacted the ties with Israel.
- ❍ **Dependence for Energy Security:** India's dependence on Arab states for oil imports led to a pro-Arab tilt in its West Asia Policy, which has further constrained Israel's options in the region.

- ❍ **Israel Palestine Conflict:** The **territorial conflicts of Gaza Strip and West Bank** have played an important role in shaping India-Israel relationships.
  - ● Due to Israel-Palestine peace negotiations **(Oslo Accords of 1993) India** has started normalising the relationship with Israel.
  - ● However, as a part of **Link West Policy**, India has de-hyphenated its relationship with **Israel and Palestine in 2018** to treat both the countries mutually independent and exclusive.

India-UK Free Trade Agreement

Why in News

Recently, India and the United Kingdom (UK) affirmed their shared commitment towards a **Free Trade Agreement** (FTA) during the 14th virtual **Joint Economic and Trade Committee (JETCO)** meeting.

➢ The next meeting is scheduled to be held around September, 2020 in New Delhi to carry forward the dialogue.

Key Points

➢ **Description:** The meeting was held by India and UK to revive and revitalise the long standing trade and economic linkages between them.
  - ❍ agreed to an **early harvest scheme or a limited trade agreement** to lower tariffs on a small set of goods apart from easing rules for select services.
  - ❍ Resolved to cooperate in the health sector.
  - ❍ Previously, India and the UK were involved in discussing a **preferential trading arrangement** under the proposed **India-European Union FTA**.
➢ **India-UK Trade:** India has had strong historical ties with the UK and currently, it is one of India's most important trading partners.
  - ❍ Similarly, the UK is one of the **largest investors in India**, among the **G20 countries.**
  - ❍ India has engagement with the UK in sectors like pharma, textiles, leather, industrial machinery, furniture, and toys.
  - ❍ India is also looking to the UK to support it with technology based products such as high quality cameras, medical devices, and automobiles.
➢ **Significance:**

- ❍ **Brexit:** The UK has been pushing India for a bilateral trading arrangement ever since it voted to **leave the European Union** (EU) in June 2016 and **left finally in january 2020**.
  - ● However, India had been resisting these efforts as it decided that the **Brexit** process should complete first.
- ❍ **Exit from RCEP:** India opted out of the **Regional Comprehensive Economic Partnership deal** in November 2019 .
  - ● Therefore, there is renewed focus on trade deals with the USA, the European Union and the UK, which are key markets for Indian exporters and are keen to diversify their sourcing.
- ❍ **Strategic Partner:** The UK is a permanent member of the UN Security Council, and one of the **strategic partners of India**.
  - ● Strengthening bonds with the trade would seek UKs support at global issues like **standoff with China** in the Ladakh sector of the Line of Actual Control (LAC) and **claim for permanent seat at UNSC**.

AIIB and India

Why in News

Jin Liqun has been **re-elected as the President of the China-based Asian Infrastructure Investment Bank (AIIB)** for a second five-year term.

➢ The President stated that the **bank would remain an "apolitical institution"** and continue to back projects in India.

➢ The management will look at the proposed projects from the **economic and financial point of view** and not with a political view.

Key Points

➢ **India and AIIB:**
  - ❍ India was **among the AIIB's 57 founding members** in 2016.
  - ❍ It is also its **second-largest shareholder** (with 7.62% voting shares) **after China** (26.06%).
  - ❍ AIIB has approved financing projects in India in a host of sectors like energy, transport and water including the **Bangalore metro rail project** (USD 335 million), **Gujarat rural roads project** (USD

329 million) and **Phase 3 of the Mumbai urban transport project** (USD 500 million).

○ In a recent virtual meeting, **India said that it expects AIIB to introduce new financing instruments**, provide financing for social infrastructure and to integrate development of climate resilient and sustainable energy access infrastructure into AIIB's recovery response to the Covid-19 crisis.

➢ **Chinese Angle:**

○ In June 2020, AIIB approved USD 500 million for Covid-19 Emergency Response Fund and Health Systems Preparedness Project and another **USD 750 million for Covid-19 Active Response and Expenditure Support**, in a co-financing arrangement with the **Asian Development Bank (ADB).**

● USD 750 million loan was **approved two days after the** clash in Galwan Valley in Ladakh along the India-China border.

○ It has **supported several projects under the** Belt and Road Initiative **(BRI) framework**, but is not formally linked to the plan.

● India has **concerns over the China-Pakistan Economic Corridor** - a part of the BRI.

Asian Infrastructure Investment Bank

➢ The AIIB is a **multilateral development bank** with a mission to improve social and economic outcomes in Asia.

➢ **Headquartered in Beijing (China)**, it began operations in January 2016 and has now grown to 103 approved members worldwide.

Hong Kong's Extradition Treaties Suspended

Why in News

Recently, China has announced the **suspension of Hong Kong's extradition treaties and criminal justice cooperation agreements** with Australia, Britain and Canada.

➢ Australia, Britain and Canada along with **New Zealand and the USA** are part of the Five Eyes (FVEY), which is an **intelligence-sharing alliance** between these five countries.

○ **New Zealand has already suspended** its extradition treaty with Hong Kong, and the USA is preparing to do the same.

Extradition

➢ It is the **formal process** of one state **surrendering an individual to another state for prosecution or punishment** for crimes committed in the requesting country's jurisdiction.

➢ It is generally enabled through a **bilateral or multilateral treaty**.

➢ The **Extradition Act of 1962** provides India's legislative basis for extradition.

USA Ends Hong Kong's Special Status and Puts Sanctions on Banks

➢ Hong Kong will now be **treated the same as mainland China** without any special privileges, special economic treatment or exports of sensitive technologies.

○ Under the USA's **Hong Kong Policy Act of 1992**, the USA treats Hong Kong, a **semi-autonomous part of China** with its own legal and economic system, differently than the Chinese mainland in trade, commerce and other areas.

➢ Banks will be **granted a kind of year-long grace period** to stop doing business with entities and individuals (primary offenders) undermining Hong Kong's autonomy.

○ After that period, a **variety of penalties will be imposed** like seizing their assets, barring top executives from entering the USA and restricting the ability to engage in USA dollar-denominated transactions.

➢ **Possible Outcomes:**

○ The new law will force all but provincial Chinese banks to **choose between assisting Beijing's efforts** in Hong Kong or **being able to conduct transactions in USA dollars** and operate in the world's largest economy.

○ It will have a **devastating impact on Hong Kong** as the financial gateway to Western markets.

○ Completely ending Hong Kong's special treatment could **prove self-defeating for the USA because it was the source of the largest bilateral US goods trade surplus** last year, at USD 26.1 billion.

○ Hong Kong is a **major destination for USA's legal and accounting services**. Around 85,000 USA citizens lived in Hong Kong in 2018 and more than 1,300 USA companies operating there, including nearly every major financial firm.

Key Points

➢ **Background:**

○ This move comes after these **three countries first suspended the treaties** after **China imposed new security law on Hong Kong**.

○ These western nations see the law imposed on Hong Kong as an **erosion of the civil liberties and human rights** it had enjoyed since its handover from Britain in 1997.

○ They also hold China responsible for not telling the whole truth about the **Covid-19** outbreak.

○ Treatment of the **Uighur minority** in Xinjiang, an **autonomous territory** in China.

○ The actions of the Chinese government in the **South China Sea.**

○ The **USA sanctions against Huawei** due to **national security risk.**

➢ **Other Similar Moves Against China:**

○ **Apart from the UK, Australia** has offered pathways to **citizenship or residency to Hong Kong citizens** looking to leave because of the new law, which also angered China.

○ The **European Union** (EU) announced to **restrict exports of equipment that could be used for surveillance and repression** to Hong Kong.

● However, this decision of restricting exports was not unanimous owing to the volume of trade between China and member states of the EU.

● France and Germany **proposed the restriction on so-called 'dual-use' technology**.

● **Dual-use goods** are products and technologies **normally used for civilian purposes but which may have military applications**. **For example**, radio navigation systems and nuclear power technologies.

● The EU will also bring in **measures to support Hong Kong's population** by making it easier for them to travel to Europe through the **granting of visas, scholarships and academic exchanges**.

➢ **China's Stand:**

○ Officials in Hong Kong and Beijing have said the **law is vital to plug gaps in national security exposed by recent pro-democracy and anti-China protests.**

○ China has accused these countries of **interfering in its internal affairs and defended the security law** as crucial to restore order in Hong Kong.

○ It held that these three countries **chose the wrong path of politicising judicial cooperation with Hong Kong**, and it has seriously hurt the basis of judicial cooperation.

○ They used the **national security law as an excuse** to announce the suspension of extradition treaties unilaterally.

Russia Accused of Testing Anti-Satellite Weapon

Why in News

Recently, the **USA and the UK have accused Russia** of test-firing a **space-based anti-satellite weapon**.

Key Points

➢ **USA's Claims:**

○ The test consisted of **Russia's satellite called Cosmos 2543** injecting an object into orbit.

● Cosmos 2543 operated in abnormally close proximity to a USA government satellite in **low-earth orbit** (LEO) before it manoeuvred away and over to another Russian satellite.

● This **test is inconsistent with the intended purpose of the satellite** as an **inspector system**.

○ It is evidence of Russia's continuing efforts to develop and test space-based systems to put USA's weapons and allied space assets at risk.

○ The USA will discuss the issue during the talks for the **New Strategic Arms Reduction Treaty** (START).

○ The **USA Space Force** was created for the defence of its satellites in December 2019.

➢ **Russia's Clarifications:**

○ The Russian defence ministry said that Cosmos-2543 is an **inspector satellite**, **meant to monitor the condition of Russian satellites**.

● Cosmos-2543 was deployed by another satellite, Cosmos-2542, which was launched on **25th November 2019** by the Russian military.

○ Russia held that it is **fully committed to obligations on the non-discriminatory use and study of space with peaceful aims**.

● It has asked the USA and the UK to be professional and refrain from propagandistic information attacks.

Note:

- ○ **Anti-Satellite Capability**: Only **four countries** which are **Russia, the USA, China and India**, have demonstrated an **anti-satellite capability** over the past decades.
  - ● In **March 2019**, India under the **Mission Shakti**, successfully tested the **Anti-Satellite System** (A-SAT) System making it the fourth country to acquire the capability of space warfare.
  - ● A-SAT System is a **missile-based system to attack moving satellites** and successfully destroyed a live satellite in the LEO.
  - ● **Defence Research and Development Organisation** (DRDO) has developed the system completely indigenously.
- ➢ **International Treaties Regarding Outer Space:**
  - ○ **UN Outer Space Treaty 1967:** It prohibits weapons of mass destruction in outer space and not the ordinary weapons. **India ratified it** in 1982.
  - ○ **UN Transparency and Confidence Building Measures (TCBMs):** It includes registering space objects with the UN register, pre-launch notifications etc. India shares these details with the UN.
  - ○ **Inter-Agency Space Debris Coordination Committee (IADC):** It is an international governmental forum for the worldwide coordination of activities related to the issues of man-made and natural debris in space.
    - ● India has supported the UN resolution on **No First Placement of Weapons in Outer Space**.

New Supreme Court Building of Mauritius

Why in News

The **Prime Minister of India** and the **Prime Minister of Mauritius** will jointly inaugurate the new **Supreme Court building of Mauritius** on 30th July 2020.

➢ It will be the first **India assisted infrastructure project** within the capital city of **Port Louis, Mauritius.**

Key Points

➢ The new Supreme Court Building is expected to become an important landmark in the city centre symbolizing the strong bilateral partnership between the two countries.
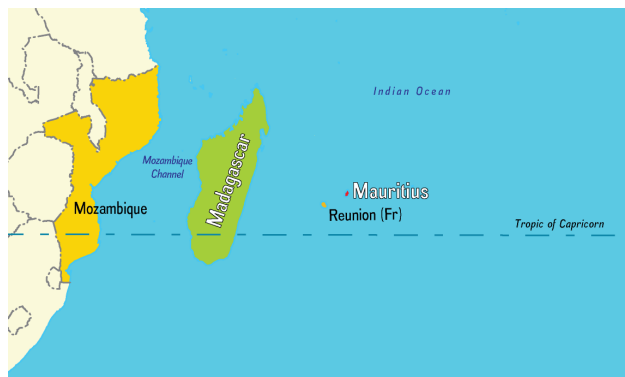
➢ It is one of the five projects being implemented **under the 'Special Economic Package'** of 353 million USD extended by the Government of India to Mauritius in 2016.

India-Mauritius Relationship

➢ **Indo-Mauritian relations** refers to the **historical, political, economic, military, social and cultural connections** between the two countries.

➢ India has viewed Mauritius through the **prism of diaspora**. More than **68% of the Mauritian population is of Indian origin**, most commonly known as Indo-Mauritians.

➢ It is a significant partner of India in celebrating **Pravasi Bharatiya Diwas** which is a forum for issues concerning the **Indian Diaspora**.

➢ **Significance:**
  - ○ **Geo-strategic:** India has begun to see the strategic significance of Mauritius to the renewed great power contestation in the **Indian Ocean**.
    - ● In 2015, India signed an agreement to set up eight Indian-controlled coastal surveillance radar stations.
    - ● Mauritius is part of **India's security grid including Coastal Surveillance Radar (CSR)** station of **Indian Navy's National Command Control Communication Intelligence network**.
    - ● In 2015 India unveiled an ambitious policy called the **SAGAR (security and growth for all)**.
    - ● In 2015, India and Mauritius signed an agreement that allows India to develop infrastructure in terms of **establishing military bases** on the Mauritian islands.
    - ● The agreement covers within its purview our shared efforts in **anti-piracy operations** and enhanced **Exclusive Economic Zones** (EEZ)

Note:

surveillance to prevent intrusions by potential economic offenders including those indulging in illegal fishing, poaching, drug and human trafficking.

○ **Geo-Economic:**
  ● As a "central geographic point", Mauritius holds importance for commerce and connectivity in the Indian Ocean.
  ● As a member of the **African Union**, **Indian Ocean Rim Association** and the **Indian Ocean Commission**, Mauritius is a stepping stone to multiple geographies.
  ● As a founding member of the '**Small Island Developing States**' (SIDS) it has been seen as a significant neighbour.
  ● India is Mauritius's largest trading partner and has been the largest exporter of goods and services to the Indian Ocean island nation since 2007.
  ● Mauritius is the **second-largest source of Foreign Direct Investment (FDI)** for India after Singapore.

○ **Pivot of Island Policy:** Until now India has tended to deal with the so-called **Vanilla islands** of the southwestern Indian Ocean, **Comoros, Madagascar, Mauritius, Mayotte, Reunion and Seychelles**, on a **bilateral basis.**
  ● If the Indian establishment thinks of them as a collective, it could make **Mauritius the pivot of Delhi's island policy.**

○ **Keeping Pace with China:** In its "**string of pearls**" policy, China has built significant relations across the Indian Ocean, from **Gwadar** (Pakistan) to **Hambantota** (Sri Lanka) to **Kyaukpyu** (Myanmar).
  ● Therefore, India should help Indian Ocean littoral states like Mauritius, Maldives, Sri Lanka and Seychelles as part of capacity and capability enhancement in strengthening their maritime domain awareness capabilities.

➢ **Challenges:**
○ **Deep Rooted Perception:** There is an urgent need to discard the deep-rooted perception that Mauritius is **simply an extension of India**.
  ● Mauritius is a sovereign entity with an international identity of its own due to the island's special place in the Indian Ocean as a **thriving economic hub and an attractive strategic location.**

○ **China Centric Policies:** China's rapidly growing presence in the northern part of the Indian Ocean along with the deployment of Chinese submarines and ships in the region is a challenge for India.

○ **Obsessive Security Policy:** An obsessively security-driven policy of India towards its neighbours has not helped in the past.
  ● Certain common challenges like **climate change, sustainable development and the blue economy** should be reconsidered in India's approach to Mauritius.

○ **Global Integration:** Mauritius being an island nation, has been physically cut off from the rest of the world despite the fact anything that happens in the world affects Mauritius e.g, world economic crisis, declining FDIs, trade wars etc.
  ● Therefore, it is important for India to broaden its perspective beyond just the maritime security of IOR.

○ **Indian Ocean Region:** As the power dynamic in the **Indian Ocean Region** (IOR) is changing, the world has started to view **Mauritius as an integral part of the new security architecture**.
  ● An increased presence of China and the efforts of countries like the USA, Australia, France and the UK to take advantage of small nations is a growing concern for India.

■■■

Note:

Science and Technology

Highlights

- Winter Rise in Covid-19 Cases
- Pneumococcal Conjugate Vaccine
- New Research on Smallpox Origins
- World Hepatitis Day
- Clinical Trial of Covid-19 Vaccine: ZyCoV-D
- RADT Vs RT-PCR
- Delhi Sero-Survey

- Kakrapar Atomic Plant Achieves Criticality
- AJO-Neo : Device to Measure Neonatal Bilirubin Level
- International Thermonuclear Experimental Reactor (ITER) Assembly
- Hiroshima Black Rain
- Antibiotic Use in Dairy Sector
- Risk of Interplanetary Contamination on Mars
- Asteroid 2020 ND

Winter Rise in Covid-19 Cases

Why in News

According to a recent study, "**The Covid-19 Spread in India and Its Dependence on Temperature and Relative Humidity**", the spread of **Covid-19** may pick up the pace during peak monsoon and winter with a fall in the temperature.

➤ The study was conducted by the **School of Earth, Ocean and Climate Sciences** of the **IIT, Bhubaneswar** and the Department of Microbiology of the **AIIMS, Bhubaneswar**.

➤ It took into **account the pattern of the coronavirus outbreak and the number of such cases** in all of the states between April and June 2020.

Key Points

➤ The respiratory viral **pandemics** of the 21st century (**SARS in 2003**, **Swine Flu in 2009**) have revealed that **seasonality** in environmental factors plays an important role in the dynamics of their spread.

➤ Researchers tried to observe the state-level relationship between **environmental factors** such as **temperature, relative humidity, specific humidity and solar radiation** on the Covid-19 spread over the Indian region.

  ○ The **rainfall, decrease in temperatures and cooling of the atmosphere** coupled with progression towards winter may environmentally favour the spread of Covid-19 in the country.

➤ **Temperature and relative humidity have a significant impact** on the **disease growth rate and doubling time** and the **rise in temperatures leads to a decline** in the transmission of the virus.

➤ **Correlation with Covid-19:**

  ○ A one-degree-Celsius rise in temperature leads to a 0.99% decrease in cases and increases the doubling time by 1.13 days, implying a slowdown of the virus spread.

  ○ An increase of 10% in relative humidity tends to decrease the growth rate and doubling time of coronavirus cases by 1.18 days.

➤ The study also carried out an **analysis of the impact of solar radiation on the spread of Covid-19**.

  ○ A **higher surface-reaching solar radiation leads to a reduction** in the number of infections and an **increase in the doubling time of cases**, similar to that of temperatures.

  ○ The **mean difference of as high as seven degrees Celsius between summer and winter** points to a possibility for greater potential spread of Covid-19 in winter.

➤ **Challenge:**

  ○ The progression of the season towards **monsoon, post-monsoon, and after that winter** with a continuous reduction in temperature will prove a significant **challenge for health workers and policymakers** attempting to enforce mitigation and control measures.

Note:

Pneumococcal Conjugate Vaccine

Why in News

The **Serum Institute of India Pvt. Ltd, Pune**, has been granted permission to manufacture the **first indigenously** developed **Pneumonia Conjugate Vaccine (PCV) i.e. Pneumococcal Polysaccharide.**

- The permission has been granted by the **Drug Controller General of India (DCGI),** a drug regulatory authority.
- India is planning for the nationwide rollout of PCV under **Universal Immunisation Programme (UIP).**

Key Points

- **Description: PCV prevents pneumococcal disease.**
  - **Pneumococcal disease** refers to any illness caused by **pneumococcal bacteria**.
  - The vaccine is a mix of several bacteria of the **pneumococci family**, which are known to cause **pneumonia** — hence 'conjugate' is included in the name of the vaccine.
    - **Conjugate vaccines** are made using a **combination of two different components.**
  - It is used for **active immunisation** against **invasive disease and pneumonia** caused by *Streptococcus pneumoniae* in **infants**.
    - In **invasive diseases** bacteria invades parts of the body like blood fluid, brain and spinal cords.
  - It is administered **intramuscularly**, i.e **injected deep into the muscles.**
  - Earlier the demand for such vaccines was provided by licensed importers since the manufacturers were all based outside India.
- **Clinical Trials:** Institute has conducted the Phase I, Phase II and Phase III clinical trials of Conjugate Vaccine in India.
  - It has also conducted clinical trials in Gambia.

Pneumonia
- Pneumonia is an **acute respiratory infection** of the lungs.
- **Cause:** It doesn't have one single cause — it can develop from either **bacteria, viruses or fungi in the air.**

- **Vulnerability:**
  - Children whose i**mmune systems are immature (i.e. newborns)** or weakened – such as by undernourishment, or diseases like HIV – are more vulnerable to pneumonia.
- **Spread:**
  - Pneumonia is **contagious** and can be spread through coughing or sneezing. It can also spread through fluids, like blood during childbirth, or from contaminated surfaces.
- **Treatment:** Pneumococcal vaccines are vaccines against the bacterium *Streptococcus pneumoniae.*

Serum Institute of India Pvt. Ltd
- Based in Pune, Maharashtra it is the **world's largest vaccine** manufacturer by number of doses produced and sold globally.
- Vaccines manufactured by the Institute are accredited by the **World Health Organization,** and are being used in around 170 countries across the globe in their national immunization programs, saving millions of lives throughout the world.

New Research on Smallpox Origins

Why in News

Recently, a new study carried out by an international team of researchers has provided fresh insights into the origins of the **Smallpox disease**.

- It suggests that the smallpox was in existence as early as during the **Viking age** in the **8th century CE**.
  - The **Viking Age** was the period during the Middle Ages when the Norsemen (name given to the **Scandinavian Vikings**) undertook colonising, conquesting and trading throughout **Europe and reached North America in the 9th and 10th century**.

Key Points

- **Origin:** The **origins of smallpox** have always been unclear.
  - Until now, the earliest confirmed case of the **disease** was found in the **mummified remains of a 17th-century Lithuanian child**, even though written records suggest that it is much older.

Note:

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Smallpox

➢ It is a **contagious disease**, caused by the **Variola Virus (VARV)**.

➢ **Transmission:** It transmits through the droplets released from coughing, sneezing and face to face contact with an infected person.

➢ **Eradication:** One of the deadliest diseases known to mankind, it is also **the only one to have been eradicated by vaccination**.

  ❍ In 1980, it was declared completely eradicated after the global immunization campaign led by the **World Health Organization** (WHO) with the help of the smallpox vaccine.

➢ **Vaccine:** The first effective vaccine was discovered by **Edward Jenner** in **1796.**

➢ **Major Findings:**

  ❍ **Finding Virus Sequence:** The **Variola virus sequence was recovered** from **13 Northern European** individuals **including 11 dated to 600–1050 CE**, overlapping the **Viking Age**.

  ❍ **Pan European Presence:** These sequences, **combined with early written records of VARV** epidemics in southern and western Europe, suggest **a pan-European presence of smallpox** from the late 6th century.

    ● According to the study, the virus was **circulating among people even earlier,** about 1700 years back at the time when the **Western Roman Empire declined** and people were migrating across Eurasia.

  ❍ **Genetic Makeup:** It also suggests that the **genetic makeup of the viral strain recovered from the 11 individuals** is different from the **modern version which was eradicated in 1979-80**.

    ● The Viking variant of the virus is part of a previously unknown and now extinct virus group or clade.

    ● Both modern smallpox and the ancient variant descended from a common ancestor but diverged 1700 years ago.

  ❍ **Course of Evolution:** It was suggested as a benign disease (less dangerous) considering it may have been mild in the past.

    ● In the **course of evolution**, the **active gene count of the virus** is shown to **have reduced due to mutation**.

    ● Therefore, the researchers speculated that **smallpox became deadlier over time**.

➢ **Implications of the New Research:**

  ❍ **Information about the Viruses:** The results of the study does not have any impact on the current spread of the **Covid-19 pandemic**. However, it does provide important information on **how a virus may become deadlier over time**.

  ❍ **Trace of History:** Nonetheless, it is important to note that smallpox is the **latest among several other diseases whose history in recent years** have been rewritten by ancient DNA analysis.

    ● In 2015, a study noted that the **plague** which killed millions in medieval Europe can be traced as far back as the Bronze age between 3000 and 1000 BCE.

    ● In a 2018 study, **Hepatitis B** was seen to have origins in the Bronze age as well.

➢ **Ways of Spread:** These findings would help to understand the ways in which diseases have affected human populations in the past.

  ❍ The DNA evidence suggests that diseases such as **plague and hepatitis B** are associated with **major prehistoric migrations**, something that seems now to be true of variola too.

  ❍ It would also help to seek answers of whether **migrations** brought the diseases to new areas or the **emergence of disease triggered** people to move.

World Hepatitis Day

Why in News

World Hepatitis Day is observed each year on **28th July** to enhance awareness of viral hepatitis.

➢ The theme for the **year 2020** is **"Hepatitis-free future"**, with a strong focus on **preventing hepatitis B among mothers and newborns.**

Key Points

➢ **Hepatitis:**

  ❍ It refers to any **inflammation of the liver,** the irritation or swelling of the liver cells **from any cause.**

  ❍ It can be **acute** (inflammation of the liver that presents with sickness, jaundice, fever, vomiting) or **chronic** (inflammation of the liver that lasts more

than six months, but **essentially showing no symptoms**).

▸ **Causes:**

○ Usually caused by a group of viruses known as the **"hepato-tropic"** (liver-directed), including A, B, C, D and E.

○ **Other viruses** may also cause it, such as the **varicella** virus that causes **chickenpox**. **SARS-CoV-2,** the virus causing **Covid-19** may injure the liver, too.

○ Other causes include **drugs and alcohol abuse**, **fat buildup in the liver** (fatty liver hepatitis) or an **auto-immune process** in which a person's body makes antibodies that attack the liver (autoimmune hepatitis).

WHAT IS HEPATITIS?

Hepatitis is inflammation of the liver, usually caused by a viral infection. But liver damage from alcohol consumption or, in rare cases, autoimmune conditions can cause the inflammation.

TYPES OF VIRAL HEPATITIS

A B C D E

SPREAD BY FOOD OR WATER CONTAMINATION A E

Types A and E usually don't require treatment. Recovery time is one to two months.

SPREAD BY INFECTED BLOOD OR BODILY FLUIDS B C

Types B and C often require treatment to cure. Chronic cases can lead to cirrhosis and liver cancer.

Type D can infect only people with type B hepatitis. D

VACCINATION POSSIBLE A B

▸ **Treatment:**

○ **Hepatitis A and E are self-limiting diseases** i.e. they go away on their own and require no specific antiviral medications.

○ For Hepatitis B and C, effective **medications are available.**

▸ **Global Scenario:**

○ Hepatitis B and C together are the **most common cause** of deaths, with 1.3 million lives lost each year.

○ In 2016, 194 governments across the globe adopted **WHO's global strategy which aims at eliminating viral hepatitis by 2030.**

▸ **Indian Scenario:**

○ 40 million people are chronically infected with Hepatitis B virus and 6 to 12 million with the Hepatitis C virus.

○ In 2018, the government launched the **National Viral Hepatitis Program** which is the largest program for Hepatitis B and C diagnosis and treatment in the world.

Note:

▸ **Hepatitis B** is included under **India's Universal Immunization Programme (UIP)** which provides free of cost vaccination against **eleven (excluding Hepatitis B) vaccine-preventable diseases** viz. Tuberculosis, Diphtheria, Pertussis, Tetanus, Polio, Pneumonia and Meningitis due to Haemophilus Influenzae type b (Hib), Measles, Rubella, Japanese Encephalitis (JE) and Rotavirus diarrhoea.

▸ **Bangladesh, Bhutan, Nepal and Thailand** became the **first four countries in the WHO's Southeast Asia** region to have successfully **controlled Hepatitis B.**

▸ Recently, an automated coronavirus testing device named **'COBAS 6800'** was launched which can **also detect viral Hepatitis B and C,** among others.

▸ It can be noted that only for **four diseases viz. HIV-AIDS (1st December), TB (24th March), Malaria (25th April), and Hepatitis**, the WHO officially endorses **disease-specific global awareness days.**

Clinical Trial of Covid-19 Vaccine: ZyCoV-D

Why in News

Recently, India has started phase I/II **clinical trials** of **Covid-19** vaccine - ZyCoV-D, designed and developed by **Zydus** (a pharmaceutical company) with **support from the Department of Biotechnology (DBT).**

▸ The adaptive phase I/II clinical trials will assess the **safety, tolerability and immunogenicity** of the vaccine.

▸ The **other indigenously developed** vaccine - **Covaxin** - produced by Hyderabad based Bharat Biotech is also underway to start clinical trials.

Key Points

▸ **Description:** ZyCoV-D, **a plasmid DNA vaccine**, comes under the **Vaccine Discovery Programme** supported by the Department of Biotechnology under the **National Biopharma Mission**.

○ Plasmids are **circular deoxyribonucleic acid (DNA) vectors** that can be used as vaccines to prevent various types of diseases.

▸ **Pre-Clinical Phase:** It was found to initiate a **strong immune response** in multiple animal species like mice, rats, guinea pigs and rabbits.

Note:

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○ The **antibodies** produced by the **vaccine** were able to **neutralize the wild type virus** indicating the protective potential of the vaccine candidate.

○ No safety concerns were observed in repeat dose by both **intramuscular** (directly into muscles) and **intradermal** (superficial injection into skin) routes of administration.

➢ **DNA Vaccine Platform:** The development of ZyCov-D has established the **DNA vaccine platform** in the country which is simple to deploy, temperature stable, and consistently manufacturable- thus lowering costs and enhancing the effectiveness of a vaccine.

○ It provides ease of manufacturing the vaccine with **minimal biosafety requirements.**

○ It has shown much improved **vaccine stability and lower cold chain requirements** making it easy for transportation to remote regions of the country.

○ Furthermore, the platform can be **rapidly used to modify the vaccine** in a couple of weeks in case the virus mutates.

National Biopharma Mission

➢ It is an **industry-academia collaborative mission** for accelerating biopharmaceutical development in the country.

➢ It was **launched in 2017** at a total cost of **Rs. 1500 crore** and is 50% co-funded by **World Bank** loan.

➢ It is being implemented by the **Biotechnology Industry Research Assistance Council (BIRAC).**

○ BIRAC is a **Public Sector Enterprise**, set up by the **Department of Biotechnology (DBT)**, Ministry of Science & Technology.

➢ Under this Mission, the **Government has launched Innovate in India (i3) programme** to create an enabling ecosystem to promote entrepreneurship and indigenous manufacturing in the biopharma sector.

➢ **Objectives:** Development of **vaccines, medical devices, diagnostics and biotherapeutics** besides, strengthening the **clinical trial capacity** and building technology transfer capabilities in the country.

RADT Vs RT-PCR

Why in News

Recently, New Delhi's **Covid-19** testing strategy has become controversial due to **the low level** of **RT-PCR**

(Reverse Transcription Polymerase Chain Reaction) **re-testing in persons** tested negative in **RADT** (Rapid Antigen Detection Tests).

➢ Using RADT **widely without following up** with **adequate retests contradicts Indian Council of Medical Research (ICMR) guidelines** on use of the RADT test.

Key Points

➢ **ICMR Guidelines:**

○ RADT ought to be used only in **containment zones, hotspots, hospital settings and laboratories** among those who manifested one or other symptoms of the disease, influenza-like illnesses.

○ People with **comorbidities who were asymptomatic** and high-risk contacts of those confirmed positive.

○ Those who tested 'negative' and whom **clinicians suspected** to be harbouring the disease ought to be **definitely tested sequentially by RT-PCR** to rule out infection and **higher chances of false negatives**.

○ Those who test positive don't need a re-test and must be considered positive.

➢ **Testing in New Delhi:**

○ From 18th June - 16th July, it has conducted 3,05,820 RADT. Of these, 2,85,225 tests came 'negative' and out of them only, 1,670 were chosen for re-test by RT-PCR and 262 of these were confirmed positive.

○ Only **1 in 200 of those who tested negative in an antigen** test to detect possible coronavirus cases **were re-tested,** which is against the given guidelines of ICMR.

○ Of those re-tested with **RT-PCR, around 15% tested positive**, which is higher than the **RADT positive results i.e. 6%.**

➢ **Arguments for Low Re-tests:**

○ Re-testing everyone would defeat the purpose of having another (rapid antigen) test.

○ The RT-PCR test takes a minimum of 2-5 hours including the time taken for sample transportation. This **limits the widespread use of the test** and also impedes quick augmentation of testing capacity in various containment zones and hospital settings.

● In **RADT, the maximum duration** for interpreting a positive or negative test is **30 minutes**, thus **a quicker complement to the standard RT-PCR** tests.

➢ **Arguments Against:**

- The consequence of **indiscriminately deploying antigen tests** would mean expanding the number of tests and presenting a lower positivity rate while not necessarily being able to **reliably establish the extent of the spread** of the coronavirus in the population.
- A low level of re-testing with RT-PCR in persons who are testing antigen negative will **underestimate the cases** and make the **tracking inaccurate.**

RADT

➢ It is a test on swabbed nasal samples that detects antigens (foreign substances that induce an immune response in the body) that are found on or within the SARS-CoV-2 virus.

➢ It is a **point-of-care test**, performed outside the conventional laboratory setting, and is used to quickly obtain a diagnostic result.

➢ Like RT-PCR, the rapid antigen detection test too seeks to detect the virus rather than the **antibodies** produced by the body.

- While the mechanism is different, the **most significant difference between the two is time.**
- As the ICMR has pointed out, the **RT-PCR** test takes a minimum of **2-5 hours** including the time taken for sample transportation..
- In a reliable **rapid antigen detection test,** the maximum duration for interpreting a positive or negative test is **30 minutes.**

RT-PCR Test

➢ **Kary Mullis**, the American biochemist invented the PCR technique. He was awarded the **Nobel Prize** for Chemistry in 1993.

➢ Under this, **copies of a segment of DNA (deoxyribonucleic acid)** are created using an enzyme called Polymerase.

- The 'chain reaction' signifies how the DNA fragments are copied, exponentially — one is copied into two, the two are copied into four, and so on.

➢ A fluorescent DN**A binding dye called the "probe" is added to DNA**, which shows the presence of the virus on a **fluorometer**.

➢ However, coronavirus is made of **RNA (ribonucleic acid)**.

➢ Therefore to detect coronavirus, **RNA is converted into DNA** using a technique called reverse transcription.

- A 'reverse transcriptase' enzyme converts the RNA into DNA.

➢ Copies of the DNA are then made and amplified.

Delhi Sero-Survey

Why in News

Recently, the **National Centre for Disease Control (NCDC)** conducted a **sero-surveillance study** for **Covid-19** in **New Delhi.**

➢ NCDC is under administrative control of the Directorate General of Health Services in the **Union Ministry of Health and Family Welfare.**

Key Points

➢ **Sero-surveillance:**

- **Detects Specific Antibodies:** It seeks to assess the prevalence of disease in a population by **detecting the presence of specific antibodies** against the virus.
- **Immunity Check:** It can also be conducted to check if a person has developed **immunity** to certain diseases.
- **Past Infections:** It **indicates past infections** (and which triggered an immune response), and is **not used to detect active infections.**
- **Tested Immunoglobulin G Using ELISA:** The **Sera (a part of blood) of samples were tested for IgG antibodies** and Covid-19 infection using **Covid Kavach ELISA kits** approved by the **Indian Council of Medical Research (ICMR)**.
  - **IgG** (Immunoglobulin G) is a type of antibody which develops in most Covid-19 patients (infections) at around two weeks after infection and remains in the blood even after recovery.
  - **ELISA** (Enzyme-Linked Immunosorbent Assay) is a test that detects and measures antibodies in blood

➢ **Coverage of the Latest Study:**

- **Coverage Period:** It was conducted from 27th June - 10th July 2020. It was done when the city was reporting over 3,000 cases a day.

Note:

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- **Coverage Groups:** A total **21,387 samples** were randomly collected across the 11 districts of the capital, which were then divided into two groups, of **less than 18 years and older.**

➤ **Result:**
  - **23.48%** of the people surveyed had **developed IgG antibodies**, indicating they had been exposed to the novel coronavirus (SARS-CoV-2) that causes Covid-19, with a large number showing no symptoms (**asymptomatic**).

➤ **Government's Response:**
  - **Impact of Proactive Efforts:** Only 23.48% were found to be infected in a study carried out in a city with several pockets of dense population, shows that the **proactive efforts by the government** to prevent the spread of Covid-19, including prompt lockdown, effective containment and surveillance measures, contact tracing and tracking, as well as citizens' compliance **had yielded benefits.**
  - **Challenges:** The remaining proportion of the population **(about 77%) is still vulnerable** to contracting the novel coronavirus infection.
    - Containment measures need to continue with the same rigour.
    - Non-pharmacological interventions such as **physical distancing, use of face mask/cover, hand hygiene, cough etiquette** and avoidance of crowded places etc. must be followed strictly.

➤ **Concerns:**
  - The 23.48% rate of seropositivity **cannot be extrapolated over Delhi's entire population.**
  - Further, currently there **isn't enough scientific data available about the level and duration of immunity** that the body will develop after a person tests Covid-positive.

➤ **Sero-surveillance in the Past:**
  - **ICMR** had conducted a pilot sero-survey in **April 2020** across **83 districts in 21 states.**
  - The initial results, which are being peer-reviewed, suggested that the percentage of the **general population** that could have been infected was **0.73**, with **urban areas** showing a higher prevalence of about **1.09%.**

Kakrapar Atomic Plant Achieves Criticality

Why in News

Recently, the third unit of the **Kakrapar Atomic Power Project (KAPP-3)** in Tapi district of **Gujarat** achieved its first **criticality.**

Key Points

➤ **Criticality:**
  - Criticality is the **first step towards power production**. A **nuclear reactor** is said to be critical when the nuclear fuel inside a reactor sustains a **fission chain reaction**.
  - Each fission reaction releases a **sufficient number of neutrons** to sustain a series of reactions. **Heat is produced in the event**, which is used to **generate steam** that **spins a turbine** to create electricity.
    - **Fission** is a process in which the **nucleus of an atom splits into two or more smaller nuclei**, and some byproduct.
    - When the nucleus splits, the **kinetic energy** of the **fission fragments (primary nuclei)** is transferred to other atoms in the fuel as heat energy, which is eventually used to produce steam to drive the turbines.

➤ **KAPP-3:**
  - KAPP-3 is the **country's first 700 MWe (megawatt electric) unit,** and the **biggest indigenously developed** variant of the **Pressurised Heavy Water Reactor (PHWR).**
    - Until now, the biggest reactor size of indigenous design was the 540 MWe, two of which have been deployed in Tarapur, Maharashtra.
    - A **PHWR is a nuclear power reactor**, commonly using unenriched **natural uranium as its fuel**, that uses **heavy water (deuterium oxide D_2O) as its coolant and moderator.**
    - PHWR technology was started in India in the late 1960s with the construction of the first 220 MWe reactor, Rajasthan Atomic Power Station (RAPS-1).
  - State-owned **Nuclear Power Corporation of India Ltd (NPCIL)** was awarded the reactor-building contract for both KAPP-3 and 4 in 2010.

Note:

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- ➢ **Safety Features:**
  - ❍ The 700 MWe PHWRs have advanced safety features like **steel lined inner containment, passive decay heat removal system, containment spray system, hydrogen management system**, among others.
    - The **'passive decay heat removal system'** can remove decay heat (released as a result of radioactive decay) from the reactor core without requiring any operator actions.
    - This is on the lines of similar technology adopted for **Generation III+ plants** to negate the possibility of a **Fukushima-type** accident that happened in Japan in 2011.
- ➢ **Significance:**
  - ❍ KAPP-3 addresses the issue of excess **thermal margins.**
    - Thermal margin refers to the extent to which the operating temperature of the reactor is below its maximum operating temperature.
  - ❍ KAPP-3 would constitute the **biggest component in the nuclear power capacity expansion plan.**
    - India is working to ramp up its existing nuclear power capacity of 6,780 MWe to 22,480 MWe by 2031.
    - Currently, nuclear power capacity constitutes less than 2% of the total installed capacity of 3,68,690 MW (end-January 2020).
  - ❍ It will also **help for the future construction** for the PHWRs.

Nuclear Power Corporation of India Limited
- ➢ The Nuclear Power Corporation of India Limited (NPCIL) is an Indian public sector undertaking, headquartered at Mumbai.
- ➢ It is wholly owned by the Government of India and is **responsible for the generation of nuclear power for electricity.**
- ➢ NPCIL is administered by the **Department of Atomic Energy (DAE)**.

AJO-Neo : Device to Measure Neonatal Bilirubin Level

Why in News

Recently, researchers from the S.N. Bose National Centre For Basic Sciences (SNBNCBS), Kolkata have developed a device called **"AJO-Neo ''** to measure neonatal bilirubin level.

- ➢ SNBNCBS is an **autonomous research Institute** under the **Department of Science and Technology (DST)**, Government of India.

Key Points

- ➢ **Description:**
  - ❍ AJO-Neo is a **non-contact and non-invasive spectrometry-based technique** for measurement of neonatal bilirubin level **without limitations** of other available bilirubin meters.
  - ❍ Bilirubin is a **yellowish substance** in the blood. It forms after **red blood cells break down**, and it travels through liver, gallbladder, and digestive tract before being excreted.
    - It is a necessary process in the **body's clearance of waste products** that arise from the destruction of aged or abnormal red blood cells.
- ➢ **Significance:**
  - ❍ The screening of bilirubin level in new-borns is necessary to **reduce incidents of a type of brain damage called kernicterus** that can result from high levels of bilirubin in a baby's blood.
    - Kernicterus leads to **Neuro-psychiatry problems** in neonates.
- ➢ **Advantages:**
  - ❍ It is reliable in measuring bilirubin levels in **preterm, and term neonates** irrespective of gestational or postnatal age, sex, risk factors, feeding behavior or skin color.
  - ❍ The device delivers an **instantaneous report (about 10 seconds)** to a concerned doctor.
    - The **conventional "blood test"** method takes **more than 4 hours** to generate the report.

International Thermonuclear Experimental Reactor (ITER) Assembly

Why in News

Recently, the International Thermonuclear Experimental Reactor (ITER) celebrated the start of **Assembly of the ITER Tokamak** at **Saint-Paul-Lez-Durance, France**.

Note:

Key Points

➢ **Significance of the Event:**

○ The Celebration was hosted **virtually** by the French President and **all ITER member** countries **participated** either in person, or electronically through remote mode.

○ India also participated in the celebrations and considered the **global participation of scientists** to project as a perfect illustration of the age-old Indian belief - **Vasudhaiva Kutumbakam**.

● Vasudhaiva Kutumbakam is a Sanskrit phrase which means **'The World is One Family'.**

➢ **India's Contribution:**

○ India also mentioned about its fair share in terms of its in-kind contributions, viz., the cryostat, cryogenic and cryo-distribution systems, auxiliary heating devices, multi megawatt power supplies, etc.

○ ITER cryostat is manufactured by **India(Larsen and Tourbo)**. Cryostat is a chamber that can maintain **very low temperatures**.

● It is the largest stainless steel high-vacuum pressure chamber ever built($16,000 \text{ m}^3$) providing the high vacuum,ultra cool environment for the ITER vacuum vessel and the superconducting magnets.

● The target for the **first plasma is 2025**. At extreme temperatures, electrons are separated from nuclei and a gas becomes a plasma—**an ionized state of matter similar to a gas**.

○ **European Union (EU)** is responsible for the **largest portion of construction costs** (45.6%); the remainder is **shared equally** by China, Japan, South Korea, Russia, USA including **India (9.1% each)**.

Nuclear Reactions

➢ **Description:**

○ A nuclear reaction is the process in which **two nuclei,** or a nucleus and an external subatomic particle, collide to produce one or more new nuclides.

○ Thus, a nuclear reaction must cause a transformation of at least one nuclide to another.

➢ Types:

○ **Nuclear Fission:**

● The nucleus of an **atom splits** into two daughter nuclei.

Difference Between Nuclear Fission and Nuclear Fusion
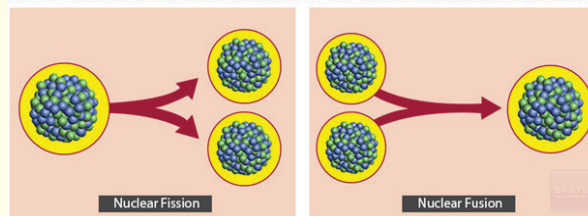
● This decay can be **natural** spontaneous splitting by radioactive decay, or can actually be **simulated** in a lab by achieving necessary conditions (bombarding with neutrons, alpha particles, etc.).

● The resulting fragments tend to have a combined **mass which is less than the original**. The missing mass is usually converted into nuclear energy.

● Currently all commercial nuclear reactors are **based on nuclear fission.**

○ **Nuclear Fusion:**

● Nuclear Fusion is defined as the combining of two lighter nuclei into a heavier one.

● Such nuclear fusion reactions are the **source of energy in the Sun and other stars**.

● It takes considerable energy to force the nuclei to fuse. The conditions needed for this process are extreme – millions of degrees of temperature and millions of pascals of pressure.

● The **hydrogen bomb** is based on a thermonuclear fusion reaction. However, a **nuclear bomb based on the fission** of uranium or plutonium is **placed at the core of the hydrogen bomb** to provide initial energy.

International Thermonuclear Experimental Reactor

➢ **Establishment:**

○ International Thermonuclear Experimental Reactor (ITER) is a collaboration of **35 nations** launched in **1985**.

○ It is located in **France**.

➢ **Aim:**

○ It aims to build the **world's largest tokamak** to prove the **feasibility of fusion** as a **large-scale and carbon-free** source of energy.

● The **tokamak** is an experimental machine designed to harness the energy of fusion. Inside

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Note:

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a tokamak, the energy produced through the fusion of atoms is absorbed as heat in the walls of the vessel. Like a conventional power plant, a fusion power plant uses this heat to produce steam and then electricity by way of turbines and generators.

➢ **Applicable Principle:**
  ❍ The project is based on **fusion** which is also an **energy source** for the **Sun and stars**.
    ● Every fusion reaction in the Sun, in which two hydrogen atoms fuse into one helium atom, releases two **neutrinos.**

➢ **Significance:**
  ❍ ITER will be the **first fusion device** to maintain **fusion for long periods** of time and also **to test the integrated technologies**, materials, and physics regimes necessary for the commercial production of fusion-based electricity.

➢ **Participation:**
  ❍ The ITER members include **China, the European Union, India, Japan, South Korea, Russia and the United States**.
  ❍ According to the **ITER Agreement (2006)**, the above mentioned seven members will share the cost of project construction, operation and decommissioning.
  ❍ They also share the experimental results and any intellectual property generated by the fabrication, construction and operation phases.

Hiroshima Black Rain

Why in News

Recently, a **district court of Hiroshima (Japan)** has recognised 84 survivors of the post-nuclear explosion "black rain" as the atomic bomb survivors enabling them to avail benefits like free medical care.

Key Points

➢ **Nuclear Explosion:**
  ❍ In **1945**, the **USA dropped the atomic bombs on Hiroshima and Nagasaki on 6th and 9th August respectively**, which marked the end of **World War II**.
    ● **2020 marks the 75th anniversary of the incident**.

❍ The explosion and resultant firestorms are believed to have killed around 80,000 people in Hiroshima and around 40,000 people in Nagasaki.
❍ Thousands more died in the following years due to the exposure to radiation from the blast and also from the black rain that fell in the aftermath of the explosions.

➢ **Black Rain:**
  ❍ The **debris and soot from the destroyed buildings in Hiroshima** (estimated 69% of the buildings was destroyed) **mixed with the radioactive fallout** from the bomb, rose high into the atmosphere in the form of a mushroom cloud.
  ❍ This **material combined with the vapour** in the atmosphere and **came down as dark drops of liquid** that have been called black rain.
  ❍ Survivors describe it as consisting of **large, greasy drops that are much heavier than normal raindrops**.
  ❍ **Nagasaki witnessed less black rain** despite the fact that the nuclear bomb dropped on it was more powerful than Hiroshima's.
    ● It killed fewer people and its effects were confined to a smaller area because of **Nagasaki's geographical position between hills**.
    ● The blast **did not produce firestorms** and the **material contributing to black rain was less.**

➢ **Effects:**
  ❍ Black rain is full of **highly radioactive material** and exposure to it can result in serious illnesses.
  ❍ A study conducted in 1945 showed that black rain had come down **as far as 29 km** away from **ground zero**.
    ● In relation to nuclear explosions and other large bombs, **ground zero is the point on the Earth's surface closest to a detonation**.
    ● In the case of an explosion above the ground, ground zero is the **point on the ground directly below the nuclear detonation** and is sometimes called the **hypocenter**.
  ❍ The rain **contaminated everything it came in contact** with. **Dead fish** were reported floating in water bodies and **severely ill cattle** were seen lying in the fields.
  ❍ Black rain caused **Acute Radiation Symptoms** (ARS) in many who were exposed to it.

Note:

- These symptoms include **nausea, diarrhoea, fever, sore throat and loss of hair**.
  ○ Over time, many people who were exposed to black rain have **developed cancer** as well.

➤ **Addition to Survivors:**
  ○ In **1976**, **Japan used a 1945 study** to **demarcate the area within which people could claim to have been affected** by black rain and be recognised as survivors of the nuclear blast.
  ○ It allowed people living in the area during the time of the black rain to **avail free medical care and other benefits** if they showed symptoms related to radiation exposure.
  ○ However, later studies have shown that **black rain could have come down on an area nearly four times the size of the one demarcated** by the government.
  ○ It was also argued that **people who moved to the area later, could also be affected** by the radioactive contamination caused by the rain.

➤ **Effects of the Ruling:**
  ○ The Hiroshima District Court ruling **recognises the plaintiffs as** *Hibakusha* **(Japanese term for the survivors of the nuclear blasts).**
  ○ It gives **hope to many others** because the decision **may pave the way for the government to reconsider the limits** it has set on who can be considered a survivor of the atomic bomb.

Antibiotic Use in Dairy Sector

Why in News

Recently, the **Centre for Science and Environment (CSE)** held an online meeting on **antibiotic use in the dairy sector.**

➤ The meeting was attended by experts from the **Food Safety and Standards Authority of India** (FSSAI), the **National Dairy Development Board** (NDDB), the **World Health Organization** (WHO), the **Department of Animal Husbandry and Dairying** (under the Ministry of Fisheries, Animal Husbandry and Dairying), the **Central Drugs Standard Control Organisation**, (CDSCO) etc.

➤ The meeting highlighted that the **milk** sold directly to consumers and the processed **milk** sold in packets are **not tested** and stay largely **unchecked for antibiotic residues**.

Key Points

➤ India is the **world's largest milk producer**, and it also forms an **integral part of Indian diets**, especially of children's.
  ○ It produced **188 million tonnes** (MT) of milk in **2018-19**.
  ○ **Urban areas consume 52%** of it and the unorganised sector, comprising milkmen and contractors, caters to 60% of this consumer base.
  ○ The remaining demand is met by dairy cooperatives and private dairies which represent the organised sector.

➤ **Concerns:**
  ○ **Inadequate Focus on Testing:** There is an inadequate focus on testing for antibiotic residues in the milk collected by State federations, which process it and sell it as packaged milk.
  ○ **Extensive Misuse:** Antibiotics are extensively misused in the dairy sector. Such **chemical-intensive food leads to antibiotic resistance**.
  ○ **No Professional Help:** Farmers often **inject animals on their own judgment** of signs and symptoms of a disease without any veterinary supervision.
  ○ **Indiscriminate Usage:** Dairy farmers indiscriminately use antibiotics for diseases such as **mastitis** (infection/inflammation of the udder) **which is a common ailment** in dairy animals.
    - The antibodies used by them often include **Critically Important Antibiotics** (CIAs) for humans.
    - The WHO has warned that the CIAs should be preserved in view of the growing crisis of antibiotic resistance.
    - Farmers often **sell milk while the animal is under treatment**, which increases the chances of antibiotic residues.
  ○ **Easy Availability:** The antibiotics are easily available without the prescription of a registered veterinarian and stocked at farms.

Risk of Interplanetary Contamination on Mars

Why in News

Recently, astrobiologists have **expressed concerns** about possible **'interplanetary contamination'** on Mars

as ambitious space missions are proliferating the space along with advances in commercial flight.

➢ Interplanetary contamination refers to **biological contamination of a planetary body** by a space probe or spacecraft, either deliberate or unintentional.

Key Points

➢ **Context:** In the past several missions have launched to Mars e.g. **China's Tianwen-1** which aims to land on the Red Planet's surface, and the **UAE's Al Amal (Hope)** which does not involve a landing, but an orbital mission that will study the Martian atmosphere.

  ❍ The USA will soon launch its **Perseverance mission,** which would be the **National Aeronautics and Space Administration's** (NASA) **10th** successful Mars landing since 1975.

    ● The Perseverance is a **rover name for NASA's Mars 2020 mission**.

    ● It will seek signs of ancient life and collect rock and soil samples from the planet.

  ❍ In the past, **space missions have established physical contact** with astronomical bodies such as **comets and asteroids**, and crewed missions have landed on the Moon.

  ❍ However, since these **bodies are known to be hostile to life,** the possibility of their contamination has not been a pressing issue.

➢ **Type of Contamination:** There are two types of contamination i.e. forward and backward contamination.

  ❍ **Forward Contamination:** It means the **transport of Earth-based microbes** to other celestial bodies.

    ● Since, **presence of liquid water** was already discovered on Mars there is a **chance that Mars has life** and it is an ethical obligation on humanity to ensure that microbes from **Earth do not disturb a possible Martian biosphere**, allowing it to evolve in its own way.

    ● Secondly, **Earth-based organisms could spoil the integrity of the Red Planet's samples** that rovers want to study – a highly disruptive concept for scientists who are looking for signs of native Martian life.

➢ **Back Contamination:** It is the **transfer of extraterrestrial organisms** (if they exist) into the Earth's biosphere.

    ● The **scientists rule out back contamination** with respect to **Mars sample-return mission** as

their **biochemistry would be markedly different from that on Earth**.

➢ **Planetary Protection:**

  ❍ **United Nations Outer Space Treaty of 1967:** It **serves as a defence mechanism** against the **militarisation of space** and also requires nations to worry about contamination risks.

    ● Its 110 state parties include the **USA, Russia, China, and India**.

    ● To ensure compliance with the **Treaty, the Committee on Space Research** (COSPAR) lays down a **'planetary protection policy'** that aims to limit the number of microbes sent to other planets, as well as ensuring that alien life does not cause havoc on Earth.

➢ **Impact of the Policy:** The guidelines have had far-reaching implications on human spacecraft design, operational procedures, and overall mission structure.

  ❍ Both NASA and the **European Space Agency** (ESA) have also appointed Planetary Protection Officers.

➢ **Solutions:**

  ❍ **Spacecraft Sterilisation:** To prevent forward contamination, space missions take care to ensure that spacecraft are sterilised.

    ● Previous Mars missions, such **as NASA's Viking landers of the 1970s**, were all sterilised before being launched into space.

    ● **NASA's Perseverance mission** was also postponed for a second time to resolve a potential contamination issue.

➢ **Containment:** In the case of back contamination, sterilisation would not be an option–as this would ruin the extraterrestrial samples.

  ❍ **Containment** would be the only option to break the **chain of contact between possible alien microbes** and life on Earth.

Asteroid 2020 ND

Why in News

Recently, the **National Aeronautics and Space Administration** (NASA) has issued a warning that a huge **"Asteroid 2020 ND"** will move past Earth on 24th July.

Key Points

➢ **Description:** The asteroid, about 170 metres-long, will be as close as **0.034 Astronomical Unit (AU- Astronomical Unit is the distance between the Earth and the Sun and is roughly 150 million km) to the Earth,** and is travelling at a speed of 48,000 kilometres per hour.

➢ It is a **Near-Earth Objects** (NEO) and its distance from Earth has placed it in the **Potentially Hazardous Asteroids (PHA)** category.

➢ **Potentially Hazardous Asteroids:**
  ○ It means that an asteroid has the potential to make **threatening close approaches** to the Earth.
  ○ Specifically, all asteroids with a **Minimum Orbit Intersection Distance** (MOID) of 0.05 AU (which is about 7,480,000 Km) or less and an **Absolute Magnitude** (H) of 22.0 (about 150 mt in diameter) or less are considered PHAs.
    ● MOID is a **method for calculating the minimum distance** between two almost overlapping elliptical orbits.
    ● The **absolute magnitude** is a measure of the star's luminosity i.e. the total amount of energy radiated by the star every second.

Solutions

➢ **Deflecting Asteroids:** Blowing up the asteroid before it reaches Earth, or deflecting it off its Earth-bound course by hitting it with a spacecraft may ward off the threat.

➢ **AIDA:** The measure undertaken so far is the **Asteroid Impact and Deflection Assessment (AIDA),** which includes **NASA's Double Asteroid Redirection Test (DART) mission** and the **European Space Agency's** (ESA) **Hera**.
  ○ **DART:** In 2018, NASA announced that it had started the construction of DART, which is scheduled to launch in 2021 with an aim to slam into the smaller asteroid of the **Didymos system at around 6 km per second in 2022**. **Didymos**, is a binary near-Earth asteroid, that could pose the most likely significant threat to Earth.
  ○ **Hera:** It is scheduled to launch in 2024, and will arrive at the Didymos system in 2027 to measure

the **impact crater produced by the DART collision** and study the **change in the asteroid's orbital trajectory.**

➢ **Monitoring of PHAs:** It is not necessary that asteroids classified as PHAs will impact the Earth. It only **means there is a possibility of a threat.**
  ○ By **monitoring these PHAs** and updating their orbits as new observations, it is possible to predict the close-approach statistics and thus their Earth-impact threat.

Significance

➢ The scientific interest in **comets and asteroids** is largely due to their status as relatively unchanged remnant debris from the **solar system** formation process over 4.6 billion years ago. Therefore, they **offer clues about the chemical mixture** from the planets formed.

➢ Significantly, among all the reasons that will eventually cause the extinction of life on Earth, an asteroid hit is **widely acknowledged as one of the likeliest**.

Asteroids

➢ Asteroids orbit the Sun and are small bodies in the solar system.

➢ They are made up of metals and rocks.

➢ They tend to have shorter and elliptical orbits.

➢ They **do not produce a coma or tail atmosphere.**

➢ The asteroid belt is a torus-shaped region in the Solar System, located roughly between the orbits of the planets Jupiter and Mars.

Comet

➢ Comets also orbit the Sun and are relatively small bodies of the solar system.

➢ They are made up of **ice and hydrocarbons.**

➢ Comets have an eccentric orbit.

➢ When comets approach the sun, some part of their ice melts and the other materials vapourise due to the heat of the sun. This results in a glowing halo that extends outwards through space.
  ○ Therefore, a **thin atmospheric tail is formed** when close to the Sun.

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Environment and Ecology

Highlights

- Brahmapuram Dumping Site: Kerala
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Brahmapuram Dumping Site: Kerala

Why in News

Recently, the **National Green Tribunal (NGT)** has issued an order **pertaining to the case of legacy waste (old municipal solid waste) piling up at the Kochi Corporation's Brahmapuram dumpsite.**

Key Points

- **The NGT Judgement:**
  - The Chairman and Member Secretary of the **Kerala State Pollution Control Board (KSPCB) will be held liable if they fail to initiate prosecution and recover compensation** from those **responsible for** the **unscientific handling of waste** at Brahmapuram.
  - The **progress (remediation of waste) appears to be very slow** and is **disregardful of the statutory and constitutional obligation** of providing a clean environment.
  - Further, the tribunal asked **why there should be a bar on a single tender** considering the critical situation.
    - The government decided to float fresh tenders as only one agency had met the minimum eligibility criteria when an **e-tender for biomining of legacy waste at Brahmapuram** was floated on 20th March, 2020.

- The Bench suggested that **other available options (besides biomining) be considered for compliance with Solid Waste Management Rules, 2016.**
  - The tribunal expressed doubts on whether the **leachate (dark liquid that gets generated within the solid waste) generated** at the dumping yard **could be treated in an ordinary septage treatment plant** as it contained heavy metals.
- **Brahmapuram Dumpsite:**
  - **Only 1% of the recyclable plastic waste is recovered** while the remaining **99% ends up as heaps** in the dumping yard.
  - The leachate from the waste treatment plant at Brahmapuram is a major source of **pollution of the river Kadambrayar.**
  - Legacy waste was found to be a reason for the **fire outbreaks.**
  - In 2020, the **government took over the task of scientific management of legacy waste** accumulated at Brahmapuram waste dumping yard from the Kochi corporation by invoking the provision under S**ection 24(e) of the Disaster Management Act, 2005.**

Municipal Solid Waste Management

- Municipal Solid Waste (MSW) Management is one of the most **serious challenges to environment protection** and although Solid Waste Management Rules have been framed in 2016, their implementation remains a problem.

Note:

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- ❍ The local authorities are responsible for the development of infrastructure for collection, storage, segregation, transportation, processing and disposal of MSW.
- ➢ There are **two major challenges** of solid waste management:
  - ❍ **Managing the continuous flow** of solid waste on a **daily basis.**
  - ❍ Dealing with **the legacy of neglect** which has resulted in garbage heaps having built at dumpsites that were meant for waste processing and landfills.
- ➢ In July 2019, the **NGT directed that each local body would have to pay a compensation** of Rs. 10 lakh per month (for population of above 10 lakh); Rs. 5 lakh a month (for population between 5 lakh and 10 lakh), and Rs. 1 lakh per month for other local bodies for non-compliance with the Solid Waste Management Rules, 2016 from 1st April, 2020 till compliance.
  - ❍ This compensation is **equally applicable to local bodies found erring on the issue of remediation of legacy waste** (to be completed by 7th April, 2021 statutorily).
  - ❍ If local bodies are unable to bear financial burden, the **liability will be of state governments to take remedial action against the erring bodies.**
  - ❍ An **environment monitoring cell** may be set up in the office of chief secretaries of all states/UTs for compliance.
  - ❍ Remediation process is expected to be **done as per the guidelines issued by the Central Pollution Control Board (CPCB).**

Assam's Flood and Kaziranga's Ecosystem

Why in News

The recent flood in Assam has led to heavy casualties, displacement of peoples and animals and destruction of property and environment.

- ➢ It has also led to inundation of 80% of the area of Kaziranga National Park.

Key Points

- ➢ **Reason behind Floods:**
  - ❍ **Ill-maintained or poorly constructed river embankments** are the main reason behind the flooding.

- • One major feature of flood management in Assam is **total dependence on embankments.**
- • Assam began constructing embankments in the 1960s and most of them have outlived their utility. Many of these started breaching or collapsing from the 1990s, more seriously from the 2000s.
  - ❍ **Massive deforestation in catchment areas** of rivers or release of waters by dams upstream.
  - ❍ **Climate change** is also a factor behind floods.
- ➢ **Floods in Kaziranga's Ecosystem:**
  - ❍ Experts believe that **floods are necessary for Kaziranga** by virtue of its **riverine ecosystem.** The system won't survive without water.
    - • **Kaziranga National Park and Tiger Reserve (KNPTR)** is sandwiched between the Brahmaputra river and the Karbi Anglong Hills. The entire area is formed by alluvial deposits from the Brahmaputra and its tributaries.
  - ❍ The regenerative nature of floods **helps replenish Kaziranga's water bodies and maintain its landscape**, which is a mix of **wetlands, grasslands and semi-evergreen deciduous forests.**
  - ❍ The floodwaters f**unction as a breeding ground for fish**, which are carried away by the receding waters into the Brahmaputra. i.e the Kaziranga's floods replenishes the Brahmaputra's stock of fish.
  - ❍ The waters also help **get rid of unwanted plants such as water hyacinth** which collect in huge masses in the landscape.
- ➢ **Issues Involved:**
  - ❍ **Frequent Floods:** Earlier, a big flood would come once in ten years, now they come every other year.
  - ❍ **NH-37:** When the flood water hits a certain level, the animal moves towards safer, higher ground in the Karbi Anglong hills. However, they have to cross NH-37 which cuts across the park, which leads to the killing of animals in road accidents.
    - • Animals are also killed by poachers who take advantage of their vulnerability.
  - ❍ **Human-animal Conflict:** Animals also move towards villages in floods, this leads to **human-animal conflict.**
- ➢ **Steps taken during Floods:**

Note:

○ The authorities keep a track of updates from the **Central Water Commission**, and **monitor water levels** of the Brahmaputra tributaries upstream in Arunachal Pradesh.

○ **Camps are organised to create awareness** against poaching and harming wild animals that are rendered vulnerable during the floods."

○ When the floods hit, **Section 144 of CrPC** is imposed along NH-37, speed limits are enforced and fines levied. Barricades are also placed to help animals cross over to Karbi Anglong.

Melghat Tiger Reserve

➤ **Location:**

○ It lies in **Melghat Forests of Amravati district** in **Vidarbha** region of **Maharashtra** bordering Madhya Pradesh in the North and East.

○ It is a part of the **Satpura-Maikal** landscape.

➤ **Tiger Reserve:**

○ It is spread over an area of 2768.52 sq km.

○ It is among the first nine places in the country designated as tiger reserves in 1973-74.

● **Project Tiger** was launched in 1973.

○ It was the first Tiger Reserve to be declared in Maharashtra.

➤ **Protected Areas within the Reserve:**

○ It consists of Gugamal National Park and Wan, Ambawarba and Narnala Sanctuaries.

➤ **Features:**

○ It is a **Deccan trap** and the underlying rock is **basalt** in one form or another.

○ It has various species of mammals including Tiger, Leopard, Sloth bear, Gaur, etc.

○ The forests are of deciduous nature and have been classified as **'dry deciduous forests'**. The most prominent tree is **Teak.**

○ It forms a very important catchment to **Tapi river** systems.

○ The **Korku tribe** adds to the cultural diversity of the Reserve.

➤ **Tadoba-Andhari**, Pench, Sahyadri, Navegaon-Nagzira and Bor are some other **Tiger Reserves in Maharashtra.**

National Award for Excellence in Forestry

Why in News

➤ The **National Award of Excellence for Outstanding Research in Forestry for the year 2019** has been awarded to Kannan C S Warrier, a scientist at **Institute of Forest Genetics and Tree Breeding (IFGTB)**.

➤ This award is conferred by the **Indian Council of Forestry Research and Education (ICFRE)**.

○ ICFRE is an apex body in the national forestry research system. ICFRE was recently declared as the **Centre for Excellence** in addressing issues related to **land degradation** by the Prime Minister.

Key Points

➤ The award has been awarded to Kannan C S Warrier for releasing **three salt-tolerant productive clones of** *Casuarina* that are suitable for **salt-affected soils**, for the first time in the country.

➤ India has 6.73 million hectares of salt affected land and is also the largest producer of *Casuarina* in the world which makes the production of these clones a significant achievement.

Casuarina

➤ *Casuarina*, also known as **kattadi and savukku,** is a plant genus with over 17 species with *Casuarina equisetifolia* being introduced in India in the 19th century.

➤ They have a role in **nitrogen fixation** in symbiotic association with bacteria *Frankia*.

➤ They provide fuel wood, pulp for paper making and of late is a preferred choice for biomass-based power generation.

➤ They are also used at construction sites for scaffolding.

➤ They are used as shelterbelts in coastal areas and windbreaks for protecting agricultural crops and banana plantations.

➤ They also play a key role in reclaiming mined areas and afforesting nutrient-poor sites.

➤ Warrier has also done extensive work on the **conservation of endangered sacred groves** in Alappuzha district of Kerala.

Sacred Groves

➢ Sacred groves are **communally protected forests** which usually have a significant **religious connotation** for the protecting community.

➢ In India, there are over a lakh sacred groves across different states called by different names like *Kaavu* in **Malayalam**, *Koyil kaadu* in Tamil, *Orans* in Rajasthan, *Devara kaadu* in Karnataka, and *Sernas* in Madhya Pradesh.

➢ Many **rare and endemic species**, and **species having medicinal and economic value** can be found here, thus making them Biodiversity Hotspots. They house gene pools of some critically endangered plant species.

➢ They are often associated with religious beliefs and felling of trees in sacred groves is considered taboo.

➢ Sacred groves have been legally protected under **'community reserves'** in the **Wildlife (Protection) Amendment Act, 2002.**

➢ Some **common threats** to Sacred Groves are:
  ❍ **Disappearance** of the **traditional belief systems,** which were fundamental to the concept of sacred groves.
  ❍ The **transformation** of the primitive forms of nature worship into formal temple worship.
  ❍ **Rapid urbanization** and developmental interventions such as roads, railways tracks, dams including commercial forestry.
  ❍ Invasion by **exotic weeds.**
  ❍ Pressures due to **increasing livestock** and fuelwood collection.

Bhagirathi Eco-Sensitive Zone

Why in News

Recently, the **Ministry of Environment, Forest and Climate Change (MoEF&CC)** has **approved the Zonal Master Plan for the Bhagirathi Eco-Sensitive Zone** to pave the way for faster **execution of Char Dham Road Project.**

Key Points

➢ **Background:**
  ❍ In 2012, the **MoEF&CC** issued a gazette notification declaring the **watershed area along the stretch of river Bhagirathi,** covering 4,179.59 sq km from Gaumukh to Uttarkashi, an **Eco-Sensitive Zone (ESZ)**.

• **ESZs** are the ecologically important areas designated to be protected from industrial pollution and unregulated development under the **Environment Protection Act of 1986.**

❍ The 2012 notification was issued keeping in view the requirements of the local people without affecting their rights and privileges and also ensuring eco-friendly development for their livelihood security.
  • It **sought to protect the entire fragile Himalayan region** by restricting hydropower projects of over 2 MW, riverbed mining and change of land use.

❍ However, it was **amended in 2018** following **Uttarakhand government's objection** that the notification was **'anti-development.'**
  • The 2018 amendment **approved land use change** to meet the local needs including civic amenities and other infrastructure development in larger public interest and national security with the prior approval of State Government with due study of environmental impacts.
  • It also **allowed cutting of hills** in eco-sensitive areas with proper study and construction on steep slopes in exceptional cases for the benefit of the community.

➢ **Zonal Master Plan (ZMP):**
❍ The Bhagirathi Eco-Sensitive Zone notification **mandates the State Government of Uttarakhand to prepare ZMP** to be implemented under the supervision of the Monitoring Committee.
❍ The ZMP is **based on watershed approach** and includes governance in the area of forest and wildlife, watershed management, irrigation, energy, tourism, public health and sanitation, road infrastructure, etc.
  • Watershed development approach is based on **participatory planning following a bottom-up approach** for developing a context appropriate plan for execution, strengthening of local level institution, conservation and appropriate management of watershed's natural resources.
  • Watershed is a geo-hydrological unit draining into a common point by a system of drains.
❍ The approval of ZMP is expected to give a boost to conservation and ecology of the area and also to undertake developmental activities as permitted under ZMP.

- ➤ **Char Dham Road Project:**
  - ❍ The **Char Dham project** proposes to provide all-weather connectivity to **Yamunotri, Gangotri, Badrinath and Kedarnath,** and has 53 projects of 826 km length, involving an investment of Rs. 12,000 crore.
    - ● Bhagirathi is the source stream of Ganga. It emanates from Gangotri glacier at Gaumukh at an elevation of 3,892 m.
- ➤ **Concerns:**
  - ❍ In a report prepared after the Kedarnath disaster (2015), the **Geological Survey of India** stated that road construction in mountains **reactivates landslides** as it disturbs the **'toe of the natural slope of the hill'.**
  - ❍ The Himalayas is the region where **Indian tectonic plate goes under the Eurasian tectonic plate.**
  - ❍ Himalayas are in **seismic zone V,** thus a major earthquake can happen anytime.

Indian Bullfrog

- ➤ **Scientific Name:** *Hoplobatrachus tigerinus.*
- ➤ **Common Names:** Bullfrog, Golden Frog, Green Frog, Tiger Frog etc.
- ➤ **IUCN Red List:** Least Concern.
- ➤ **Indian Wildlife Act 1972:** Schedule IV.
  - ❍ Schedule IV along with Schedule III **provide protection with lesser penalties**.

- ➤ It is **native to the Indian subcontinent** (Afghanistan, Bangladesh, India, Myanmar, Nepal and Pakistan) and is the **largest frog in India**.
- ➤ These are **prolific breeders** (producing many offspring), have **short breeding seasons**, and each egg clutch can contain up to 5,750 eggs.
  - ❍ Indian bullfrog tadpoles **are carnivorous** and eat other tadpoles (including their own species).
  - ❍ The tadpoles **grow to be the largest** (around 20 millimetres) and also **grow the fastest**.
- ➤ Adult bullfrogs pose a **threat to small endemic vertebrates** because they can eat **everything which fits into their mouths** like centipedes, leeches, native frogs, lizards, small snakes and even chicks and ducklings.
  - ❍ Bullfrogs eat the native frogs as well and their **diets overlap, indicating a possibility of competition**.
- ➤ It is **one of the invasive species on the islands of Andaman and Nicobar**.
  - ❍ An invasive species is a species that is **accidentally or artificially introduced into a biosphere** where it is not normally found.
  - ❍ In the **absence of a natural predator**, as it generally happens, the invasive species **thrive and causes economic and environmental damage** due to the imbalance created by its introduction.

Pied Cuckoo to be Tracked

Why in News

Recently, the **Wildlife Institute of India** (WII), has decided to study the migration of the **Pied Cuckoo Bird (*Jacobin Cuckoo or Chaatak*)**, by tagging the bird with satellite transmitters.

- ➤ The study will be conducted along with the **Indian Institute of Remote Sensing (IIRS)** and the **Department of Biotechnology (DBT), Government of India.**
- ➤ IIRS is a constituent unit of the **Indian Space Research Organisation (ISRO)**. It is **headquartered in Dehradun.**

Key Points

- ➤ **Study:**
  - ❍ This is the **first study in the country** that seeks to trace and observe the migratory routes of the pied cuckoo.
  - ❍ It **aims** to gather data and information on **climate change and monsoon.**
    - ● Pied Cuckoo is known for its **close association with the monsoon in India.**
    - ● Farmers have traditionally relied on the arrival of the Pied Cuckoo as a signal of the arrival of monsoon and seed sowing.
  - ❍ It is part of a larger project called the **Indian Bioresource Information Network (IBIN)** funded by the DBT, which aims to put relevant Indian bioresources information online.
- ➤ **Benefit:**

Note:

○ Gathering information about the migratory route can be invaluable for research on climatic variations taking place in the world, especially since the species has such a close association with the monsoon.

● It will give information on the monsoon, changes in the monsoon and monsoon winds, erratic rainfall, seasonal fluctuations, water vapour pressure, etc.

○ The extent of the **effect of ecologies changing** can be seen in the movement of species from a less favourable region to a more favourable region.

➤ **Pied Cuckoo:**

○ It is a bird with black and white plumage (pied) with a fancy crest on the head. Its scientific name is *Clamator jacobinus*. It is **found in Africa and Asia.**

○ There are **two types** of pied cuckoos found in India.

● In **central and northern parts of India**, pied cuckoos are **migratory**, they are seen only from just before the monsoon to early winter.

● It is believed that the pied cuckoos that come to the Himalayan foothills are from Africa.

● They have **high site fidelity**, that is, they come back to the same location year after year.

● Pied cuckoos are also found in **southern India**, but those are resident birds and not migratory.

○ The bird is primarily **arboreal**, which means that it **mostly lives on trees**. It is a **brood parasite** which means it lays its eggs in nests that belong to other birds.

○ It is one of the few species that come to India in the summer. Most other migratory species come in winter.

○ **IUCN Status:** Least Concerned.

High Level of Ammonia in Yamuna

Why in News

Recently, **high levels (around 3 parts per million) of ammonia in the Yamuna river** has been detected in Delhi which led to the disruption of water supply in Delhi.

➤ As per the **Bureau of Indian Standards (BIS),** the acceptable **maximum limit of ammonia in drinking water is 0.5 parts per million (ppm)**

Key Points

➤ **Ammonia:**

○ Its **chemical formula is NH_3**.

○ It is a **colourless gas** and is **used as an industrial chemical** in the production of fertilisers, plastics, synthetic fibres, dyes and other products.

○ It **occurs naturally in the environment** from the breakdown of organic waste matter, and may also find its way to ground and surface water sources **through industrial effluents, contamination by sewage** or through **agricultural runoff**.

➤ **Effect of High Level of Ammonia:**

○ Ammonia **reduces the amount of oxygen in water** as it is transformed to oxidised forms of nitrogen. Hence, it also increases **Biochemical Oxygen Demand (BOD).**

○ If the concentration of ammonia in water is above 1 ppm, it is toxic to fishes.

○ In humans, long term ingestion of water having ammonia levels of 1 ppm or above may **cause damage to internal organs**.

➤ **Treatment:**

○ Mixing of freshwater with ammonia polluted water.

○ **Chlorination.**

● Chlorination is the process of adding chlorine or chlorine compounds such as sodium hypochlorite to water.

● This method is used to kill certain bacteria and other microbes in tap water. However, chlorine is highly toxic.

➤ **Long Term Solution:**

○ Stringent implementation of guidelines against dumping harmful waste into the river.

○ Making sure untreated sewage does not enter the water.

○ Maintain a sustainable minimum flow, called the **ecological flow**.

● **Ecological flow** is the minimum amount of water that should flow throughout the river at all times to sustain underwater and estuarine ecosystems and human livelihoods, and for self regulation.

Note:
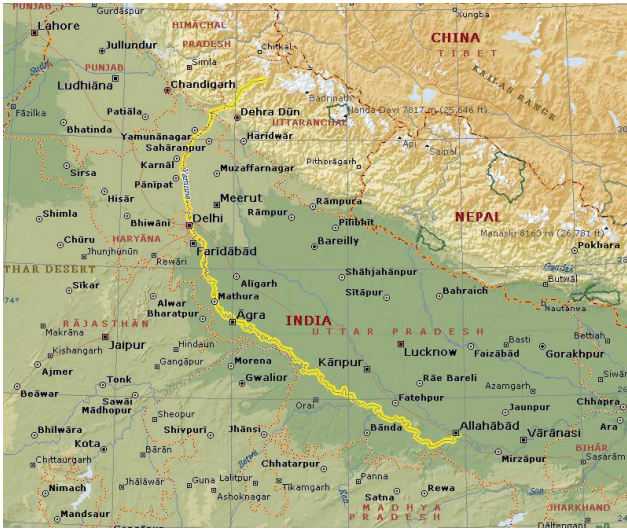
Segregation of Covid-19 Waste

Why in News

Recently, the **National Green Tribunal** (NGT) has observed that the **segregation of Covid-19** biomedical **waste** from general garbage is a must to avoid further contamination adversely affecting public health.

Key Points

➢ The directions came on a **suo motu matter** pertaining to scientific disposal of Covid-19 waste.

➢ It observed that segregation of Covid-19 from general waste is a must to avoid additional load on **Common Biomedical Waste Treatment and Disposal Facilities** (CBWTFs) incinerators and also to avoid further contamination.

➢ In India, **Biomedical Waste Management Rules, 2016** deal with waste generated in infectious diseases like Covid-19.

➢ **Data Analysis:**
   ○ Around 2,907 hospitals, 20,707 quarantine centres, 1,539 sample collection centres and 264 testing laboratories, are involved in the generation of Covid-19 waste.
   ○ Generation of **Covid-19 related biomedical waste** in the country is about 1**01 Metric Tonnes (MT) per day.**
   ○ This quantity is in addition to the normal biomedical waste generation of about 609 MT per day.

○ About **195 CBWTFs** are providing the services of collection, transportation and disposal of Covid-19 biomedical waste from hospitals, sample collection centres, testing laboratories, etc.

➢ **Concerns:**
   ○ The **pandemic** has presented a **challenge in terms of capacity to scientifically dispose** of generated waste and a **challenge for civic authorities in charge of its collection and disposal.**
   ○ States are not following the **CPCB guidelines on Covid-19 related waste.**
   ○ In some states, **improper segregation** of waste has been reported from **Covid-19 facilities and quarantine homes.**
      ● The non-segregation of waste results in the **incineration of contaminated plastics** producing toxic gases and adding to air pollution.
   ○ The rise in residential biomedical waste and its collection without adhering to safety protocols could also **trigger a surge in caseload.**
   ○ Without proper scientific management of such waste, it can **potentially affect patients and can affect the concerned workers and professionals.**
   ○ Discarded masks and gloves risk the lives of thousands of **sanitation workers** who work often **without any protection or training to handle** such hazardous material.

➢ **Suggestions:**
   ○ Left-over food, disposable plates, glasses, used masks, tissues, toiletries, etc used by Covid-19 patients should be put in **yellow-coloured bags**, while used gloves should be put in **red bags** and sent **for sterilisation and recycling** at the CBWTFs.
   ○ Where waste is not going to CBWTF incinerators, **deep burial systems** should be properly maintained as per protocols taking all due precautions to prevent harm to the environment.
      ● A **deep burial system** involves burying biomedical waste in 2-meter-deep ditches and covering them with a layer of lime and soil.
   ○ CPCB should take further **initiatives like conducting an appropriate programme** on Doordarshan, All India Radio and other media platforms to create mass awareness about the correct disposal of Covid-19 biomedical waste.

Note:

○ The government should set up recycling plants across the country (as envisaged under the **Smart cities project**) under the **Public-Private Partnership (PPP)** Model.

○ The Centre should form a national protocol combining the Biomedical Waste Management Rules, 2016 with the guidelines on **Extended Producer Responsibility** (EPR) for producers of plastic.

○ The Centre should **incentivise start-ups** and **Small and Medium Enterprises** (SMEs) offering solutions for Covid-19 waste segregation and treatment.

○ There should be **constant and regular monitoring** by the central and state PCBs, Health Departments in the states/UTs and by the high-level task team at Central level with further coordination by CPCB.

Global Tiger Day

Why in News

The Ministry of Environment, Forest and Climate Change has released a detailed **'Status of Tigers, Co-predators and Prey in India (2018) Report'** on the eve of the **Global Tiger Day (29th July).**

➢ The report compares information obtained from the **earlier three tiger surveys (2006, 2010, and 2014)** with data obtained from the **2018-19 survey** to estimate tiger population trends at country level.

Key Points

➢ **St. Petersburg declaration:**

○ With **2,967 tigers**, India, four years in advance, has achieved the target set in the **2010 St Petersburg Declaration** of doubling tiger population by 2022. India had around 1,400 tigers in 2006.

○ The Heads of the Governments of Tiger Range countries at **St. Petersburg, Russia,** had resolved to double tiger numbers across their **global range by 2022** by signing the St. Petersburg declaration on tiger conservation.

● During the same meeting it was also **decided to celebrate 29th July as Global Tiger Day** across the world, which is since being celebrated to spread and generate awareness on tiger conservation.

○ There are currently **13 tiger range countries** -- India, Bangladesh, Bhutan, Cambodia, China, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Russia, Thailand and Vietnam.

➢ **National Scenario:**

○ The national tiger status assessment of 2018-19 estimated the overall **tiger population** in India at **2,967 - 33% increase from 2014 (2,226).**

● The **2018 census (once in every four years) has set a** Guinness record for being the **largest camera-trap wildlife survey.**

○ Tigers were observed to be **increasing at a rate of 6% per annum** in India from **2006 to 2018.**

○ The **largest contiguous tiger population in the world of about 724 tigers** was found in the **Western Ghats** (Nagarhole-Bandipur-Wayanad-Mudumalai-Sathyamangalam- Biligiri Ranganathaswamy Temple block).

➢ **Regional Scenario:**

○ **Madhya Pradesh** has the highest number of tigers at 526, closely followed by Karnataka (524) and Uttarakhand (442).

○ The Northeast has suffered losses in population. Further, the tiger status in Chhattisgarh, Jharkhand and Odisha has steadily declined, which is a matter of concern.

○ Out of 50 tiger reserves in the country, three reserves - **Mizoram's Dampa reserve**, **Bengal's Buxa reserve** and **Jharkhand's Palamau reserve** - have no tigers left.

○ **Corbett Tiger Reserve** (Uttrakhand) had the largest population of tigers at about 231 in 2018.

● India's **Project Tiger** was launched in 1973 with 9 tiger reserves.

➢ **Concerns:**

○ Most of the populations remain **confined to small Protected Areas,** some of which have habitat corridors that permit tiger movement between them.

○ However, **most of the corridor habitats in India are degrading** due to unsustainable human use and developmental projects.

○ Some **reserves nearing full capacity** is another issue.

➢ **Solutions:**

○ In areas where tigers have not been recorded or the population has declined, restoration needs to be proceeded by improving **protection, augmentation of prey,** and **reintroduction of tigers** from an appropriate source.

Note:

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○ Some reserves like Similipal (Odisha), Pakke (Arunachal Pradesh) are below their potential and require resources and targeted management.

➢ **Government's Response:**

○ Tigers and other wildlife are a kind of **soft power** that India has to show on the international front.

○ Despite several constraints such as less land mass, India has **8% of biodiversity** because of its culture of saving and preserving nature, trees and its wildlife.

○ India has **70% of the world's tiger population.** It is tirelessly working with all 13 tiger range countries towards nurturing the tiger.

○ The Government is working on a programme to provide water and fodder to animals at the forest itself to deal with the challenge of human-animal conflict that is causing the death of animals.

● For this, **Lidar-based survey technology** will be used for the first time.

● **Lidar** is a method of measuring distance by illuminating the target with laser light and measuring the reflection with a sensor.

KURMA App

Why in News

KURMA is a mobile-based application aimed at turtle conservation. It was launched on the occasion of **World Turtle Day (23rd May)**.

Key Points

➢ **About:** It is developed by the **Indian Turtle Conservation Action Network (ITCAN)** in collaboration with the **Turtle Survival Alliance-India** and **Wildlife Conservation Society-India.**

○ The KURMA App has a built-in digital field guide covering **29 species of freshwater turtles and tortoise of India**, and information on turtle identification, distribution, vernacular names, and threats.

➢ **Objective: It provides users a database to identify a species.**

○ Provides the **location of the nearest rescue centre** for turtles across the country.

○ Advices about the reported species and its conservation.

○ Once a sizable database is ready, KURMA will start identifying species **automatically** through **artificial intelligence.**

➢ **Present Scenario:** Tortoise and freshwater turtles are among the most trafficked in the country.

○ A report released in 2019 by **TRAFFIC**, showed that at least 11,000 tortoises and freshwater turtles fall prey to illicit poaching and smuggling every year, adding up to over 1,11,130 turtles poached or smuggled between September 2009 and September 2019.

➢ **Conservation Challenge:** One of the major challenges for freshwater turtle conservation in the country is that wildlife crime prevention agencies are **not sufficiently equipped** to know how to distinguish one species from the other.

○ They are also not aware of their protection status in accordance with **CITES (Convention on International Trade in Endangered Species)** and the **Wildlife Protection Act, 1972.**

Turtle Survival Alliance

➢ The Turtle Survival Alliance (TSA) was **formed in 2001** as an **International Union for Conservation of Nature (IUCN)** partnership for sustainable captive management of freshwater turtles and tortoises.

➢ The TSA arose in response to the **rampant and unsustainable harvest of Asian turtle populations to supply Chinese markets**, a situation known as the **Asian Turtle Crisis.**

➢ **Mission: 'Zero Turtle Extinctions in the 21st Century'.**

Concerns Over Drilling in Dibru-Saikhowa National Park

Why in News

The **National Green Tribunal (NGT)** has issued notices to the Ministry of Environment, Forest and Climate Change (MoEFCC), Oil India Limited (OIL) and two concerned state entities to explain **how environmental clearances for the seven proposed drilling sites in the Dibru- Saikhowa National Park were given.**

➢ The NGT took note of the petitioners' contention that OIL **did not carry out a biodiversity assessment study** for the seven-well exploratory drilling project besides **not conducting a public hearing** as mandated by the

Environment Impact Assessment (EIA) Notification of 2006.

Key Points

- **OIL** has clarified that its **exploratory drilling project is "under" and not "in" the 765 sq km Dibru-Saikhowa National Park.** This argument is based on **Extended Reach Drilling (ERD)** enabled drilling of wells up to a depth of approximately 4 km from an existing well plinth **without entering the protected area.**
  - OIL had obtained permission for the seven wells in 2016 on the basis of the **ERD** technology.
  - ERD is drilling a well horizontally to at least twice its vertical depth.
  - It is extensively used to intersect hydrocarbon targets far from the surface or areas of the reservoir that otherwise were difficult to access.
- The notice has been issued following **a gas leak that occurred at OIL's baghjan oil field,** located near the Dibru-Saikhowa National Park.
  - The disaster at Baghjan has i**mpacted the surrounding ecological life** and **displaced close to 11,000 people** from their homes.
- Earlier, the NGT had also ordered the formation of a committee to probe **allegations of large-scale illegal coal mining** by North Eastern Coalfields inside **Dehing Patkai Elephant Reserve** in Assam's Tinsukia district.
- **Natural Resources in Assam:**
  - The State is **one of the richest biodiversity zones** in the world and consists of tropical rainforests, deciduous forests, riverine grasslands, bamboo orchards and numerous wetland ecosystems.
  - Assam has wildlife sanctuaries, the most prominent of which are two **UNESCO World Heritage sites**-the **Kaziranga National Park** and the **Manas Wildlife Sanctuary**. There are **three other National Parks** in Assam namely **Dibru Saikhowa National Park, Nameri National Park and the Orang National Park**.
    - Kaziranga is a home to **Indian one-horned rhinoceros** which has also been recognized as the **State Animal of Assam.**
  - Assam has **abundant mineral resources**- coal, petroleum; limestone and natural gas are the principal mineral resources.
    - It is also the **largest producer of crude oil in India.**
    - **OIL** is the second largest hydrocarbon exploration and production Indian public sector company

with its operational headquarters in Duliajan, Assam under the administrative control of the Ministry of Petroleum and Natural Gas.

Dibru-Saikhowa National Park
- Dibru-Saikhowa is a **National Park as well as a Biosphere Reserve** situated in the south bank of the river Brahmaputra in Assam.
- The forest type of Dibru-Saikhowa comprises semi-evergreen forests, deciduous forests, littoral and swamp forests and patches of wet evergreen forests.
  - It is the **largest swamp forest in north-eastern India.**
- It is an **identified Important Bird Area (IBA),** notified by the Birdlife International. It is most famous for the rare white-winged wood ducks as well as feral horses.
- Mammals found in the Park include **Tiger**, Elephant, Leopard, Jungle Cat, Bears, Small Indian Civet, Squirrels, **Gangetic Dolphin, Hoolock Gibbon**, etc.
- **Maguri Motapung wetland** is a part of the Reserve.

Stubble Burning and Pollution

Why in News

According to a recent study, **Delhi's meteorology and the quantity of chaff (crop residue or stubble) burnt** in Punjab and Haryana play a **more important role in worsening air quality than the time chosen** by farmers to start **stubble burning**.

Key Points

- **Crop Burning:**
  - It is a **traditional practice in Punjab and Haryana** to clean off the rice chaff to prepare the fields for winter sowing.
  - It **begins around October and peaks in November**, coinciding with the **withdrawal of southwest monsoon**.
  - The pollutants and the **particulate matter** (PM) from the chaff, along with other sources of pollution in Delhi, get stuck in the lower atmosphere worsening the winter pollution.
- **Reasons:**
  - **Subsidies and assured procurement of rice** have led to a rise in the rice acreage.

Note:

○ **Increased and modernised farm mechanisation** extract the rice grains only and leave large quantities of rice stubble behind.

○ Punjab Preservation of Subsoil Water Act 2009:

● This mandated farmers to delay sowing of paddy to late June to **discourage groundwater extraction**.

● This led to a **delay of an average of 10 days** compared to 2002-2008 and now due to the delayed harvesting, rice chaff burning coincides perfectly with the withdrawal of southwest monsoon.

➢ **Findings of the Study:**

○ Crop burning **contributed nearly 40% of the near-surface PM 2.5 in Delhi in 2016**, which saw one of Delhi's severest pollution episodes.

○ The study largely relies on **mathematical modelling**.

● **Data on the number of crop burning episodes and levels of PM** were plugged into a mathematical model.

● In results, it emerged that crop residue contribution to PM over Delhi in 2016, **increased only marginally** (1%) when compared to a hypothetical scenario of crops being burned 10 days earlier.

○ **Early burning** while reducing PM burning by 20g/m³, **did not reduce the number of days of significant PM exposure** in Delhi, which hovered around 55 days.

○ However, the study showed that **delaying rice burning 10 days beyond what is currently practised could be harmful** leading to an **increase in peak PM emissions** as well as **increase the number of pollution days**.

Aerial Seeding in Haryana

Why in News

Recently, the Haryana government has employed **aerial seeding techniques to improve green cover in the Aravalli area** of the state.

➢ The project is being carried out on a **pilot basis** to **regenerate the low vegetation density** or denuded areas on **inaccessible or difficult sites of Aravalli and Shivalik hills**.

Aerial Seeding

➢ **Description:**

○ Aerial Seeding is a plantation technique wherein **seed balls** (seeds covered with a mixture of clay, compost, char and other components) are sprayed using aerial devices, including planes, helicopters or drones.

➢ **Working:**

○ Seeds balls/pellets are dispersed in a targeted area by **low-flying drones**, with the coating providing the required weight for seeds to airdrop on a predetermined location rather than getting deterred by the wind.

○ These pellets sprout when there is enough rain, with nutrients present within them helping in initial growth.

➢ **Advantages:**

○ Areas that are **inaccessible**, having steep slopes or no forest routes, can be targeted using this method.

○ The process of the seed's germination and growth is such that it requires no attention after it is dispersed and thus seed pellets are known as the **"fire and forget" way of a plantation**.

○ They **eliminate** any need for **ploughing** and do not need to be planted since they are already surrounded by soil, nutrients, and microorganisms. The clay shell also protects them from birds, ants and rats.

➢ **Species to be Used for Aerial Seeding:**

○ The plant species which are native to the area and hardy, with seeds that are of an appropriate size for preparing seed balls are usually used for aerial seeding, with a higher survival percentage.

Key Points

➢ **Use of Seeding Drone:**

○ The method involves spraying seed balls from the air using seeding drones.

○ It is equipped with a precise delivery mechanism for **seeds of different sizes** from a **height** of **25 to 50 metres**.

○ A single drone can plant **20,000-30,000 seeds a day**.

Note:

➢ **Implementation:**

  ○ The method is being implemented on **100 acres of land to test the efficacy of the seed dispersal mechanism** and review the success rate.

  ○ The species that will be planted through aerial seeding include **Acacia senegal (Khairi), Ziziphus mauritiana (Beri) and Holarrhena spp (Inderjo)**, all of which have a higher chance of survival in these areas.

    ● Also, **site-specific grass seeds** will also be added to the mix as they serve as good soil binders.

➢ **Significance:**

  ○ It will provide **work opportunities** to the local community, especially women, who can prepare the seed balls.

  ○ The method will be useful since there are many areas that are either **difficult to reach or inaccessible** altogether, making traditional methods of plantation difficult.

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Note:

History

Highlights

- *Ravana's Aviation Route: Sri Lanka*
- *Bal Gangadhar Tilak*

Ravana's Aviation Route: Sri Lanka

Why in News

Recently, the **Civil Aviation Authority of Sri Lanka** has sought relevant documents and literature from the public to study the mythological character **Ravana's aviation routes.**

Key Points

➤ **Description:** The authority will lead a **research project** titled "King Ravana and the Ancient Domination of Aerial Routes Now Lost".

  ❍ The project aims to bring out an **authoritative narrative about King Ravana** as there are many stories about Ravana **flying aircraft and covering** these aerial routes.

  ❍ Ravana used a flying machine called "*Dandu Monara*" to **fly not only within the country but also in the South East Asia region**.

➤ **Significance:**

  ❍ **Tourism:** Sri Lanka's tourism sector promotes the '**Ramayana trail'** for visitors from India, one of Sri Lanka's largest tourism markets.

  ❍ **Sinhala-Buddhists Community:** The majority **Sinhala-Buddhists community** calls itself *Ravana Balaya* and **hails the King Ravana**.

Sinhala-Buddhists Community

➤ The community focuses on **Theravada Buddhism**, which is the majority belief system of most of the Sinhalese in Sri Lanka.

  ❍ Sinhalese are the **largest ethnic group on** the island.

➤ It mostly originated in reaction to the **colonisation of Sri Lanka by the British Empire** and became increasingly assertive in the years following the independence of the country.

➤ The **ethnic conflict in Sri Lanka** is rooted in the discrimination against the Tamil minority by the Sinhalese majority after the end of British colonial domination in 1948.

Theravada Buddhism

➤ It is the most **ancient branch of extant Buddhism** today and remains closest to the original teachings of Buddha.

➤ Theravada Buddhism **developed in Sri Lanka** and subsequently spread to the rest of Southeast Asia.

➤ It is the **dominant form of religion** in Cambodia, Laos, Myanmar, Sri Lanka and Thailand.

➤ In India, this strain of Buddhism is represented by the followers of **Dr B. R. Ambedkar**, **known as the Ambedkar Buddhists**, who are exclusive to India.

  ❍ **Linkages with India: Dravidian parties** in Tamil Nadu acknowledge Ravana as 'the brave king' similar to the Buddhists community of Sri Lanka.

  ❍ **Satellite:** Sri Lanka named its first satellite **Ravana-1** which was launched in June 2019.

Bal Gangadhar Tilak

Why in News

➤ On 23rd July, India paid tribute to the freedom fighter and educationist **Bal Gangadhar Tilak** on his **birth anniversary**.
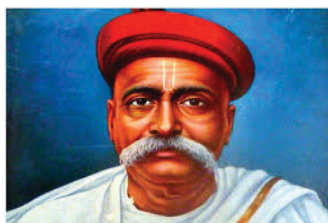
Key Points

➤ **Birth:** He was born on **23rd July 1856** in Ratnagiri, Maharashtra.

  ❍ Freedom fighter and lawyer, Bal Gangadhar Tilak, is also known as **Lokmanya Tilak**.

➢ **Educationist:**
  ○ Founder of the **Deccan Education Society (1884)** along with his associate Gopal Ganesh Agarkar and others.
  ○ One of the founders of the **Fergusson College (1885)** in Pune through the Deccan Education Society.

➢ **Ideology:**
  ○ He was a devout Hindu and used Hindu scriptures to rouse people to fight oppression.
  ○ Stressed on the **need for self-rule** and believed that without self-rule or swarajya, no progress was possible.
    ● **Slogan:** "Swaraj is my birthright and I shall have it!"
    ● A book **'Indian Unrest'** written by **Valentine Chirol**, an English journalist, stated **Tilak the 'father of Indian unrest'**.
  ○ Emphasised the importance of a cultural and religious revival to go with the political movements.
    ● Popularised the **Ganesh Chaturthi festival** in the Maharashtra region.
    ● Propounded the **celebration of Shiv Jayanti** on the birth anniversary of the monarch Chhatrapati Shivaji.

➢ **Political Life:** He was one of the earliest and the most vocal proponents of complete independence or swarajya (self-rule).
  ○ Along with **Lala Lajpat Rai and Bipin Chandra Pal**, he was part of the **Lal-Bal-Pal trio** of leaders with extremist outlooks.
  ○ Joined the **Indian National Congress** (INC) in 1890.

➢ **Surat Split:** It was the splitting of the INC into two groups - the Extremists and the Moderates - at the Surat session in 1907.

  ○ **Reason:** The extremists wanted either **Tilak or Lajpat Rai to be president**, so when **Rasbehari Ghose was announced as president**, the extremist resorted to violence. Hence Surat Split happened.
  ○ While **extremists** wanted to end the tyranny rule of British through protest, **Moderates** were aimed at administrative and constitutional reforms.
  ○ The **Extremist camp was led by Lal Bal and Pal** and the **moderate** camp was led by **Gopal Krishna Gokhle**.

➢ **Contribution to Freedom Movement:**
  ○ Propagated **swadeshi movements** and encouraged people to boycott foreign goods.
  ○ **Indian Home Rule Movement:**
    ● It was a movement in British India on the lines of Irish Home Rule movement.
    ● Started in 1916, it is believed to have set the stage for the independence movement under the **leadership of Annie Besant and Bal Gangadhar Tilak** for the educated English speaking upper class Indians.
  ○ **All India Home Rule League:** Founded by Tilak in April 1916 at Belgaum.
    ● It worked in **Maharashtra (except Bombay), the Central Provinces, Karnataka and Berar.**
    ● **Lucknow Pact (1916):** Between the INC headed by Tilak and All-India Muslim League led by Muhammad Ali Jinnah for hindu-muslim unity in nationalist struggle.

➢ **Jail:** Between 1908 and 1914, he spent 6 years in Mandalay Prison for defending the actions of revolutionaries Khudiram Bose and Prafulla Chaki.
  ○ Khudiram Bose and Prafulla Chaki had tried to **assassinate the District Judge, Mr. Kingsford** by **throwing bombs** at the carriage in which he was supposed to travel.

➢ **Newspapers:** Weeklies Kesari (Marathi) and Mahratta (English)

➢ **Books:** Gita Rhasya and Arctic Home of the Vedas.

➢ **Death:** He died on 1st August 1920.

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Note:

Geography

Highlights

- *Predicting Earthquakes*
- *Seismicity Study of Arunachal Himalaya*
- *Reasons Behind Pink Water of Lonar Lake*
- *Hurricane Hanna*

Predicting Earthquakes

Why in News

According to a recently published study, researchers have **developed a new way to improve the prediction of earthquakes**.

Key Points

➤ **Earthquakes:**
  ○ Earthquakes **usually occur along faults** (fractures between rocks which can range from a few millimetres to thousands of kilometres).
  ○ When **two blocks of earth slip past one another, seismic waves are generated** in a short span of time and earthquakes occur.
    ● The waves travel to the surface causing destruction and are difficult to predict, making it challenging to save lives.

➤ **Earlier Attempts:**
  ○ Scientists have attempted to recreate the faults and their sliding in laboratories to try and understand the conditions in them during earthquakes.
  ○ However, the **actual conditions are so complex** that it is **difficult to recreate** them with full accuracy which makes the prediction of earthquakes difficult.

➤ **New Method:**
  ○ Researchers have now used a **different approach** for earthquake prediction by trying to predict the **frictional strength** of **phyllosilicates.**
    ● **Frictional Strength:** It is the force required to cause movement along a fault.
    ● **Phyllosilicates:** Minerals in the form of thin plates found along the weakest part of the faults where earthquakes occur.

○ The researchers **analysed artificial fault zones on a microscopic scale to identify processes** that occurred during the experiment.
○ A **set of equations were then formulated to predict how the frictional strength of phyllosilicate changes**, along with a change in conditions such as **humidity** or the **rate of fault movement.**
○ This made it easier for modellers to **simulate fault movement in natural conditions, including earthquakes**.
○ The new model predicts that **movement along phyllosilicate-rich fault zones becomes more difficult as it becomes faster** and this has been consistent with experiments.
○ This behaviour of movement becoming more difficult **prevents earthquakes and suggests minerals other than phyllosilicates play an important role in causing earthquakes**.
○ However, **more work and research is needed to clearly explain** it and to understand the relation between the force that holds a fault together and the force needed to move the fault.

Seismic Waves
➤ Vibrations from an earthquake are categorised as **P (primary)** and **S (secondary) waves**. They travel through the Earth in **different ways and at different speeds**. They can be detected and analysed.
  ○ **P-waves:**
    ● These are the **first waves** detected by **seismographs** (instruments used to detect and record earthquakes).
    ● These are **longitudinal waves** which means they **vibrate along the same direction as they travel.**

Note:

drishti

- Other examples of longitudinal waves include **sound waves** and **waves in a stretched spring**.
    - ○ **S-waves:**
        - These waves arrive at the **detector after primary waves**.
        - These are **transverse waves** which means they vibrate at a right angle to the direction in which they travel.
        - Other examples of transverse waves include **light waves** and **water waves**.
- ➤ **Both types** of seismic waves can be **detected near the earthquake centre** but **only P-waves** can be detected **on the other side of the Earth**.
    - ○ **P-waves can travel through solids and liquids** (since they are longitudinal waves) whereas **S-waves can only travel through solids** (as they are transverse waves). This means the liquid part of the core blocks the passage of S-waves.
- ➤ The earthquake events are **scaled** either **according to the magnitude or intensity of the shock**.
    - ○ The **magnitude scale** is known as the **Richter scale**. The magnitude relates to the **energy released** during the earthquake which is expressed in absolute numbers, **0-10**.
    - ○ The **intensity scale or Mercalli scale** takes into account the **visible damage** caused by the event. The range of intensity scale is from **1-12**.

Seismicity Study of Arunachal Himalaya

Why in News

Recently, a study by the **Wadia Institute of Himalayan Geology** (WIHG), pertaining to the exploration of the elastic properties of rocks and seismicity in **Arunachal Himalaya,** has revealed that the area is **generating moderate earthquakes** at **two different crustal depths**.

- ➤ WIHG is an autonomous institute of the Department of Science and Technology (DST), Government of India.
- ➤ The region has been placed into **Seismic Zone V**, thus most vulnerable to earthquakes.

Key Points

- ➤ **Study:**

- ○ WIHG has installed 11 broadband seismic stations (connected through the **Global Positioning System**) along the **Lohit River Valley of Arunachal Himalaya** to understand the elastic properties of rocks and seismicity in the **easternmost** part of India.
- ○ It used both **teleseismic (earthquakes that occur more than 1000 km from the measurement site)** and **local earthquake data** with the help of **seismometers.**
    - A **seismometer is an instrument** that responds to ground motions, such as caused by earthquakes, volcanic eruptions and explosions.
- ➤ **Latest Findings:**
- ○ **Two Different Crustal Depths: Low magnitude earthquakes** are concentrated at **1-15 km depth**, whereas slightly higher than **4.0 magnitude earthquakes** are mostly generated from **25-35 km depth.**
    - The **intermediate-depth is devoid of seismicity** and coincides with the zone of fluid/partial melts.
- ○ **High Poisson's Ratio:** Extremely **high Poisson's ratio** was also obtained in the higher parts of the **Lohit Valley**, indicating the presence of fluid or partial melt at crustal depths.
    - **Poisson's ratio** is a measure of the Poisson effect that describes the expansion or contraction of material in directions perpendicular to the direction of loading.
    - A **high Poisson's ratio denotes** that the material exhibits large elastic deformation, even when exposed to small amounts of strain.
- ➤ **Significance:**
- ○ **Underthrusting of Indian Plate:**
    - Himalaya is a result of a **collision between the Indian and the Eurasian plates about 50-60 million years ago**. Due to continuous underthrusting of the Indian plate beneath the Eurasian plate, stresses are increasing and accumulating progressively in the Himalayas.
    - The **Eurasian Plate is a tectonic plate** which includes most of the continent of Eurasia (a landmass consisting of the traditional continents of Europe and Asia), with the exceptions of the Indian subcontinent, the Arabian subcontinent and the area east of the Chersky Range in East Siberia.

Note:

- This process keeps **modifying the drainage patterns and landforms** and is the pivotal reason for causing an **immense seismic hazard in the Himalayan mountain belt** and adjoining regions, necessitating assessment and characterization of earthquakes in terms of **cause, depth and intensity.**
  - ❍ **Tuting-Tidding Suture Zone:** TTSZ is a **major part of the Eastern Himalaya**, where the Himalaya takes a sharp southward bend and **connects with the Indo-Burma Range.**
    - This part has gained importance in recent times due to the **growing need of constructing roads and hydropower projects,** therefore emphasising the need for understanding the pattern of seismicity in this region.
  - ❍ **Crustal Thickness:** The crustal thickness in this area varies from 46.7 km beneath the Brahmaputra Valley to about 55 km in the higher elevations of Arunachal, with a marginal uplift of the contact.
    - This marginal uplift defines the boundary **between the crust and the mantle,** technically called the **Moho discontinuity.**
    - The Moho discontinuity has been defined by the **distinct change in velocity of seismological waves** as they pass through changing densities of rock.

Reasons Behind Pink Water of Lonar Lake

Why in News

According to the **Agharkar Research Institute, Pune** (Maharashtra) the **colour of Lonar lake water** in Maharashtra's Buldhana district **turned pink** due to a **large presence of the salt-loving 'Haloarchaea' microbes.**

- ➢ The colour of the lake water recently turned pink, which not only surprised locals but also nature enthusiasts and scientists.
- ➢ The water samples have been tested by the **Nagpur-based National Environmental Engineering Research Institute (NEERI)** and the **Agharkar Research Institute in Pune.**

Key Points

Lonar Lake
- ➢ It is also known as **Lonar crater** and is a saline and alkaline lake located at Lonar in Buldhana district, **Maharashtra.**
- ➢ It is situated inside the **Deccan Plateau**, a massive plain of volcanic basalt rock created by eruptions.
- ➢ It is an **oval-shaped lake** and has a **mean diameter of 1.2 km**.
- ➢ It is a notified **National Geo-heritage Monument** and a popular tourist hub.
  - ❍ Geo-heritage refers to the geological features which are inherently or culturally significant offering insight to earth's evolution or history to earth science or that can be utilized for education.
  - ❍ **Geological Survey of India (GSI)** is the parent body which is making efforts towards identification and protection of geo-heritage sites.
- ➢ It is believed to have been **created over 52,000 years ago** when a **meteorite hit the Earth.**

- ➢ It has been assumed that the **absence of rain**, **less human interference** (owing to lockdown) and **high temperature** resulted in the evaporation of water which **increased its salinity and pH.**
  - ❍ **pH is a measure of how acidic or basic water is**.
- ➢ The increased salinity and pH facilitated the growth of **halophilic microbes,** mainly *Haloarchaea*.
  - ❍ Halophiles are a group of microorganisms that **can grow and often thrive in areas of high salt ($NaCl$) concentration.**
  - ❍ **Haloarchaea or halophilic archaea** is a bacteria culture which **produces pink pigment** and is found in water saturated with salt.
    - The surface of the water has turned red or pink because of the biomass of Haloarchaea microbes. As the biomass subsides, the colour will disappear.
  - ❍ The colour of the lake is **now returning to original** as the rainy season has kicked in, allowing dilution of the water. The salinity and pH/alkalinity levels have also come down and green algae have started growing in the water body.
  - ❍ Further, it was noted that **Haloarchaea microbes were ingested by Flamingos.**
    - These microbes **acted as carotenoid (pigment) rich food for the birds**.

Note:

- **Flamingos get their red-pink colour** from special colouring chemicals called pigments found in the algae and invertebrates they eat.

Hurricane Hanna

Why in News

Recently, **Hurricane Hanna** has made **landfall** (the point at which a **hurricane** reaches land) in **Texas** with life-threatening storm surge and strong winds.

➢ **Tropical cyclones** are called hurricanes in the West Indian islands in the Caribbean Sea and Atlantic Ocean.

Key Points

➢ It has **reached wind speeds of up to 90 mph** and is expected to produce heavy rains across portions of **southern Texas and northeastern Mexico**, which will result in flash flooding and isolated minor to moderate river flooding.

➢ It has been categorised as a **Category 1 storm on the Saffir–Simpson hurricane wind scale** (SSHWS).

➢ This year, **an "above-normal" hurricane season is expected in the USA**.

  ○ One reason for this is the **warmer-than-average sea surface temperatures** in the tropical Atlantic Ocean and the Caribbean Sea, along with **weaker tropical Atlantic trade winds** and an **enhanced west African monsoon.**

Hurricane

➢ It is a **tropical cyclone** that occurs in the **Atlantic Ocean** and the **northeastern Pacific Ocean.**

➢ These are formed over the **warm ocean waters near the equator.**

➢ Hurricanes typically form between **5 to 15 degrees latitude north and south of the equator.**

Saffir-Simpson Hurricane Wind Scale

➢ It is a **1 to 5 rating based** on a hurricane's sustained wind speed. This scale estimates potential property damage.

Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	119-153 km/h	Very dangerous winds will produce some damage
2	154-177 km/h	Extremely dangerous winds will cause extensive damage
3 (major)	178-208 km/h	Devastating damage will occur
4 (major)	209-251 km/h	Catastrophic damage will occur
5 (major)	252 km/h or higher	Catastrophic damage will occur

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Note:

Art & Culture

Highlights

- *Natesa: Pratihara Style of Rajasthan*
- *Madhubani Paintings*

Natesa: Pratihara Style of Rajasthan

Why in News

Natesa, a rare sandstone idol (**Pratihara Style of Rajasthan**) from the 9th century has been retrieved by the Rajasthan police after 22 years.

Key Points

➢ **Description:** The Natesa icon, currently at the **Indian High Commission, London** was originally from the **Ghateswar Temple, Baroli, Rajasthan**.

  ❍ It was **smuggled out** of the country in **1998**.

  ❍ A few archaeologists behind the '**India Pride Project**' have also taken consistent efforts for the restitution of the Natesa icon.

    • **India Pride Project:** It is a group of art enthusiasts who use social media to identify stolen religious artefacts from Indian temples and secure their return.

➢ **Features:** The sandstone Natesa figure stands tall at almost **4 feet in a rare and brilliant depiction of Shiva**.

  ❍ A beautiful depiction of **Nandi** is shown **behind the right leg of the Natesa** icon.

➢ **Significance:** The **Archaeological Survey of India** (ASI) and the Ministry of Culture should use this restitution as a much-needed impetus to go after thousands of artefacts stolen since the 1960s.

Pratihara Style

➢ It is a **famous temple architecture** belonging to the **Gurjara-Pratihara dynasty** of Rajasthan.

➢ They ruled much of Northern India from the mid-8th to the 11th century.

➢ **Significant Rulers:** Nagabhata II, Mihir Bhoj, Mahendra Pal I

➢ **Style:** The architecture is known for their sculptures, carved panels and open pavilion-style temples belonging to **Nagara Style of temple architecture**.

  ❍ They used the most common sandstones for idols that have various shades of red, caused by iron oxide (rust).

  ❍ The greatest development of their style of the building is at **Khajuraho**, Madhya Pradesh, now a **UNESCO World Heritage Site**.

Madhubani Paintings

Why in News

Recently, artists from **Madhubani district of Bihar** became famous for making masks with **hand-painted Madhubani** motifs.

➢ **Motif** is a **decorative image or design**, especially a repeated one forming a pattern.

Key Points

➢ **Origin:** Madhubani painting has its origins in **Mithila region** of **Bihar**.

  ❍ It is one of the oldest and most famous Indian art forms which is also practised in Nepal.

Note:

○ Traces of Madhubani art can also be noticed in the Ramayana, the Indian epic.

○ It is also known as **Mithila or Madhubani art**.

➢ **Characteristics:** These paintings are popular because of their **tribal motifs and use of bright earthy colours**.

➢ **Style:** It includes **geometrical patterns, floral, animal and bird motifs**.

➢ **Colours:** The colours used in paintings comprise **natural extracts from plants and other natural sources.** E.g. Black colour is obtained by mixing soot with cow dung; blue from indigo; white from rice powder; orange from palasha flowers, etc.

○ The colours are applied flat with no shading and no empty space is left.

○ These are usually **dark and bright with pigments** like lampblack (obtained from coal) and ochre (earthy yellow pigment).

➢ **Themes:** It is based on the **mythological characters** which depict the life o**f Hindu deities** like Krishna, Rama, Lakshmi, Shiva, Durga, and Saraswati.

○ The designs widely painted are of Tulsi plant, court scenes, wedding scenes, social happenings etc.

○ Also, **heavenly bodies like the Sun and the Moon** often form the centrepiece of paintings.

➢ **Eminent Artists:** Karpuri Devi, Mahalaxmi and Dulari.

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Note:

Social Issues

Highlights

- *Dichotomy in Animal Sacrifice: SC*
- *Decline in Maternal Mortality Ratio*
- *Global Multidimensional Poverty Index 2020*
- *Achieving Zero Hunger by 2030: UN Report*
- *India's Population Trends: Lancet*
- *Bachpan Bachao Andolan*
- *MANODARPAN: Mental Health Initiative*
- *CHRI Report on Slavery*

Dichotomy in Animal Sacrifice: SC

Why in News

Recently, the **Supreme Court** has issued a notice to the Kerala government on a plea challenging the **Kerala Animals and Birds Sacrifices Prohibition Act, 1968**.

➢ The Act **prohibits sacrifice** of animals and birds in temples to **'please' the deity**.

➢ It also **criminalises the intent behind the animal sacrifice** and **not animal sacrifice** per se.

  ❍ If the sacrifice is not for pleasing any deity but for personal consumption even in the precincts of the temple, it is not forbidden.

Key Points

➢ **Background:**

  ❍ The plea **challenged the 16ᵗʰ June 2020 Kerala High Court order** upholding the 1968 Act.

  ❍ **Essential Practice:** The petitioners, who are **Shakthi worshippers**, appealed that animal sacrifice is an integral part of the worship and an essential religious practice.

    ● They are **unable to perform "Bali" rituals** after the ban which they believe is diminishing the family deity's power.

    ● Shaktism or Shakthi tantric practice is a major tradition of Hinduism and as per its scriptures and practices, animal sacrifice is essential and unavoidable.

  ❍ **Discriminatory:** It was also argued that the **Act applies only to Hindus but does not stop other**

religions from practising it which is **arbitrary** and **violative of Article 14 (Right to Equality before the Law)** of the Constitution.

    ● Petitioners referred to **bird sacrifice at a Church in Kochi and the festival of Bakrid** which have not been banned.

    ● According to the state assembly, killing animals in **other religious practices cannot be considered as a sacrifice because the animals are later cooked and consumed**.

  ❍ **Enforce Blanket Prohibition:** They held that if the killing of animals and birds was to be prohibited, it **should be for all purposes, religious or otherwise**.

➢ **Supreme Court's Reaction:**

  ❍ The SC **highlighted the dichotomy in animal protection law** which allows the killing of animals for food but does not permit the killing of animals as an offering to a deity.

  ❍ The court raised an important question of **"Is killing, not cruelty?"** and highlighted the **Prevention of Cruelty to Animals Act, 1960** which **allows the killing of animals but prohibits cruelty** to animals.

    ● According to the SC, there may be a point in saying that taking lives is permissible in certain circumstances but cruelty is not.

Decline in Maternal Mortality Ratio

Why in News

Recently, the **Office of the Registrar General's Sample Registration System (SRS)** has released a **special bulletin on Maternal Mortality in India 2016-18.**

Note:

Office of the Registrar General

➢ It is under the **Ministry of Home Affairs.**

➢ Apart from conducting the **Population Census** and monitoring the implementation of the **Registration of Births and Deaths** in the country, it has been giving **estimates on fertility and mortality** using the **Sample Registration System (SRS).**

  ❍ SRS is the **largest demographic sample survey** in the country that among other indicators, provides direct estimates of maternal mortality through a nationally representative sample.

➢ **Verbal Autopsy (VA) instruments** are administered for the deaths reported under the SRS on a regular basis to yield a **cause-specific mortality profile** in the country.

➢ As per the **World Health Organization** (WHO), maternal death is the **death of a woman while pregnant or within 42 days of termination of pregnancy,** from any cause related to or aggravated by the pregnancy or its management.

Key Points

➢ **Maternal Mortality Ratio (MMR) of the Country:**

  ❍ MMR is defined as the **number of maternal deaths during a given time period per 1,00,000 live births** during the same time period.

  ❍ MMR has **declined to 113** in 2016-18 **from 122** in 2015-17 and 130 in 2014-2016.

  ❍ The target **3.1 of Sustainable Development Goals (SDGs)** set by the United Nations aims at **reducing the global MMR to less than 70 per 1,00,000 live births**.

➢ **MMR of Various States:**

  ❍ **Assam (215)**, **Uttar Pradesh (197), Madhya Pradesh (173)**, Rajasthan (164), Chhattisgarh (159), Odisha (150), Bihar (149) and Uttarakhand (99).

  ❍ The southern states registered a lower MMR- Karnataka (92), Andhra Pradesh (65), **Tamil Nadu (60), Telangana (63) and Kerala (43).**

➢ **Government Initiatives:**

  ❍ **Janani Suraksha Yojana** under the **National Health Mission** to link cash assistance to institutional deliveries.

  ❍ The **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)** provides a fixed day for assured, comprehensive and quality antenatal care free of cost to pregnant women on 9th of every month.

  ❍ **Pradhan Mantri Matru Vandana Yojana** and **LaQshya Guidelines**.

Global Multidimensional Poverty Index 2020

Why in News

Recently, **the Global Multidimensional Poverty Index (MPI) 2020** was released by the **United Nations Development Programme (UNDP)** and the **Oxford Poverty and Human Development Initiative (OPHI).**

➢ The data of the index is based on the **study of poverty trends** in 75 countries.

Key Points

➢ **Global Scenario:**

  ❍ **1.3 billion** people are still living in multidimensional poverty. More than **80% are deprived in at least five** of the ten indicators used to measure health, education and living standards in the global MPI.

  ❍ The **burden of multidimensional poverty disproportionately falls on children**-half of multidimensionally poor people are children under age 18.

  ❍ **65 out of 75 countries** studied significantly **reduced their multidimensional poverty levels between 2000 and 2019.**

  ❍ About **84.3% of multidimensionally poor** people live in **Sub-Saharan Africa** and **South Asia.**

  ❍ **67% of multidimensionally poor** people are in **middle-income countries**.

➢ **Indian Scenario:**

  ❍ According to India's **Voluntary National Review (VNR) of Sustainable Development Goals (SDG)**, at least **271 million** people were **lifted out of multi-dimensional poverty** between 2005-06 and 2016-17.

    • The **VNR of SDGs** has been presented by the **NITI Aayog** at the High-Level Political Forum on Sustainable Development.

  ❍ The estimates presented were drawn from the 2019 **global Multidimensional Poverty Index (MPI)** released in July 2019.

  ❍ Over **640 million people** across India were in multidimensional poverty in 2005-2006.

○ The number of people living in **poverty decreased to around 369.55 million** by 2016-2017.

○ However, 27.9% of India's population was still poor in 2016-17.

➤ **Neighbourhood Scenario:** In **China**, 70 million people left multidimensional poverty between 2010 and 2014, while in **Bangladesh,** the numbers declined by 19 million between 2014 and 2019.

➤ **Impact of Covid-19:** Covid-19 is having a profound impact on the development landscape.

● The study finds that on average, **poverty levels** will be set back **3 to 10 years** due to **Covid-19**.

➤ **Sustainable Development Goals:** The index emphasises on measuring and monitoring progress under the goals to reach **'zero poverty by 2030-Goal 1 of the SDGs'**.

Multidimensional Poverty Index

➤ It was launched by the **United Nations Development Programme (UNDP)** and the **Oxford Poverty and Human Development Initiative** (OPHI) in 2010.

➤ MPI is based on the idea that **poverty is not unidimensional** (not just depends on income and one individual may lack several basic needs like **education, health** etc.), rather it is **multidimensional.**

➤ The index shows the **proportion of poor people** and the **average number of deprivations** each poor person experiences at the same time.

➤ MPI uses **three dimensions and ten indicators which are:**

○ **Education:** Years of schooling and child enrollment (1/6 weightage each, total 2/6).

○ **Health:** Child mortality and nutrition (1/6 weightage each, total 2/6).

○ **Standard of living:** Electricity, flooring, drinking water, sanitation, cooking fuel and assets (1/18 weightage each, total 2/6).

➤ A person is **multidimensionally poor** if she/he is deprived in one third or more (means 33% or more) **of the weighted indicators** (out of the ten indicators). Those who are deprived in one half or more of the weighted indicators are considered living in **extreme multidimensional poverty**.

➤ MPI is significant as it recognizes poverty from different dimensions compared to the conventional methodology that measures poverty only from the income or monetary terms.

Achieving Zero Hunger by 2030: UN Report

Why in News

According to a study titled '**State of Food Security and Nutrition in the World**', hunger and malnutrition are increasing around the world. In this scenario, achieving the **Sustainable Development Goal of Zero Hunger (SDG2) by 2030** will be very difficult.

➤ The **State of Food Security and Nutrition in the World** is the most authoritative global study tracking progress towards **ending hunger and malnutrition.**

➤ It is produced jointly by the **Food and Agriculture Organization (FAO)** of the United Nations (UN), the **International Fund for Agriculture (IFAD)**, the **United Nations Children's Fund (UNICEF)**, the **UN World Food Programme (WFP)** and the **World Health Organization (WHO)**.

Key Points

➤ **Increasing Hunger:**

○ **Steep Rise:** The study estimates that almost 690 million people went hungry in 2019, up by 10 million from 2018 and by nearly 60 million in five years (2014-2019).

● Hunger is an **uncomfortable or painful physical sensation caused by insufficient consumption of dietary energy**.

● For decades, FAO has used the **prevalence of undernourishment** indicator to estimate the extent of hunger in the world, thus "hunger" may also be referred to as **undernourishment**.

○ **Chronic Hunger:** There has been **no change in the hunger trend since 2000.** After steadily diminishing for decades, chronic hunger slowly began to rise in 2014 and continues to do so.

○ **Regional Hotspots: Asia remains home to the greatest number** of hungry people (381 million). **Africa is second** (250 million), followed by **Latin America** and the **Caribbean** (combined 48 million).

○ **Rate of Hunger:** The rate of **undernourishment (hunger) in Africa is double compared to Asia** and it is expected that by 2030, Africa will be home to more than half of the world's chronically hungry people.

○ **Impact of Covid-19:** The **Covid-19 pandemic** could also push over 130 million more people into chronic hunger by the end of 2020.

○ **Reasons: High costs** and **low affordability** were the main reasons behind the hunger.

➢ **Increasing Malnutrition:**

○ **Affordability:** The study estimates that 3 billion people or more cannot afford a healthy diet.

● In sub-Saharan Africa and southern Asia, this is the case for 57% of the population.

○ **Reason: High cost of nutritious foods and the low affordability** of healthy diets for vast numbers of families.

● According to the study, a healthy diet costs far more than **USD 1.90/day,** which is the **international poverty threshold.**

● It puts the price of even the least expensive healthy diet at five times the price of filling stomachs with starch only.

○ **Impact on Children:** According to the study, in 2019, nearly a third of children under the age of five (191 million) were **stunted (too short) or wasted (too thin)**. Another 38 million under-fives were overweight.

Suggestions

➢ **Shifting of Diet:** A **global switch to healthy diets would help check the backslide into hunger** while delivering enormous savings.

➢ **Transforming Food Systems:** The **transformation of food systems will not only reduce the cost of nutritious foods but also increase the affordability** of healthy diets.

○ Innovative strategies such as shifting towards **Smart Food** is the need of the hour, which is highly nutritious and will certainly help to reduce hunger.

➢ **The study calls on governments:**

○ To **mainstream nutrition in their approaches to agriculture**.

○ Work to **cut cost-escalating factors in the production, storage, transport. distribution and marketing of food**, including **by reducing inefficiencies and food loss and waste**.

○ **Support local small-scale producers** to grow and sell more nutritious foods and secure their access to markets.

○ **Prioritize children's nutrition** as the category in greatest need.

○ Foster **behaviour changes** through education and communication.

○ Embed **nutrition in national social protection systems** and investment strategies.

India's Population Trends: Lancet

Why in News

According to a recent analysis by the **Lancet**, India's population is forecasted to peak around 1.6 billion in 2048 from 1.38 billion in 2017. It will be followed by a **32% decline to around 1.09 billion in 2100.**

Key Points

➢ For the study, researchers used data from the **Global Burden of Disease Study 2017**.

○ The Global Burden of Disease Study is a **comprehensive regional and global assessment of mortality and disability** from major diseases, injuries and risk factors.

○ The study was **initiated in the 1990s** as a collaborative effort of hundreds of experts worldwide, including researchers at the **World Health Organization** (WHO), and the **World Bank**.

➢ **Hampered Economic Growth:** The study has predicted **dramatic declines in working-age populations** in countries such as **India and China**, which will **hamper economic growth and lead to shifts in global powers**.

➢ **India Specific Data:**

○ **India in 2100** will be the **world's most populous country**.

○ The number of **working-age adults** aged 20-64 in India is **projected to fall** from around 762 million in 2017 to around 578 million in 2100.

● However, India has been forecasted to have the **largest working-age population in the world by 2100**.

○ India is also expected to **surpass China's workforce population in the mid-2020s**, where the working-age population is estimated to decline from 950 million in 2017 to 357 million in 2100.

Note:

○ From 2017 to 2100, India is **projected to rise up the rankings** of countries with the largest total **Gross Domestic Product** (GDP) globally from 7th to 3rd, in terms of nominal GDP.

○ The country's **Total Fertility Rate** (TFR) declined to below 2.1 in 2019 (data taken from the Global Burden of Disease Study 2017) and is projected to have a **continued steep fertility decline** until about 2040, reaching a TFR of 1.29 in 2100.

  ● TFR indicates the **average number of children expected to be born to a woman** during her reproductive span of 15-49 years.

○ India is also forecasted to have the **second-largest net immigration in 2100**, with an estimated half a million more people immigrating to India in 2100 than emigrating out.

  ● Given the trends of countries like the **USA banning work visas** and India being a developing country, has the **potential to offer a huge manufacturing market** to immigrants who want to work here.

➢ **Global Data:**

○ The world population is forecasted to **peak at around 9.7 billion people in 2064 and fall to 8.8 billion by the century's end**, with 23 countries seeing populations shrink by more than 50%, including Japan, Thailand, Italy and Spain.

○ By 2100, a total of 183 out of 195 countries will have TFR below the **replacement level** of 2.1 births per woman. The **global TFR is predicted to steadily decline** from 2.37 in 2017 to 1.66 in 2100, well below the minimum rate of 2.1.

  ● **Replacement level fertility** is the number of children needed to replace the parents, after accounting for fatalities, skewed sex ratio, infant mortality, etc. The population **starts falling below this level**.

○ **Huge shifts in the global age structure**, with an estimated 2.37 billion individuals over 65 years globally in 2100 compared with the 703 million in 2019.

Challenges

➢ The new population forecasts are in contrast with projects of "continuing" global growth by the **United Nations Population Division** (UNPD).

➢ They highlight **huge challenges** to the economic growth of a **shrinking workforce**, the **high burden on health** and **social support systems of an ageing population**.

○ As countries move toward prioritising development, fertility reduction is inevitable.

○ At the same time, improved survival at all ages, especially at the older ages, would lead to the rapid ageing of the population.

Suggestions

➢ **Liberal migration policies** could be adopted as a temporary solution for economic growth in the context of declining working population.

○ Migrants **contribute significantly** to labour-market flexibility, innovation and technological progress, boost the working-age population and bring new skills contributing to the human capital development of receiving countries.

➢ It is more important to look for possibilities of **investing in technological advancements that can compensate for human shortages**.

➢ The **effect of fertility decline** on women's reproductive health rights has to be **accompanied by greater economic independence** which would allow women to negotiate with the system on their own terms and for better support services as well.

Bachpan Bachao Andolan

➢ It is India's largest movement campaigning for the rights of children.

➢ It was started in **1980** by Nobel Laureate **Kailash Satyarthi.**

○ In 2014, **Kailash Satyarthi** was awarded the **Nobel Peace Prize** jointly with **Malala Yousafzai** for their contribution **towards child education**.

➢ **Mission: Identify**, **release, rehabilitate and educate children** in servitude through prevention, direct intervention, mass mobilisation and legal action to **create a child-friendly society**.

➢ **Functions:** As a **Non-Government Organisation (NGO),** it has centred its focus on **ending bonded labour, child labour and human trafficking**, as well as demanding the **right to education** for all children.

○ It organises **Baal Panchayat** on the occasion of **World Day against Child Labour** (12th June).

Note:

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- ➢ It has so far freed more than **88,000 children from servitude**, including bonded labourers.
- ➢ In the wake of the **outbreak of Covid-19**, it filed a petition which held that statements of **child witnesses lodged at child welfare centres** should be recorded through **video conferencing** and not physically in courts.
  - ○ The Delhi High Court has sought responses from the Delhi government on the petition.

MANODARPAN:
Mental Health Initiative

- ➢ The Ministry of Human Resources Development (MHRD) has launched the '**Manodarpan**' initiative under **Atmanirbhar Bharat Abhiyan**.
- ➢ It is aimed to provide **psychosocial support to students, family members and teachers** for their mental health and well-being during the times of **Covid-19.**
- ➢ It includes a **national toll-free helpline** for students of schools, universities and colleges, which will be manned by a pool of experienced counsellors, psychologists and mental health professionals.
- ➢ It also has a **website,** a national database of counsellors which will **host an interactive online chat platform**, advisories and tips through webinars and other resources.
- ➢ **Significance:**
  - ○ It would act as an element of strengthening **human capital and increasing productivity** for the education sector in the wake of Covid-19.
    - ● Covid-19 **lockdown** had led to forced close down of schools and colleges.
  - ○ Therefore, it would help children as well as their parents in facing tense situations and their effects on academics.

CHRI
Report on Slavery

Why in News

Recently, the **Commonwealth Human Rights Initiative (CHRI)** and **Walk Free** (an international anti-slavery organisation) releaed a report on slavery on the occasion of **World Day Against Trafficking in Persons (30th July).**

Key Points

- ➢ **The Report:**
  - ○ It assessed the progress made by **Commonwealth countries** on the promises made in 2018 **to end modern slavery** by **2030** and achieve the Sustainable Development Goal (**Target 8.7**) of ending forced labour, human trafficking and child labour.
    - ● Commonwealth countries accounts for about **40%** of people living in conditions of modern slavery in the world.
    - ● It is estimated that **1 in every 150 people** in the Commonwealth countries live in conditions of modern slavery.
  - ○ It found that Commonwealth countries have made little progress towards their commitment to eradicate modern slavery and have been lacking in actions to **eradicate the modern slavery by 2030**.
    - ● **One-third** of the Commonwealth countries had criminalised forced marriage, while 23 had not criminalised commercial sexual exploitation of children.
    - ● All Commonwealth countries report gaps in victim assistance programs.
- ➢ **India Specific Outcome:**
  - ○ India had fared the worst in terms of coordination. It has **no national coordinating body or National Action Plan** in place to deal with modern day slavery.
  - ○ India accounted for **one-third** of all child brides in the world.
  - ○ India, like all other Commonwealth countries in Asia, had not ratified the International Labour Organisation's 2011 Domestic Workers Convention or the **2014 Forced Labour Protocol**.
    - ● The 2014 Forced Labour Protocol obligates state parties to provide protection and appropriate remedies, including compensation, to victims of forced labour and to sanction the perpetrators of forced labour.
    - ● It also obligates state parties to develop a national policy and plan of action for the effective and sustained suppression of forced or compulsory labour.

Steps Taken by India

- ➢ **Constitutional Provisions:**
  - ○ **Article 21** deals with the Right to Life and Personal Liberty.

Note:

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○ **Article 23** of the Constitution prohibits forced labour.

○ **Article 24** prohibits the employment of children (below the age of fourteen years) in factories, etc.

○ **Article 39** directs the State to secure the health and strength of workers, men and women, and to see the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength.

○ **Article 42** directs the State to make provision for securing just and humane conditions of work and for maternity relief.

➢ **Legal Provision:**

○ Various sections in **Indian Penal Code (IPC)** such as **366A, 366B, 370 and 374**.

● **Section 370 and 370A** of Indian Penal Code (IPC) provide for comprehensive measures to counter the menace of human trafficking including trafficking of children for exploitation in any form including physical exploitation or any form of sexual exploitation, slavery, servitude, or the forced removal of organs.

○ The **Juvenile Justice Act, 2015** and the **Information Technology (IT) Act, 2000** and also the **Immoral Traffic Act, Prevention of Child Labour Act 1956, the Bonded Labour (Abolition) Act 1976**, among others aims to eradicate various forms of slavery.

➢ **Other Initiatives:**

○ India has ratified the **United Nations Convention on Transnational Organised Crime (UNCTOC)** which among others has a Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children.

○ India has ratified the South Asian Association for Regional Cooperation (SAARC) Convention on Preventing and Combating Trafficking in Women and Children for Prostitution.

○ A Memorandum of Understanding (MoU) between India and Bangladesh has been signed on bilateral Cooperation for Prevention of Human Trafficking in Women and Children, Rescue, Recovery, Repatriation and Re-integration of Victims of Trafficking was signed in June, 2015.

○ **Anti-Trafficking Nodal Cell** was set up in the Ministry of Home Affairs (MHA) in 2006 to act as a focal point for communicating various decisions and follow up on action taken by the State Governments to combat the crime of Human Trafficking.

Modern Slavery

Modern slavery refers to situations of exploitation that a person **cannot** escape because of threats, violence, coercion, and abuse of power or deception. They may be held in debt bondage on fishing boats, against their will as domestic servants or trapped in brothels.

Commonwealth Human Rights Initiative (CHRI)

➢ Commonwealth Human Rights Initiative (CHRI) is an independent, non-partisan, international non-governmental organisation, **headquartered in New Delhi**, working for the practical realisation of human rights across the Commonwealth.

➢ The Commonwealth is a voluntary association of **54 independent** and equal sovereign states.

○ It is one of the world's oldest political associations of states. Its roots go back to the British Empire when some countries were ruled directly or indirectly by Britain. Some of these countries became self-governing while retaining Britain's monarch as Head of State. They formed the British Commonwealth of Nations.

○ In 1949, the Commonwealth came into being. Since then, independent countries from Africa, the Americas, Asia, Europe and the Pacific have joined the Commonwealth.

➢ **Membership** is based on **free and equal voluntary** cooperation. **Rwanda and Mozambique** - have **no historical ties** to the **British Empire**.

○ **Judicial Conferences:** In order to train and sensitize the trial court judicial officers, Judicial conferences on human trafficking are held at the High court level. The aim is to sensitize the judicial officers about the various issues concerning human trafficking and to ensure speedy court process.

○ To enhance the capacity building of law enforcement agencies and generate awareness among them, various Training of Trainers (TOT) workshops on **'Combating Trafficking in Human Beings'** for Police officers and for Prosecutors at Regional level, State level and District level have been organized by the government throughout the country.

○ Ministry of Home Affairs under a Comprehensive Scheme **'Strengthening Law Enforcement Response in India against Trafficking in Persons'** through Training and Capacity Building, has released fund for establishment of Anti Human Trafficking Units for 270 districts of the country.

Note:

- The primary role of an **Anti Human Trafficking Unit (AHTU)** is law enforcement and liaising with other concerned agencies for care & rehabilitation of victims.

- MHA conducts coordination meetings with the Nodal Officers of Anti Human Trafficking Units nominated in all States/UTs periodically.

■■■

Note:

Security

Highlights

- *Concern Over Imports of Small Arms*
- *PASSEX with the USA*
- *Mine Ploughs on T-90 Tanks*
- *Indian Military Equipment of Russian Origin*
- *Induction of French Rafale Aircrafts in IAF*
- *Tourism in Uttarakhand's Border Villages*

Concern Over Imports of Small Arms

Why in News

Recently, the domestic small arms manufacturers have expressed their concern over continuing imports of small arms by the Government of India.

Key Points

➢ **No Big Orders for Domestic Manufacturers:**
  ○ In the last few years, several Indian companies have invested in the small arms segment. The government also opened up the ammunition sector to the private sector, given the large requirement of small arms.
    ● The Government of India has opened up the **Foreign Direct Investment (FDI)** up to 74% and on a case to case basis it is even 100%.
  ○ The Indian companies are capable of making small arms with over 50% indigenous content and can also match the price and timelines.
  ○ However, in dearth of any major order, the **Indian companies** are now looking for smaller orders from police and **Central Armed Police Forces (CAPF).**
  ○ Further, Indian **companies** are also **not considered for deals through Fast Track Procurement (FTP)**, which is limited to foreign vendors currently.

➢ **Small Arms Import:**
  ○ Recently, the Indian Army has ordered 72,400 **SIG-716 assault rifles** from Sig Sauer of the USA for the second time.
    ● The Army has been attempting to replace the indigenous **Indian National Small Arms System (INSAS) rifles** with a modern rifle.

○ Earlier, in February 2019, the Defence Ministry procured 72,400 SIG-716 assault rifles from Sig Sauer of the USA through Fast Track Procurement (FTP), most of which were for the Army.
○ The remaining demand of over 7 lakh rifles was to be met through the licensed manufacture of **Russian AK-203 rifles** in India through a joint venture with the **Ordnance Factory Board (OFB)**. However, the final deal has been stuck over the issue of pricing.

➢ **Demand of Domestic Manufactures:**
  ○ They are asking to give domestic companies the same level playing field as foreign companies to showcase their products and support **Make in India**.

PASSEX with the USA

Why in News

Recently, Indian Naval ships **conducted a Passage Exercise (PASSEX)** with USA Navy's USS Nimitz carrier strike group near the Andaman and Nicobar islands.

➢ A passage exercise is normally undertaken whenever an opportunity arises, in **contrast to pre-planned maritime drills.**

➢ Recently, the Indian Navy had **also conducted similar PASSEXs with the Japanese Navy and the French Navy.**

Key Points

➢ **PASSEX:**
  ○ Four frontline Indian naval ships which included **INS Shivalik, INS Sahyadri,** INS Kamorta and INS **Rana,** teamed up with carrier USS Nimitz and three other USA ships to conduct the exercise.
    ● USS Nimitz is USA Navy's **largest aircraft carrier.**

Note:

➢ **China Factor:**
  ○ PASSEX comes amid a high alert by the Indian Navy in the Indian Ocean Region (IOR) due to the **stand-off with China along the border in Ladakh.**
    ● The exercise also came amidst mounting tensions in the **South China Sea** where the US Navy just conducted a major exercise involving USS Nimitz and USS Ronald Reagan.
  ○ The Indian Navy is keeping a close watch on the movement of Chinese naval ships in the IOR, whose presence has gone up considerably over the years in the name of anti-piracy patrols.
    ● In 2017, China opened its first overseas military base in Djibouti in the Horn of Africa.

Mine Ploughs on T-90 Tanks

Why in News

Recently, the **Ministry of Defence** has signed **Rs. 557 crore contract** with the **BEML Limited** (formerly known as the **Bharat Earth Movers Limited**) for the procurement of **1,512 mine ploughs for T-90 Tanks**.

➢ The induction is **expected to be completed by 2027**.

Key Points

➢ **T-90 Tanks:**
  ○ These **Russian-origin** tanks are the **Indian Army's main battle tanks**.
  ○ Indian Army recently deployed them in the **Galwan Valley** sector of Ladakh amid the **face-off with Chinese troops**.

BEML Limited

➢ It was **established in 1964** as a **Public Sector Undertaking** (PSU).

➢ It has **partially disinvested** and presently the **Government of India owns 54%** of total equity and the rest 46% is held by public and financial institutions, foreign institutional investors, banks and employees.

➢ The company operates under **three major business verticals** viz. **Mining and Construction**, **Defence** and **Rail and Metro**.

➢ **Mine Ploughs:**
  ○ Mine ploughs **help tanks to clear minefields and minimize risks to men and machines**.
  ○ After being fitted on T-90 Tanks, they will **facilitate individual mobility** to the tanks while negotiating a minefield.

Indian Military Equipment of Russian Origin

Why in News

According to a paper published by Stimson Center, **86% of the equipment, weapons and platforms** currently in military service in India are of **Russian** origin.

➢ The Stimson Center is a **nonprofit think tank** based in Washington, USA. It aims to **enhance international peace and security** through a combination of analysis and outreach.

Key Points

➢ **Data Analysis:**
  ○ **Stimson Center** data shows that more than **55% of Indian defence imports** since 2014 have been from Russia.
  ○ For the **Navy,** more than **41% equipment is of Russian origin while two-thirds for the Indian Air Force (IAF).**
  ○ The figure for the **Army is 90%,** as it assigns around 10,000 pieces of military hardware from Russia.
  ○ **Stockholm International Peace Research Institute** (SIPRI) data shows that **Russia** continues to occupy **the First position** as India's **defence supplier**, with 9.3 billion USD worth of exports to India.
    ● The **USA** is at **second**, with defence supplies worth 2.3 billion USD to India in the same period.

➢ **Russia's Military Equipment:**
  ○ The Navy's only active **aircraft carrier INS Vikramaditya** and it's only **nuclear attack submarine** in service, **Chakra II**, are from Russia.
  ○ So are the **Army's T-90** and T-72 main battle tanks and IAF's **Su30 MKI fighter**.
  ○ The country's only **nuclear-capable supersonic cruise missile**, **BrahMos**, is produced by a joint venture with Russia.
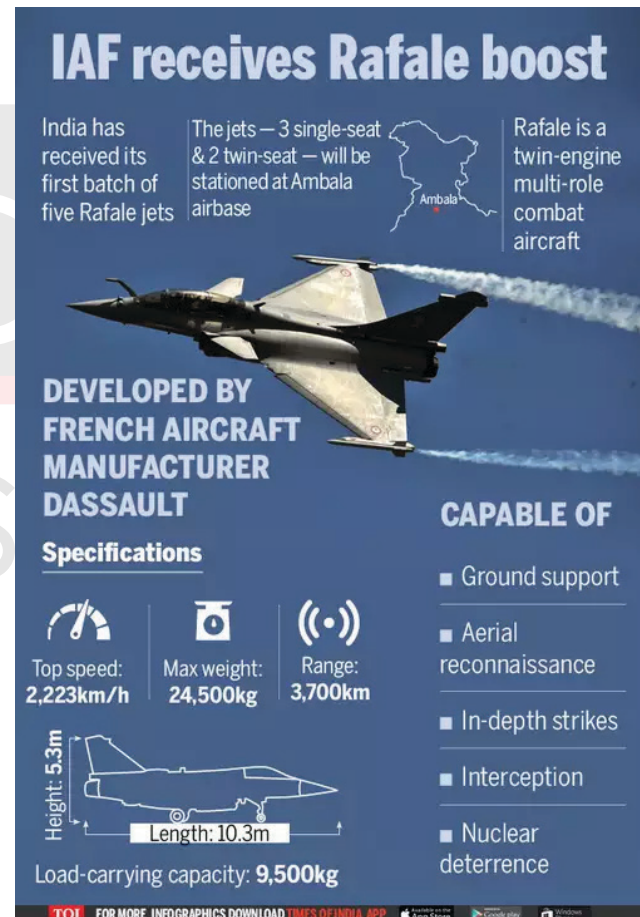
○ As India has been spreading its supplier base with Israel, USA and France, Russia still remains a major supplier. This is indicated by following latest developments:

- India has approved proposals to acquire 21 Mig29 and 12 Su30 MKI fighter aircraft from Russia for 2.4 billion USD.

- India and Russia had agreed to a joint programme to develop a variant of **Fifth Generation Fighter Aircraft Programme (FGFA)** in 2007.
  - As India has not committed to the **Fifth Generation Fighter Aircraft Programme (FGFA) programme** with Russia.

- It is negotiating on the price of AK103 rifles for **Make in India**.

➤ **USA's Military Equipment: Apache and Chinook helicopters**, M777 howitzer guns for the Army.
  ○ **Boeing C-17 and C-130J** for IAF and **P8I submarine hunter aircraft** for Navy.

➤ **Reasons:** There are many reasons for **India's dependency on Russia** for the supply of military equipments:
  ○ **Legacy Issue:** India and Russia have a **longstanding defence relationship** and there is familiarity with each other's processes and systems.
  ○ **Specialised Equipment:** The kind of specialised equipment that Russia provides to India makes a difference from other countries, e.g. the **S-400 Air Defence Missile Systems**, nuclear submarines and aircraft carrier.
  ○ **Combat Capability:** Each of the systems supplied by Russia has its advantages and uses as they have been used effectively to develop **maximum combat capability** especially when focusing on India's higher-end strike platforms.

➤ **Significance:**
  ○ **Border Clash with China:** Notwithstanding India's growing mutual convergence with the USA against China following the **recent tensions on the Ladakh border**, its armed forces remain heavily dependent on equipment, weapons and military platforms of Russian origin which form the bulk of its inventory.
  ○ **USA's CAATSA:** Recently, the **USA has asked all its allies and partners, including India, to stop transactions with Russia**. The USA can risk triggering sanctions under the **Countering America's Adversaries Through Sanctions Act (CAATSA)**.

Induction of French Rafale Aircrafts in IAF

Why in News

Recently, **Indian Air Force** (IAF) has received its **first batch (5 out of 36)** of **French Rafale aviation combat aircraft** at Ambala Air base (Haryana).

➤ The Rafales are **India's first major acquisition of fighter planes in 23 years** after the **Sukhoi jets** were imported from Russia.

➤ All the 36 jets will be delivered to India by the **end of 2021**.

IAF receives Rafale boost

India has received its first batch of five Rafale jets

The jets — 3 single-seat & 2 twin-seat — will be stationed at Ambala airbase

Rafale is a twin-engine multi-role combat aircraft

DEVELOPED BY FRENCH AIRCRAFT MANUFACTURER DASSAULT

Specifications

Top speed: 2,223km/h
Max weight: 24,500kg
Range: 3,700km

Height: 5.3m
Length: 10.3m

Load-carrying capacity: 9,500kg

CAPABLE OF
- Ground support
- Aerial reconnaissance
- In-depth strikes
- Interception
- Nuclear deterrence

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Rafales

➤ Introduced in 2001, the Rafale is a **French twin-engine** and **multirole fighter aircraft designed and built by Dassault Aviation** being produced for both the French Air Force and for carrier-based operations in the French Navy.

Note:

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➤ India inked a Rs. 59,000-crore deal in **2016 to procure 36 Rafale jets from French aerospace major Dassault Aviation** after a nearly seven-year exercise to procure 126 Medium Multi-Role Combat Aircraft (MMRCA) for the Indian Air Force did not fructify.

➤ The MMRCA deal was stalled due to disagreements over production in India.

➤ In comparison to the earlier deal i.e. MMRCA, Rafale has much technological advancement, lower life cycle cost and specifications according to the warfare needs of India.

Specification

➤ **Air Supremacy:** Equipped with a wide range of weapons, the Rafale is intended to perform air supremacy, interdiction (act of disrupting), aerial reconnaissance (observation to locate an enemy), ground support, in-depth strike, anti-ship strike and nuclear deterrence missions.

➤ **Wide Range of Weapons: Meteor missile, Scalp cruise missile and MICA weapons system** will be the mainstay of the weapons package of the Rafale jets.

  ○ **Meteor:** It is the next generation of **Beyond Visual Range (BVR) air-to-air missile** (BVRAAM) designed to revolutionise air-to-air combat.

    ● The Meteor missile can target enemy aircraft from 150 km away. It can destroy enemy aircraft before they actually even get close to the Indian aircraft.

  ○ **SCALP Cruise Missiles:** It can **hit targets 300 km away**.

  ○ **MICA Missile System:** It is a very **versatile air-to-air missile.** It comes with a radar seeker and can be fired for the short-range to long-range as well right up to 100 km.

    ● It's already in service with the IAF i.e. Mirages and is the primary weapon system of Rafales as well.

➤ **Air to Air Target:** The ability to strike **air-to-air targets** from up to 150 km away and safely hit land targets 300 km within enemy territory make them some of the deadliest fighter jets flying in the world.

➤ **Flight Hours:** The aircraft has 30,000 **flight hours in operations**.

Key Points

➤ **Significance For India:**

  ○ **Joint Strategic Vision:** The Rafale would be an aid to **the Joint Strategic Vision of India-France Cooperation** in the **Indian Ocean Region** to curb over-flights and the threat of weapons of mass destruction in the area.

  ○ **Upgradation of Air Combat Capabilities:** It will significantly **bolster India's air combat capabilities** especially when it is facing **hostile neighbours like Pakistan and China**.

  ○ **Unmatched Capabilities:** The aircraft proved its **unmatched capabilities** in air combat missions in **Afghanistan, Libya, Mali, Iraq and Syria** in the last few years.

    ● **India is the fourth country** to have the strategic platform with Rafale after France, Egypt and Qatar.

    ● The Indian Air Force is also in the process of procuring a new generation medium-range modular air-to-ground **weapon system Hammer** to integrate with the Rafale jets. The **Hammer (Highly Agile Modular Munition Extended Range)** is a precision-guided missile developed by French defence major Safran.

  ○ **Game Changer:** Rafales could be a **game-changer for India after all the 36 jets join the Indian Air Force** as no aircraft in possession of any country in the neighbourhood will be able to match their superior kinematic performance and powerful electronic warfare systems.

    ● The Rafale jet is **often compared with the USA stealth F-35** aircraft and F-22.

  ○ **Border Clash with China:** It is much more advanced and lethal than the current fighter aircraft **available with China i.e .jet J-20**. Therefore, it is definitely a boost to **India's defence preparedness** especially at the **times of border clash with China.**

➤ **Related Concerns:** The induction of Rafale aircraft will be a game changer in many ways, however, it may not make up for the **challenges faced by the Indian Air Force** in near future:

  ○ **IAF's Depleting Strength of Fighter Jets:** The emergency acquisition was made primarily to **check the depleting combat capability** of the IAF as the number of its fighter squadrons had come down to a worrying 31 against the authorised strength of at least 42.

Note:

○ **Increasing Potential of Hostile Neighbours:** By 2023 the Pakistan Air Force will have 27 fighter squadrons while China's PLA Air Force is assessed to have the capacity to bear at least 42 squadrons against India.

- Hence, India can **not lose sight of the developments in the North and West**, with both the adversaries i.e. China and Pakistan are continuously **increasing and upgrading their inventories**.

○ **Two Front Challenge:** Even though the IAF desires a strength of 45 fighter squadrons for a **two-front challenge (War with China and Pakistan)**, the last time it had its authorised complement of 42 squadrons was in 2002 after the terror attack on Parliament.

- Since then, the **numbers have steadily fallen,** and the trend will continue with five squadrons of old Russian MiG aircraft getting decommissioned subsequently.

○ **Delay of Supplies:** The IAF has planned to **procure Light Combat Aircraft (LCA) Mk I and MK II** from Hindustan Aeronautics Limited (HAL). However, the supplies from HAL are behind the scheduled induction plan.

- Similarly, IAF **issued a request for information for 114 multirole fighters in June 2018 to foreign manufacturers** i.e. Boeing, Lockheed Martin, Airbus Defence and Space, Russian Aircraft Corporation and Sukhoi Company. It plans to induct the aircraft within 12 years of the contract. However a request for proposal is awaited.

○ **Issues with Russia:** The **12 Su-30MKIs, lost in accidents, are also being replenished by HAL through a contract with Russia**, which has been approved by the government.

- However, the **Russian connection is also limited** as the IAF had earlier pulled out of the collaborative venture with Sukhoi to develop the **Fifth Generation Fighter Aircraft (FGFA)** after 11 years, citing disagreements over cost sharing plans, technology transfers and the test aircraft's technological capabilities.

Tourism in Uttarakhand's Border Villages

Why in News

Recently, the Central government has decided to **boost tourism in Uttarakhand villages that border China.**

➢ Uttarakhand **shares a 350-km border** with China.

Key Points

➢ In the backdrop of the **Galwan Valley standoff**, the Centre is planning to build a **second line of defence** in border villages of Uttarakhand by relaxing tourism-related activities.

➢ The Central government wants to make India's border villages safe, for which it has mooted the concept of **tribal tourism.**

➢ The first step in the direction will be to free some parts of Uttarakhand from the **Inner Line Permit (ILP) system.**

➢ Once the ILP system is lifted, the state tourism department would **encourage houses in the villages to be developed as homestays** which will directly help the village economy.

   ○ Visitors in border villages would also get to taste **tribal cuisine.**

➢ The Uttarakhand government has also announced steps to improve critical infrastructure, promote tourism and civilian settlements in the border areas of the state.

Benefits

➢ It will e**nsure safety and surveillance of border villages** and troops will get additional support.

➢ It will **boost the economy** of bordering villages **and provide employment**.

➢ It will also **stop outward migration.**

   ○ Most of the border villages see outward migration owing to a lack of livelihood opportunities.

■■■

Note:

Miscellaneous

Highlights

- Global Fund
- Dare to Dream 2.0
- ASPIRE Portal for Automotive Industry: ICAT
- Bathynomus Raksasa: Isopod Species
- National Thermal Power Corporation Limited
- Online NISHTHA Programme

- Indian Council of Agricultural Research
- MANODARPAN: Mental Health Initiative
- BlackRock Android Malware
- C.S. Seshadri
- PLpro: Covid-19
- Khelo India Youth Games 2021

Global Fund

Why in News

Recently, **'key populations affected by HIV/AIDS (or KPs)'** have protested for being ignored by governments and multilateral agencies (including **United Nations**) in **Covid-19** related emergency relief efforts.

➢ They have petitioned the **Global Fund to Fight AIDS, Tuberculosis** and **Malaria** (or simply the **Global Fund)**, demanding allocation to meet their basic survival needs of food, shelter, and emergency medical care.

➢ **KPs include** sex workers, transpeople, gay and bisexual men, drug users, and people living with HIV/AIDS.

Key Points

➢ The Global Fund is an **international financing and partnership organization**.

➢ It was created in 2000 and its s**ecretariat is located in Geneva, Switzerland**.

➢ The Global Fund **aims to** attract, leverage and invest additional resources to **end the epidemics of AIDS, tuberculosis and malaria** to support attainment of the **Sustainable Development Goals**.

➢ It is designed to promote innovative solutions to global health challenges. It works in partnership with governments, civil society, technical agencies, and people affected by the diseases.

➢ **India joined the Global Fund as a donor in 2006**, and has contributed a total USD 46.5 million to date.

○ In 2019, the Government of India **pledged USD 22 million** to the Global Fund's Sixth Replenishment

for 2020-22, demonstrating shared commitment toward ending the epidemics of HIV, TB and malaria.

Dare to Dream 2.0

Why in News

The **Defence Research and Development Organisation (DRDO)** has launched an innovation contest **'Dare to Dream 2.0'** on the 5th death anniversary of former President **Dr APJ Abdul Kalam.**

Key Points

➢ The 'Dare to Dream 2.0' is an open challenge **to promote the innovators and startups** of the country, for **innovation in defence and aerospace technologies** in the country after the call of **Atmanirbhar Bharat**.

➢ **Award money**, up to Rs.10 lakh for startup and Rs. 5 lakh to individual category, will be given to the winners.

➢ Dr. APJ Abdul Kalam is known as the **missile man** as he was part of many successful projects for development of ballistic missiles and satellite launch vehicle technologies during his lifetime.

○ He was the 11th President of India (from 2002-2007).

ASPIRE Portal for Automotive Industry: ICAT

Why in News

The **International Centre of Automotive Technology (ICAT)** is developing a technology **platform for the**

Note:

automotive industry called **ASPIRE - Automotive Solutions Portal for Industry, Research and Education**.

➢ The Portal is expected to help in developing a **strong and self-reliant automotive industry** in India which is in tune with the vision of **Make in India** and **Atmanirbhar** vision of the Government of India.

Key Points

➢ The Portal is being developed **in line with the initiative by the Department of Heavy Industry (DHI)** under the **Ministry of Heavy Industries & Public Enterprises.**

    ○ DHI has taken an initiative to promote innovation and to develop the related ecosystem.

➢ **Objective:** To enhance the technological capability of Indian automotive sector through exchange of knowledge & expertise, in order to make them self reliant and to facilitate the growth of the automobile sector and overall socio-economic progress of the country.

➢ **Functioning:** It will facilitate the Indian auto industry, R&D institutions and academia (colleges & universities) to come together for R&D, technology development, shop floor/ quality/ warranty issue's resolution, expert opinions on issues involving technology advancements.

    ○ The portal will also **host grand challenges** in line with the need of the industry as will be identified from time to time, for development of key automotive technologies.

Bathynomus Raksasa: Isopod Species

Why in News

Recently, scientists have reported the **discovery of the first super giant isopod species in the eastern Indian Ocean** named **'Bathynomus raksasa'.**

➢ It has been described as the **'cockroach of the sea'.**

➢ A team of researchers from Singapore discovered it while exploring waters of the Indian Ocean **in Bantan**, off the southern coast of West Java in **Indonesia** in **2018.**

Key Points

➢ **Super Giant Isopod:** The *Bathynomus raksasa* is a super giant isopod in the genus *Bathynomus.*

    ○ Isopods are **an order of marine invertebrates** (animals without backbones) that belong to the greater crustacean group of animals, which also includes crabs and shrimp.

    ○ They live in many different types of habitat, from mountains and deserts to the deep sea.

    ○ **Isopods that reach 50 cm are referred to as supergiants**. The largest isopod species are from the genus Bathynomus.

    ○ As a **scavenger**, it eats the remains of dead marine animals, such as whales and fish, but can also go for long periods without food, a trait that it shares with the cockroach.

National Thermal Power Corporation Limited

Why in News

Recently, the **National Thermal Power Corporation Limited** (NTPC Ltd.) has entered into a Memorandum of Understanding (MoU) with the **National Investment and Infrastructure Fund (NIIF)**, acting through the **National Investment and Infrastructure Fund Limited** (NIIFL).

➢ It will explore opportunities for investments in areas like **renewable energy** (RE), power distribution among other areas of mutual interest in India.

Key Points

➢ NTPC Ltd. is a **central Public Sector Undertaking** (PSU) under the **Ministry of Power**.

➢ It is **India's largest energy conglomerate** with roots planted way back in 1975 to accelerate power development in India.

➢ **Aim:** To provide reliable power and related solutions in an economical, efficient and environment-friendly manner, driven by innovation and agility.

➢ It became a **Maharatna company** in **May 2010**.

➢ It is located in **New Delhi**.

➢ **Few Recent Initiatives:**

    ○ **Creation of public charging infrastructure** in various cities and battery charging and swapping stations for electric 3-wheelers have been commissioned.

Note:

National Investment and Infrastructure Fund Limited

➢ It is a **collaborative investment platform for international and Indian investors**, anchored by the **Government of India**.

➢ It was set up in **December 2015** to catalyse funding into the country's core sector.

➢ It invests across asset classes such as infrastructure, private equity and other diversified sectors in India, with the **objective to generate attractive risk-adjusted returns** for its investors.

➢ It has a **targeted corpus of Rs. 40,000 crore** to be raised over the years.
  ❍ **49%** of which will be funded by the government at any given point of time.
  ❍ **Remaining 51%** is to be raised from domestic and global investors, including international pension funds, sovereign wealth funds and multilateral/ bilateral investors.

➢ It was registered with the **Securities and Exchange Board of India** (SEBI) as a **Category II Alternate Investment Fund** on **28th December 2015**.

➢ NIIF **manages over USD 4.3 billion of equity capital commitments** across its **three funds** which are **Master Fund, Fund of Funds and Strategic Opportunities Fund**, each with its distinct investment strategy.
  ❍ The NIIF **Master Fund** is the **largest infrastructure fund in the country** and invests in core infrastructure sectors such as transportation and energy.

➢ A **Governing Council chaired by the Finance Minister** has been set up to act as an advisory council to the NIIF.

  ❍ **Providing electric buses to state/city transport undertakings**. For example, e-bus solutions for Andaman and Nicobar Administration are under implementation.
  ❍ Launch of its new project involving **hydrogen Fuel Cell Electric Vehicles** (FCEV) to run in Delhi and Leh.

Online NISHTHA Programme

Why in News

Recently, the National Initiative for School Heads and Teachers Holistic Advancement **(NISHTHA)** programme has been launched for the **first time in online mode** in the state of **Andhra Pradesh**.

Key Points

➢ Initially, the NISHTHA programme was launched **in 2019** through face-to-face mode **to improve learning outcomes at the elementary level** in the country.

➢ **Covid-19 pandemic situation and lockdown** has affected the conduct of this programme in face-to-face mode. Therefore, NISHTHA has been customized for online mode to be conducted through **Digital Infrastructure for Knowledge Sharing (DIKSHA)** and **NISHTHA portals**.

➢ **Aim:**
  ❍ **National Initiative for School Heads' and Teachers' Holistic Advancement (NISHTHA)** is a **capacity building programme** for improving the quality of school education through integrated teacher training.
  ❍ It aims to **build competencies among all the teachers and school principals** at the elementary stage.

➢ **Implementation:**
  ❍ The functionaries (at the state, district, block level) will be trained in an integrated manner on learning outcomes, school based assessment, learner – centred pedagogy, new initiatives in education, addressing diverse needs of children through multiple pedagogies, etc.
  ❍ It is being organized by constituting **National Resource Groups (NRGs)** and **State Resource Groups (SRGs)** at the National and the State level who will be training **42 lakhs teachers** subsequently.

Digital Infrastructure for Knowledge Sharing

➢ DIKSHA Portal was launched by the M**inistry of Human Resource Development** (MHRD in **2017** .

➢ It provides a **digital platform for teachers** giving them an opportunity to learn and train themselves and connect with the teacher community.
  ❍ It is built considering the whole teacher's life cycle - from the time student teachers enroll in Teacher Education Institutes (TEIs) to after they retire as teachers.
  ❍ It also provides access to NCERT textbooks and lessons, following the regular school curriculum.

➢ States, government bodies and even private organisations, **can integrate DIKSHA into their respective teacher initiatives** based on their goals, needs and capabilities.

Indian Council of Agricultural Research

Why in News

Indian Council of Agricultural Research (ICAR) celebrated its **92nd foundation day on 16th July 2020.**

Key Points

➢ The Indian Council of Agricultural Research (ICAR) was **established on 16th July 1929** as a **registered society** under the **Societies Registration Act, 1860.**

➢ It is an **autonomous organisation** under the Department of Agricultural Research and Education (DARE), **Ministry of Agriculture and Farmers Welfare**, Government of India.

➢ It is **headquartered at New Delhi.** With 102 ICAR institutes and 71 agricultural universities spread across the country this is one of the largest national agricultural systems in the world.

➢ It is the **apex body** for coordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country.

➢ The ICAR has played a pioneering role in **ushering Green Revolution** and subsequent developments in agriculture in India through its research and technology development that has enabled the country to increase the **production of foodgrains by 5.6 times, horticultural crops by 10.5 times, fish by 16.8 times, milk by 10.4 times and eggs by 52.9 times since 1950-51 to 2017-18.**

Note:

➢ The Indian Council of Agricultural Research (ICAR) to start a **Farmers Innovation Fund.**

➢ The **'Kisan Diwas' or National Farmers Day** is observed across the country on **23rd December** to celebrate the birth anniversary of **Chaudhary Charan Singh, the former Prime Minister of India.**

➢ **Dr. Norman E. Borlaug was the winner of the Nobel Peace Prize in 1970** for his work in global agriculture. He is also known as the **Father of the Green Revolution.**

➢ The World Food Prize is also known as the **"Nobel Prize for Food and Agriculture". Dr. Rattan Lal**

has been declared the winner of the **World Food Prize 2020.**

○ **Dr. M.S. Swaminathan,** the father of India's green revolution, was the **first recipient of this award in 1987.**

➢ **World Food Day** is observed annually on 16th October to address the problem of global hunger **(SDG 2-Zero hunger).**

MANODARPAN: Mental Health Initiative

Why in News

Recently, the Ministry of Human Resources Development (MHRD) has launched the '**Manodarpan**' initiative under **Atmanirbhar Bharat Abhiyan**.

➢ It is aimed to provide **psychosocial support to students, family members and teachers** for their mental health and well-being during the times of **Covid-19**.

Key Points

➢ **Description:** The platform includes a **national toll free helpline** for students of schools, universities and colleges, which will be manned by a pool of experienced counsellors, psychologists and mental health professionals.

○ It also has a **website,** a national database of counsellors which will **host an interactive online chat platform**, advisories and tips through webinars and other resources.

➢ **Significance:** It would act as an element of strengthening **human capital and increasing productivity** for the education sector in the wake of covid-19.

○ Covid 19 **lockdown** had led to forced close down of schools and colleges.

○ Therefore, it would help children as well as their parents in facing tense situations and its effects on academics.

BlackRock Android Malware

➢ BlackRock is a **banking Trojan** and said to be an enhanced version of existing **Xerxes malware** which itself is a variant of the **LokiBot Android trojan.**

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- A **trojan** is any type of malicious program disguised as a legitimate one. Often, they are designed to steal sensitive information (login credentials, account numbers, financial information, credit card information, etc.) from users.
- **Banking trojans** are a specific kind of trojan malware. Once installed into a client machine, banking trojans use a variety of techniques to create botnets, steal credentials, inject malicious code into browsers or steal money.

➢ **Functioning:**
  - It surfaces as a **google update.**
  - It collects user information by abusing the **Accessibility Service of Android** and overlaying a fake screen on top of a genuine app. It uses Android Device Policy Controller (Android DPC) to provide access to other permissions.

➢ **Concerns:**
  - The malware is said to have the design to overlay attacks, send, spam, and steal SMS messages as well as lock the victim in the launcher activity. It can also **act as a keylogger** (tracking the keys struck on a keyboard) which essentially could help a hacker to acquire financial information.
  - Despite being a banking Trojan, BlackRock **targets non-financial apps.**
    - It **targets a total of 337 apps**, which is significantly higher than any of the already known malicious codes.
  - It **makes antivirus applications useless.**

C.S. Seshadri

Recently, **Professor C. S. Seshadri**, known for his contributions in **algebraic geometry** and **mathematical education,** passed away.

➢ He was born in **Kanchipuram**, **Tamil Nadu in 1932**.
➢ He got educated in Chennai and later in Mumbai where he got his PhD, from **Bombay University in 1958**.
➢ He joined **Tata Institute of Fundamental Research (TIFR)**, where he helped establish a school of algebraic geometry.
  - Applications of algebraic geometry arise in statistics, control theory, robotics, coding theory, integer programming and theoretical physics.

- The **Narasimhan-Seshadri theorem**, developed in 1965 with his friend **M. S. Narasimhan**, plays a central role in **conformal field theory and string theory.**
➢ He founded the **Chennai Mathematical Institute**, which attracts talent from around the world with its courses on **mathematics, computer science and theoretical physics.**
➢ He was elected **Fellow of the Royal Society (UK) in 1988** and a **Foreign Associate of the National Academy of Sciences, USA in 2010.**
➢ He was awarded the **Padma Bhushan** (the third-highest civilian award in India) in 2009.

PLpro: Covid-19

Why in News

According to a new study on **Covid-19**, pharmacological **inhibition of PLpro blocks virus replication** and also **strengthens immune response** in humans.

Key Points

➢ Usually, when a virus attacks human cells, the **infected body cells release messenger substances known as 'type 1 interferons'** which **attract the killer cells** in human bodies. These killer cells **kill the infected cells and save humans** from getting sick.
➢ When the **novel coronavirus (SARS-CoV-2)** enters a human cell, it hijacks the cell mechanism and **fights back by letting the human cell produce PLpro**.
  - **PLpro is a protein** which **suppresses the development of type 1 interferons**. Due to which, **killer cells are not informed** about the infection.
  - Hence, **PL pro plays a crucial role in the replication** of the virus.
➢ **Significance of the Research:**
  - Researchers can now monitor these processes in a **cell culture** (artificial environment).
  - By **blocking PLpro, virus production can be controlled**.
  - In the **absence** of the PLpro, **type 1 interferons will be released** informing the killer cells and thus, **strengthening the innate immune response** of the human cells.

Note:

Khelo India Youth Games 2021

Why in News

Recently, the government has announced that **Haryana will host the fourth edition of Khelo India Youth Games (KIYG).**

Key Points

➢ The 2021 Khelo India Youth Games **are scheduled to take place after the 2021 Tokyo Olympics** and will be held in **Panchkula (Haryana).**

➢ The 2021 Tokyo Olympics are set to open on **23rd July.**

   ○ In 2020, for the first time, the **Olympics were postponed following the Covid-19 outbreak.**

➢ **Usually**, the **KIYG takes place in January** of every year.

➢ KIYG is a **part of** the revamped national programme for development of sports **'Khelo India'** which was approved by the Union Cabinet in **2017**. The 2020 edition of KIYG was held in Guwahati (Assam).

○ The **Khelo India Scheme** aims to encourage sports all over the country, thus allowing the population to harness the power of sports through its cross-cutting influence, namely holistic development of children & youth, community development, social integration, gender equality, healthy lifestyle, national pride and economic opportunities related to sports development.

○ Under the Scheme, **talented players** identified in **priority sports disciplines** at various levels are provided **annual financial assistance of Rs. 5 lakh per annum for 8 years.**

○ **Khelo India App**, developed by the **Sports Authority of India (SAI)**, aims to create awareness about sports and fitness in the country.

   ● SAI is under the **Ministry of Youth Affairs and Sports.**

Note:

Key Points

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Summary

Key Points

Details

Summary