CURRENT AFFAIRS

NOVEMBER 2019

INDEX

POLITY AND GOVERNANCE

Paper II: This section is relevant to Polity and Governance Section of GS Paper II
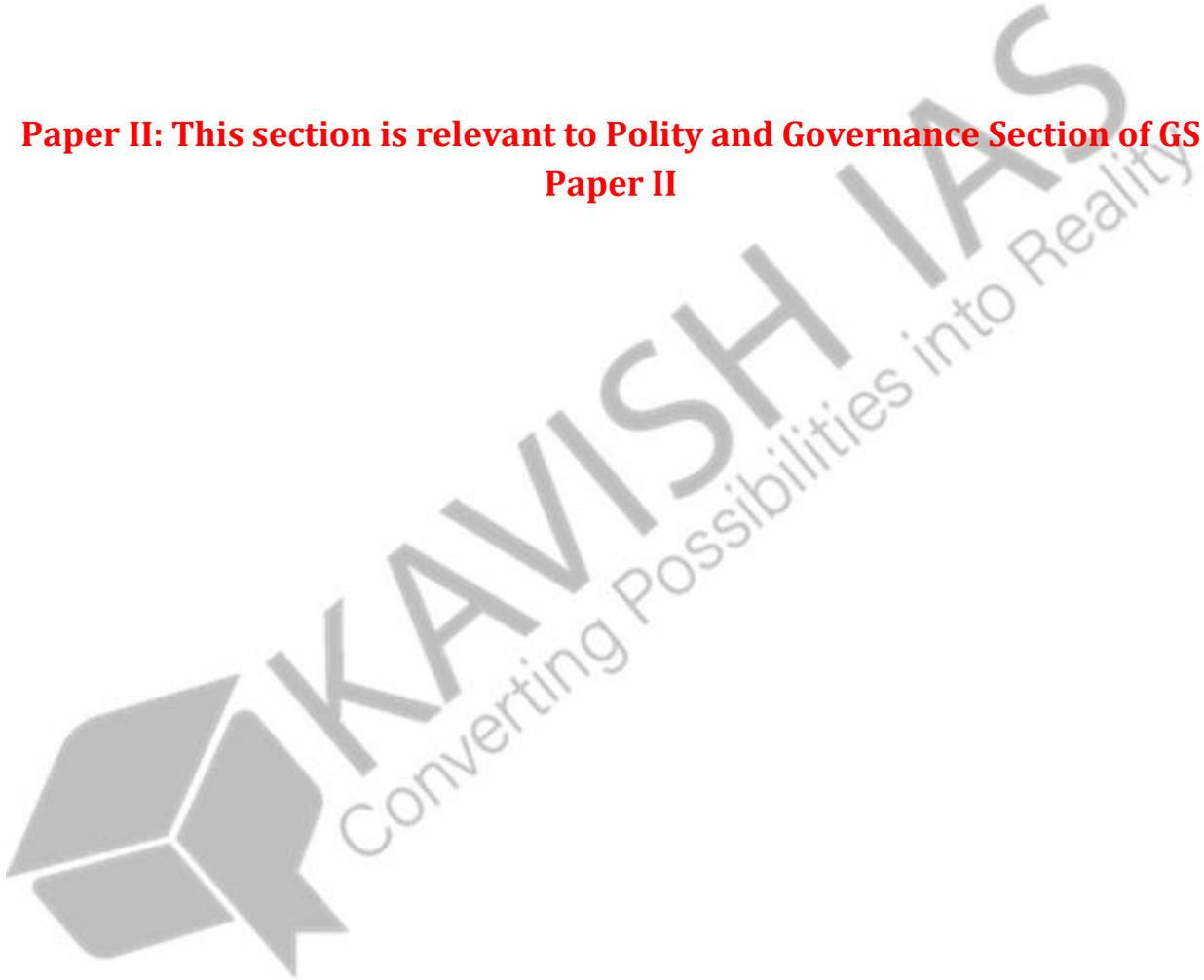
1.1 ONLINE POLITICAL ADVERTISING

Topic: Governance (Accountability and Transparency)

Why in News: Recently, Twitter's chief executive, Jack Dorsey, decided to stop all political advertising on Twitter globally.

- **Background History**

- **Political advertising is advertisements used for the purpose of appealing, directly or indirectly, for votes or for financial or other support in any election campaign. It includes usage of media from conventional to social media for this purpose.**

- **ECI in 2013 ruled that the model code of conduct and its pre-certified political advertisement rules will apply to the social media as well.** Earlier, pre-certification was restricted to print and electronic media.

- Fake news, deep fakes and political advertising are the biggest challenges threatening the fundamentals of democracy.

- In a measure to protect the democracy. Jack Dorsey, Twitter's CEO has announced to stop all political advertising on Twitter globally. However, Facebook's founder, Mark Zuckerberg says that his company as part of a "fifth estate is a new kind of force in the world" which gives the public a megaphone to "express themselves at scale (online)".

- Google in its advertising policy of India has made it mandatory to submit a pre-censorship certificate from the ECI in order to run political advertisements on its platform. **In doing so, Google has become the first Silicon Valley Company to comply with the ECI's instructions.**

❖ Electoral Laws and Digital Media

EC is empowered under Article 324 of the Indian Constitution to conduct free and fair elections in the country. Under this Article ECI draws power to regulate political advertising.

Section 43A, The Information Technology Act, 2000 provides compensation for failure to protect data by body corporate. However, it has limited applicability to political parties or to data brokers that market personal data at a massive scale. For instance, WhatsApp groups based on voter lists coupled with phone numbers and caste, gender and other sensitive information to target voters with propaganda without their consent.

It is the need of the hour that the Electoral Laws in India must be drafted specifically into a new act giving powers to the authorities to deal with ever-growing area of digital media and its

issues to ensure that the Elections are held in a truly fair and competitive manner and the true purpose of Democracy is served in a fair manner.

❖ Political Advertising needs stricter regulation

- **Democracy requires free and fair elections:**
- Voters should be given all the details they need to make an informed decision
- Misinformation is proliferated and highly emotive subjects handled in ways that could easily be construed as manipulative. This harms the spirit of fair elections.
- The distribution of this manipulative content through TV and social media is proving destructive for the democracy.

- **Self-Regulatory System has not worked:**
- Political parties are morally responsible to follow a code of conduct during elections.
- In the absence of independent controls, the only thing we are left to cling to in the hope that political campaigning follows some set of rules are the morals of politicians which is absurd.
- Politicians simply shrug off the issue and continue without any regulation
- Self-regulation model of media has failed and brought fissures to the surface and it needs to be regulated.

- **Freedom of speech does not grant the right to deceive:**
- Freedom of speech provides that political advertising should not be strictly regulated. But freedom of speech is meant to ensure protection of diversity of opinion and the individual's right to express in a reasonable manner.
- Lies, deception and treachery are not covered under freedom of speech to influence voting behavior. Manipulated content is incongruous with freedom of speech.

- **The blurred line between editorial content and advertising:**
- Advertisements must be distinguishable from editorial content. However, by mimicking the style of a news program or documentary, party political broadcasts intentionally lose that distinction.
- Advertisements are often misleading and they can cause offences.

❖ Problems
- **Targeting:** Online advertising allows, especially on social networks, personalised targeting based on multiple attributes that wasn't possible at the same level before. These platforms

make it possible to go from manufacturing consent to manipulating consent. A person is continuously fed with information to vote for a particular party.

- **Invisibility** of online political advertising: In advertising on a social media platform, not everyone gets to know the sponsor of the advertisements. These advertisements are frequently treated as content.
- Online advertising is not subject to direct regulation.
- No limit to volume of advertising or spend in respect of referendums: statutory spending limits are not in place in parliamentary or Assembly elections.
- The speed at which disinformation can be spread and accessed online means is vulnerable as online platforms present a particular risk in relation to disinformation and deliberate bias.
- Particularly in respect of **micro-targeting:**
  - Opaqueness in privacy and consent controls
  - Influencing Outcomes unlawfully or in a concealed manner

❖ Role of ECI in Regulation Online Political Advertising

There is no clarity whether the pre-censorship regime is limited to paid advertisements and not on the content posted by political parties on their social media accounts. ECI has a role to define the contours of pre-censorship regime.

The ECI must ensure parity of treatment between political advertising on social media and traditional media.

The tools like WhatsApp have no longer remained personal messaging services and emerged as mass communication services. Indian political parties are using WhatsApp for mass messaging, often with hate filled messages. How should the law classify these messages sent to persons like a chain reaction without any cost?

❖ Conclusion

To summarize the efforts taken by the EC to tackle digital media, it would not be wrong to say that the self-regulations are not enough for the social media platforms to keep an eye over the content, the EC is having a hard time to enforce its powers not having specific laws to deal with the upcoming issues like propaganda spreading, fake news, paid news, et cetera for which the use of digital media and social media is being made.

1.2 SUBSIDIES IN HIGHER EDUCATION

Topic: Responsibility of Government; Governance

Why in News: Recently, the proposed fees hike of residential hostels in Jawaharlal Nehru University (JNU) has sparked a widespread protest and controversy over subsidies in higher education.

❖ Background

- When more than fifth of the population is below official poverty limits and 93% of the workforce is engaged in unorganised sector, subsidized education provides access to quality education to the poor.
- Subsidies in education generate a host of positive externalities such as health improvement, reduction in poverty, crime and population growth.
- It directly or indirectly influences almost all facets of social life, and therefore should be viewed as a non-negotiable public good and by far the most potent social investment.
- Public expenditure on education has gone up to 4.6% in 2018 from 3.8% in 2014. It is still lowest as compared to BRICS nation's public spending on education.

❖ Advantages of Subsidies in Higher Education

- **Inclusiveness and Equity:**

Subsidies in higher education have enabled the marginalised and socio-economically backward sections of the society to get access to quality higher education which has largely been the domain of dominant groups in the society.

- **Economic:**

The subsidized education plays a significant role in building an economy as in case of India. Students engaged with research and specialised education goes on to become better contributors to the economy. Higher education boosts innovation, creative thinking and innovations.

For Example: Software segment which comprise of huge share in India's GDP is a shining example of positive externalities from subsidies in higher education.

- **Demographic Dividends:**

India is one of the youngest nations in the world comprising huge chunk of population in favourable demographic phase. However, this young populations educational and skill status is not aligned to the requirements of the market.

Therefore, subsidies in higher education sector have a greater role to play in reaping the benefits of demographic dividends.

- **Social Mobility:**

Earlier, higher education used to be the exclusive preserve of elites, and other socially and economically backward classes were deprived of higher education.

But due to the efforts made by the government (in the form of subsidies and other benefits) to make it within the reach of every social group, a large number of poor and the marginalised have to begun to express their aspirations for social mobility through access to higher public education institutions.

- **Human Capital:**

The country has developed a wide network of institutions like CSIR, IITs and Central Universities which provide quality subsidized education to the masses.

These institutions have become the nucleus of providing trained labour in propelling research and development and economic growth in the country. Students of all sections of society from these institutions went on to occupy the higher positions in government in forms of engineers, doctors, bureaucrats etc.

❖ Problem with Subsidies in Higher Education in India

- **Free Riders:** Subsidies are intended to serve the vulnerable section of society. However, it is often seen that these benefits of subsidies are exploited by middle and elite section of society.
- **Subsidies do not guarantee quality education**: Access without assured quality is no access. Also, there has been a lot of clamour that subsidies hampers meritocracy.
- **Unevenness in distribution of subsidies:** There is considerable unevenness in the distribution of public finances. Student subsidies for premier institutions like the IITs and engineering colleges are incomparably higher than those for universities and colleges, particularly for liberal arts institutions.
- **Privatization:** Private institutions are generally not likely to be amenable to measures promoting access and equity. Therefore, a large number of private education institutions remain inaccessible to economy weaker sections.

❖ Reforms Required

- **Better Targeting:** According to study conducted by Gokhale Institute, benefits can be skewed in the absence of regulation. Therefore, eliminating free riders is the biggest challenge in dissemination of subsidies.
- Technological improvement like aadhar, direct benefit transfer can be used to eliminate inclusion and exclusion errors. The third party verifications of beneficiary will help in eliminating the free riders.
- **Differential Fee Structure:** Rationalisation of fee structure according to the demand of program based on marketability, affordability and input cost and according to different income groups could pave the way for optimal utilization of subsidies.
- Providing free or subsidized higher education to students from lower income groups could pave the way for a more equitable and just society. **Some large public universities should now approach the 20% mark as recommended by the Punnayya Committee and National Knowledge Commission.**
- **Regulatory Mechanism:** A proper regulatory mechanism should be placed in order to make private institutions in line with the government's goal of making higher education accessible and affordable to vulnerable section.
- **Increase Public Spending on Education:** Per-student public funds have to increase drastically in order to maintain the principle of equity and inclusiveness.

Education is one of those genuinely long-term businesses. A public effort is needed to frame a different management style, better autonomy and accountability. Subsidies can help in improving access to higher education and bridge socio-economic divides across communities in the country. However, these must be rationalised in order to reap optimum benefits.

1.3 ELECTORAL BONDS

Topic: Accountability and Transparency (Governance); Electoral Reforms

Why in News: According to ADR figures, the largest value of electoral bonds (Rs 4,444 crore) was sold during the quarter coinciding with the Lok Sabha elections and the highest sale of Rs 2,256 crore happened in the month of May. Among the cities, Mumbai topped the list with a sale of bonds worth Rs 1,880 crore, followed by Kolkata (Rs 1,440 crore) and New Delhi (Rs 919)

❖ Electoral bonds
- Announced in the 2017 Union Budget, electoral bonds are interest-free bearer bonds that are used to donate money anonymously to political parties.

- The bonds are issued in multiples of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh and Rs 1 crore; SBI is the only bank authorised to sell them.
- Buyers can donate the bonds to a party of their choice and these can then be cashed by the party through its verified account within 15 days.
- Buyers of the bonds have to submit full KYC details at the time of buying. But the beneficiary political party is not required to reveal the identity of the entity that has given it the bond(s).

❖ **Reasons for the Introduction:**
- Prior to the electoral bonds, massive amounts of political donations were being made in cash, by individuals/corporate, using illicit means of funding.
- Hence, the scheme was introduced to keep a check on such illicit means of political funding.
- Non-disclosure of the identity of the donor is another core objective of the scheme in order to safeguard the donor from political victimisation.

However, the Election Commission and civil society have opposed the scheme and the opacity it has brought into political funding. A petition challenging the scheme is pending with the Supreme Court.

❖ **Advantages of Electoral bonds**

- It limits the use of cash in political funding, thus bringing more transparency, and provides a shield to donors by granting them anonymity.
- All payments made for the issuance of the electoral bonds are accepted only by means of a demand draft, cheque or through the Electronic Clearing System or direct debit to the buyers' account
- Thus, no black money can, therefore, be used for the purchase of these bonds.
- Furthermore, the buyers have to comply with KYC requirements, and the beneficiary political party has to disclose the receipt of this money and must account for the same.

❖ **Limitations of Electoral bonds**

- Ordinary citizens will not be able to know who is donating how much money to which political party and the bonds increase the opacity of political donations.
- There is no requirement to disclose the name of the political party to which a donation has been made in the profit and loss accounts of companies.
- Corporate funding has increased manifold, as there is now no limit to how much a company, including loss-making ones, can donate. This opens up the possibility of

companies being brought into existence by unscrupulous elements primarily for routing funds to political parties through anonymous and opaque instruments like electoral bonds.

1.4 CJI UNDER RTI

Why in News: The Supreme Court has ruled that the office of the Chief Justice of India (CJI) is a "public authority" under the Right to Information (RTI) Act. However, it has put in caveats of "judicial independence, privacy and genuine public interest" to protect judges and judiciary. In three separate but concurring judgments, by a five-judge Constitution Bench headed by Chief Justice Ranjan Gogoi, it has upheld a Delhi High Court ruling of 2010.

❖ Background

- The judgment pertained to three cases based on requests for information filed by Delhi-based RTI activist Subhash Agarwal, all of which eventually reached the Supreme Court.
- In one of these, Agarwal had asked whether all Supreme Court judges had declared their assets and liabilities to the CJI following a resolution passed in 1997.
- While the CPIO of the Supreme Court said the office of the CJI was not a public authority under the RTI Act, the matter reached the Chief Information Commissioner (CIC) where a full Bench, in January, 2009 directed disclosure of information.
- The Supreme Court approached the Delhi High Court against the CIC order and the High Court held in September, 2009 that "the office of the Chief Justice of India is a public authority under the RTI Act and is covered by its provisions".
- The Supreme Court then approached a larger Bench, which passed its judgment in January, 2010 holding that the judgment of Justice Bhatt was "both proper and valid and needs no interference".

❖ Matter reaches the Supreme Court
- The Supreme Court in 2010 petitioned itself challenging the Delhi High Court order. The matter was placed before a Division Bench, which decided that it should be heard by a Constitution Bench.
- The Constitution Bench remained pending across the tenures of many Chief Justices since then.
- CJI Gogoi finally constituted the Bench in 2018.

- **CJI is not separate from the Supreme Court:**

The Court stated that the office of the CJI, or for that matter the judges, is not separate from the Supreme Court, and is part and parcel of the Supreme Court as a body, authority and institution.
The CJI and the Supreme Court are not two distinct and separate 'public authorities', and the Chief Justice and judges together form and constitute the 'public authority', that is the Supreme Court of India."

- **Privacy vis-a-vis Transparency:**

The Bench, however, held that the right to know under RTI was not absolute. The right to know of a citizen ought to be balanced with the right to privacy of individual judges.

The Court held that RTI cannot be used as a tool of surveillance and that judicial independence has to be kept in mind while dealing with transparency.

- **The test of public interest:**
- On this aspect, one of the judges held that personal information of judges should only be divulged under RTI if such disclosures clear the cardinal public interest test.
- The disclosure of personal information is discretionary under Section 8(1)(j) of the RTI Act and the statute has given the discretion to the Public Information Officer (PIO).
- Another judge listed certain "non-exhaustive factors" for the PIO to consider while deciding whether the information sought was private. These factors include various criteria from the nature of the information sought to its impact on the private life of the judge.

- **Disclosure of Personal assets:**
- The Bench upheld the Delhi High Court judgment of 2010 that the CJI does not hold information on the personal assets of fellow judges in a fiduciary capacity.
- Further, the Information held by a person in a fiduciary capacity is exempt from disclosure under RTI.
- One judge noted that the judges of the Supreme Court are constitutional offices and not a hierarchy, and that the judges who disclose their assets cannot be said to be vulnerable to and dependent on the Chief Justice of India.

❖ **Impact of the Judegment**
- The outcome of the judgement is that the office of the CJI will now entertain RTI applications.

- However, whether a public authority discloses the information sought or not will only be known in the near future.
- For example, offices of the Prime Minister and the President too are public authorities under the RTI Act. But public authorities have often denied information quoting separate observations by the Supreme Court itself in 2011.
- **Could lead to more transparency in appointment of Judges:**
- Justice Chandrachud said the basis for selection and appointment of judges to higher judiciary must be defined and placed in the public realm.
- Placing the criteria in the public domain would fulfill the purpose and mandate of Section 4 of the RTI Act.
- The publicity of the norms would foster a degree of transparency and promote accountability in decision-making at all levels within the judiciary and government.
- It would also engender public confidence in the process and provide a safeguard against extraneous considerations entering into the process.

❖ Public Authority

- **A "public authority" means any authority or body or institution of self- government established or constituted:**
- by or under the Constitution
- by any other law made by Parliament
- by any other law made by State Legislature
- by notification issued or order made by the appropriate Government, and includes any
- body owned, controlled or substantially financed
- Non-Government organization substantially financed, directly or indirectly by funds provided by the appropriate Government.

1.5 PRESIDENT RULE

Why in News: The Prime Minister used special powers to put in motion the process to revoke the proclamation of President's rule in Maharashtra without the prior approval of the Union Cabinet.

❖ Background

- After the elections to the Maharashtra in October, 2019, no party or coalition was able to form the government due to lack of support of a majority of MLAs.

- As a result, in mid-November of 2019, the Maharashtra Governor deemed that a situation had arisen in which it was impossible to form a stable government in the State, and the government could not be carried on in accordance with the provisions of the Constitution.
- Soon after the Governor's report was sent, the Union Cabinet led by the Prime Minister approved a recommendation to the President to issue a proclamation under Article 356(1) of the Constitution.
- Consequently, the Indian President approved a proclamation imposing President's Rule in Maharashtra.

❖ President's Rule:

- Article 355 imposes a duty on the Centre to ensure that the government of every state is carried on in accordance with the provisions of the Constitution.
- In order to perform this duty, the Centre takes over the government of a state under Article 356 in case of failure of constitutional machinery in the state.
- Article 356 empowers the President to issue a proclamation, if he is satisfied that a situation has arisen in which the government of a state cannot be carried on in accordance with the provision of the Constitution.
- This is popularly known as President's Rule. It is also known as State Emergency or Constitutional Emergency.
- In this regard, the President can act either on a report of the governor of the state or otherwise too i.e. even without the governor's report.

Early morning on the 23rd of November, President's rule in Maharashtra was revoked (that was imposed on 12th of November) by the President using the powers conferred by clause (2) of Article 356 of the Constitution. The Governor then administered oath to Devendra Fadnavis as CM after he was able to show the support of sufficient number of MLAs.

❖ Use of Special powers by the PM

- Usually, the revocation is done with the prior approval of the Union Cabinet. However, in this instance, the Prime Minister used special powers to bring about revocation of President's rule in Maharashtra without the prior approval of the Union Cabinet.
- For this, the Centre invoked Rule 12 of the Transaction of Business Rules, 1961.
- Rule 12 pertaining to "Departure from Rules" says the "Prime Minister may, in any case or classes of cases permit or condone a departure from these rules, to the extent he deems necessary."

❖ Debate on the move

- **Against the move:** Some lawyers have raised several constitutional questions regarding the events that led to the formation of the government in Maharashtra. They say that "constitutional process" was violated and that the Governor had acted hastily.
- **In support of the move:** Other lawyers say that Governor had no means to ignore the claim by the largest party to form the government once the support of MLAs was shown.

❖ Significant notes on the formation of the government and Governor's role

- **The Sarkaria Commission on Centre-state relations:** The Commission dealt with this issue and emphasised that "the governor, while going through the process of selection as described, should select a leader who, in his (governor's) judgement, is most likely to command a majority in the Assembly. The Governor's subjective judgement will play an important role."
- **The Supreme Court: The Supreme Court in Rameshwar Prasad judgement in 2006 had said,** "If a political party with the support of other political party or other MLA's stakes claim to form a government and satisfies the governor about its majority to form a stable government, the governor cannot refuse formation of government and override the majority claim because of his subjective assessment that the majority was cobbled by illegal and unethical means. No such power has been vested with the governor. Such a power would be against the democratic principles of majority rule."

INTERNATIONAL RELATIONS

❖ **Paper II (GS): All the Articles of this section are relevant to the following topics:**

- **India and its Neighbourhood – Relations**
- **Bilateral, Regional and Global Groupings and Agreements involving India and / or affecting India's Interests**

- **Prelims Oriented Questions and Places in News for Maps/ Matching**

2.1 MULTI TRACK DIPLOMACY

Why in News: The UAE is fast becoming an exceptional case study in international relations and diplomacy, showcasing how a 'small' country can punch above its weight by shaping a dynamic foreign policy vision. In its back-drop, UAE is helping India and Pakistan in easing the tensions through the multi-track diplomacy mechanism.

Multi Track Diplomacy

- Multi-Track Diplomacy is a conceptual way to view the process of international peacemaking as a living system. It looks at the web of interconnected activities, individuals, institutions, and communities that operate together for a **common goal: a world at peace.**
- In multi-track diplomacy, all sectors of society are important and need to be involved, supported, listened to, and trained in a shared language of dialogue, conflict resolution, and peace building in order to prevent or end violent conflict. It is an entanglement of

interconnected activities, individuals, institutions, and communities that operate together for world at peace.

Aim: **To show that there are different types of actors that performs complementary roles in peacemaking.**

❖ Why:

- In the last decade, the international community has been faced with more guerrilla warfare, attempts at secession and other types of intra-state violence. The traditional practices of diplomacy (formal meetings between official representatives of states) are ill-equipped to deal with these challenges.
- The tension between India and Pakistan can be eased by employing multi-track diplomacy.

❖ Structure of Multi-Track Diplomacy

Multi-Track Diplomacy consists of nine complementary 'tracks'. These are:

- Governments
- Professional organizations
- The business community
- Citizens
- Training, research and educational institutions
- Activists
- Religious Organisations
- Funding
- Media

Track 1
Government

Track 8
Funding

Track 2
Professional Conflict Resolution

Track 7
Religion

Track 9
Media & Public Opinion

Track 3
Business

Track 6
Peace Activism

Track 4
Private Citizens

Track 5
Research, Training & Education
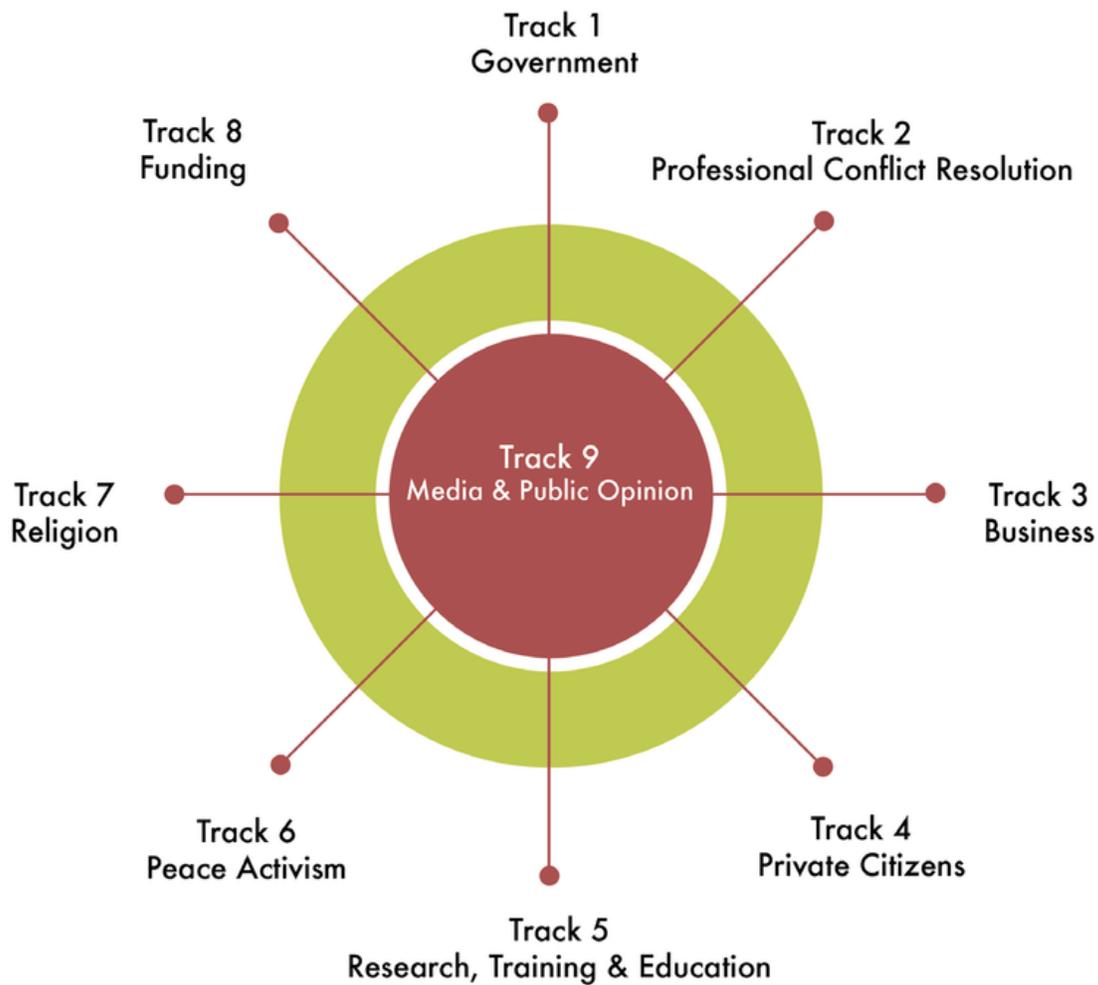
- An example of Multi-Track Peacebuilding is the secret Oslo negotiations between the PLO (Track One) and the Israeli Government (Track One). In the start-up of this process there was co-operation between private citizens (Track Four), Ron Pundik and Yaer Hirshfeld, with FAFO (Norwegian Institute for Applied Social Science) (Track Five). They in turn had close contact with the Norwegian Foreign Ministry who were in contact with the State Department of the USA (both Track One). Because the contacts were facilitated by FAFO, the parties could deny having official contacts and make progress in a way that was not deemed possible with official (only track one) diplomacy.
- The short lines of communication between the Norwegian Foreign Ministry and the different NGOs have made Norwegian involvement in peace-building efforts remarkably successful. It is a very good example of multi-track diplomacy.

- Of course, depending on the circumstances of a particular conflict, different tracks can be involved in peace-building effort. In some conflicts, it can be people from churches (track 7) that act as intermediaries between the conflict parties, if other third parties do not have a chance of playing this role

Multi-track Diplomacy uses a holistic and participatory approach to assess the key variables in deep-rooted conflicts and post-conflict settings. It is focused on identifying and understanding the causes of conflict within a nation. It promotes the breaking down of stereotypes and other barriers to peace by providing conflicting groups with the following skills:

- Transforming the view/perception of the adversary
- Developing mutual understanding between conflicting parties
- Building trust between adversaries
- Reconciling past grievances
- Negotiation
- Creating cultural awareness

2.1 BRICS

Why in News: PM Modi at BRICS: India world's most open, investment friendly economy. Addressing the BRICS business forum, PM Narendra Modi described India as the world's most open and investment-friendly economy, and urged Brics business leaders to invest in it.

❖ BRICS
- BRICS is the group composed by the five major emerging countries - Brazil, Russia, India, China and South Africa.
- The first BRIC summit was held at Yekaterinburg in Russia in 2009. In 2011, after the entry of South Africa, the "S" was added to the acronym and the grouping became known as BRICS.

- The 5 nations together represent about 42% of the population, 23% of GDP, 30% of the territory and 18% of the global trade.
- Throughout its first decade, BRICS has developed sectorial cooperation in different areas, such as science and technology, trade promotion, energy, health, education, innovation and fight against transnational crime. Currently, sectorial cooperation, which covers more than

30 subject areas, brings important concrete benefits to the populations of the five countries.

- At the Fortaleza Summit (2014), in Brazil, important institutions were created: the New Development Bank (NDB) and the Contingent Reserve Arrangement (CRA).

❖ BRICS Summits:

- The heads of the government of the 5 BRICS nations attended the 11th BRICS Summit in Brasilia, Brazil.
- There were 10 previous BRICS summits, the last three being Goa Summit in India in 2016, Xiamen Summit in China in 2017 and Johannesburg Summit in 2018 in South Africa.
- PM Modi addressed the plenary session of the 11th BRICS Summit at the iconic Itamaraty Palace. He also addressed the BRICS business forum.

❖ Highlights:

- **Terrorism:**
- At the BRICS summit, PM Modi highlighted the issue of terrorism, and noted that it has emerged as the biggest threat to development, peace and prosperity.
- He highlighted that terrorism has caused a loss of $1 trillion to the world economy, and in 10 years, terrorism had claimed the lives of 2.25 lakh people and destroyed societies.
- The atmosphere of doubt created by terrorism, terror-financing, drug-trafficking and organised crime indirectly and deeply harms trade and business.
- He welcomed increased cooperation against terrorism and other organised crimes from the members of the grouping.
- He expressed happiness that the first seminar on BRICS Strategies for Countering Terrorism was organised.

- **Trade and Investment:**

PM Modi called for special attention to mutual trade and investment, saying intra-BRICS trade accounts for 15% of the world trade, while its combined population is 40% of the world's population.

- **Joint ventures of BRICS:**

PM Modi suggest that by the next BRICS Summit, at least five such areas should be identified in which joint ventures can be formed between us on the basis of complementarities. For example, he said that BRICS should deliberate on mutual social security agreement.

- **Sanitation:**
- Mr. Modi said sustainable water management and sanitation were important challenges in urban areas.
- To address the challenges, he proposed to hold the first meeting of BRICS Water Ministers in India.

- **Fitness and Health:**
- He noted that India had recently started 'Fit India Movement'.
- He called for increased contacts and exchanges between the nations in the field of fitness and health.

- **Call for investment in India:**
- PM Modi noted that India is aiming to become a five trillion-dollar economy by 2024.
- For this, the infrastructure sector alone requires $1.5 trillion investment. He described India as the world's most open and investment-friendly economy due to political stability, predictable policy and business friendly reforms.
- Terming India a land of limitless opportunities, the prime minister urged the business leaders of the BRICS nations to invest in India, particularly in its infrastructure development.

The BRICS cooperation has two pillars:

- Consultations on issues of mutual interest through meetings of leaders and ministers and
- Cooperation through meetings of senior officials in areas including trade, finance, health, education, technology, agriculture, and IT.

Significance of BRICS:

- BRICS now brings together five economies accounting for 42% of the world's population, 23% of the global GDP and an around 17% share of world trade. These countries face an aggressive club of developed countries, raising challenges on issues from WTO to climate change. Hence, BRICS has emerged the voice of developing countries, or the global south and will help in protecting the rights of the developing countries.

2.3   WEST BANK

Why in News: The US administration recently declared that the S. does not consider Israeli settlements in the West Bank a violation of international law, reversing four decades of U.S. policy. It said that the issue must be solved by the Israelis and the Palestinians and arguments about who is right and wrong as a matter of international law will not bring peace.

❖ Background

- The West Bank, a patch of land about one and a half times the size of Goa, was captured by Jordan after the 1948 Arab-Israeli War. Israel snatched it back during the Six Day War of 1967, and has occupied it ever since.
- It has built some 130 formal settlements in the West Bank, and a similar number of smaller, informal settlements have mushroomed over the last 20-25 years.
- Over 4 lakh Israeli settlers — many of them religious Zionists who claim a Biblical birthright over this land — now live here, along with some 26 lakh Palestinians.
- Palestinians have demanded the land for a future state, a goal that has been backed by the UN, European governments and U.S. allies across West Asia.
- The two-state solution has been a primary focus of past peace plans, calling for a separate state for Palestinians.

❖ Global stand on the Israeli settlements

- The United Nations General Assembly, the UN Security Council, and the International Court of Justice have said that the West Bank settlements are violative of the Fourth Geneva Convention.
- Under the Fourth Geneva Convention (1949), an occupying power "shall not deport or transfer parts of its own civilian population into the territory it occupies".
- Under the Rome Statute that set up the International Criminal Court in 1998, such transfers constitute war crimes.
- As does the "extensive destruction and appropriation of property, not justified by military necessity and carried out unlawfully and wantonly".
- Under the Oslo Accords of the 1990s, both Israel and the Palestinians agreed that the status of settlements would be decided by negotiations. But the negotiations process has been all but dead for several years now.

❖ What was the American stand earlier:

- In 1978, when Jimmy Carter was President, the State Department concluded that the Israeli settlements were "inconsistent with international law".
- Shortly after taking office in 1981, President Ronald Reagan said that he did not believe the settlements were illegal but called new Israeli communities in Palestinian territory "unnecessarily provocative".
- Thereafter, the United States took the line that the settlements were "illegitimate", not "illegal", and repeatedly blocked UN resolutions condemning Israel for them.
- In 2016, President Barack Obama broke with this policy — and the US did not veto a resolution that called for an end to Israeli settlements.

❖ Impact of the US' new stand:

- The direct impact on the ground may be limited but analysts say it will further embolden the settlement movement.
- Those who support the right of Israelis to settle in the West Bank are likely to see the decision as an endorsement.
- It will further boost Prime Minister Benjamin Netanyahu, who has promised sweeping annexations in the West Bank.

SECURITY AND DEFENCE

❖ **Paper III: This section is relevant to the following topics:**

• **Linkages between development and spread of extremism.**
• **Role of external state and non-state actors in creating challenges to internal security.**
• **Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention**
• **Security challenges and their management in border areas; linkages of organized crime with terrorism**
• **Various Security forces and agencies and their mandate**

❖ **Prelims Oriented Questions**

3.1 BODOLAND DISPUTE

Why in News: The central government recently extended the ban on the Assam-based insurgent group National Democratic Front of Bodoland (NDFB) by five more years.

The Home Ministry has also declared the NDFB along with all its groups, factions, and front organisations as an "unlawful association" under the Unlawful Activities (Prevention) Act, 1967.It did so for its involvement in a series of violent activities including killings and extortion, and for joining hands with anti-India forces.

❖ BODOS
- The Bodos are an ethnolinguistic group in the state of Assam. They are a part of the greater Bodo-Kachari family of ethnolinguistic groups and are spread across northeastern India and clustered strongly in Assam, along the eastern Duars.
- Bodos are the single largest tribal community in Assam, making up over 5-6 per cent of the state's population. They have controlled large parts of Assam in the past. The Bodo people speak the Bodo language, a Tibeto-Burman language recognized as one of twenty-two scheduled languages in the Indian Constitution.
- The four districts in Assam — Kokrajhar, Baksa, Udalguri and Chirang — that constitute the Bodo Territorial Area District (BTAD), are home to several ethnic groups.

Map not to scale
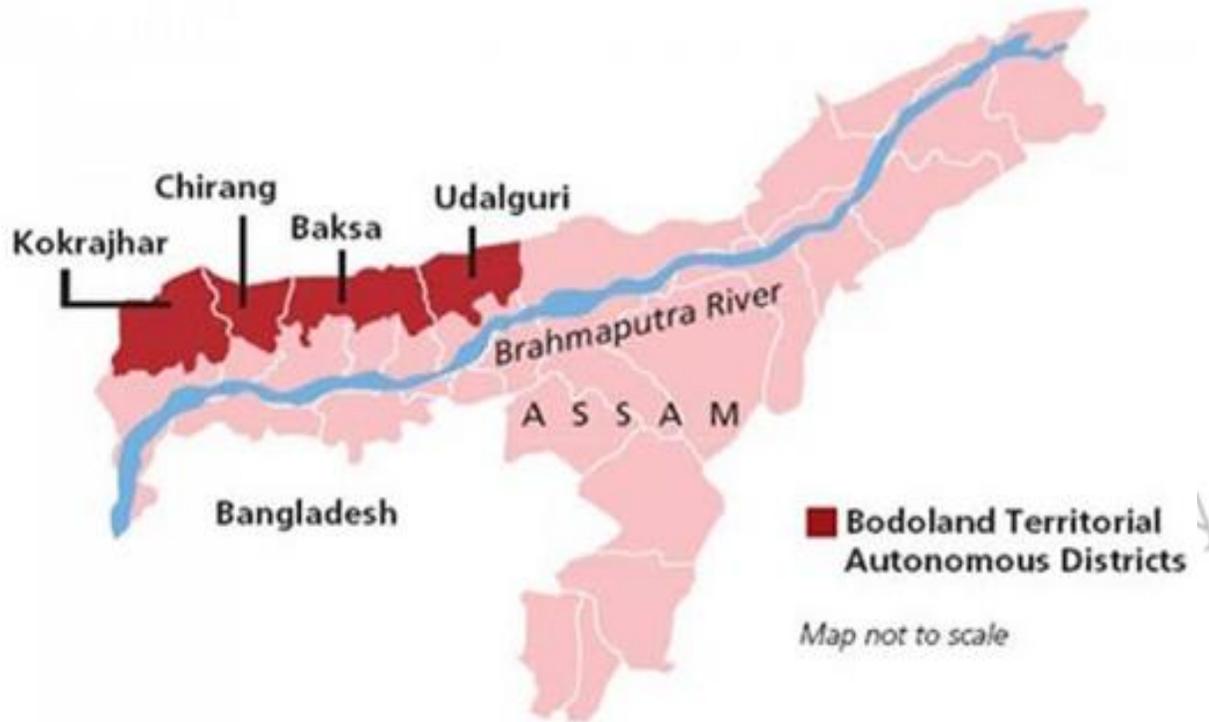
❖ The Bodoland Dispute

- The Bodos have had a long history of separatist demands, marked by armed struggle.
- In 1966-67, the demand for a separate state called Bodoland was raised under the banner of the Plains Tribals Council of Assam (PTCA), a political outfit.
- In 1987, the All Bodo Students Union (ABSU) renewed the demand. "Divide Assam fifty-fifty", was a call given by the ABSU's then leader, Upendra Nath Brahma.
- The unrest was a fallout of the Assam Movement (1979-85), which culminated into the Assam Accord.
- The Assam Accord addressed the demands of protection and safeguards for the "Assamese people". This lead the Bodos to launch a movement to protect their own identity.

3.2 NATGRID

Why in News: The central government has informed the Lok Sabha that the ambitious National Intelligence Grid (NATGRID) project will be operational by December 31, 2020.The NATGRID links intelligence and investigation agencies.

The project, initially started in 2009 with a budget of Rs 2,800 crore, is an online database for collating scattered pieces of information and putting them together on one platform.

❖ Background

- The project to take up the NATGRID was initiated post Mumbai 26/11 attack to mitigate vital deficiency in intelligence gathering and analysis.
- Lack of real time information was considered to be one of the major hurdles in detecting US terror suspect David Headley's movement across the country during his multiple visits to India, in preparation for the attack.

❖ National Intelligence Grid (NATGRID)

- NATGRID is an ambitious counter terrorism program set up to track any terror suspect and prevent terrorist attacks with real-time data.
- It will utilize technologies like Big Data and analytics to study and analyse the huge amounts of data from various intelligence and enforcement agencies to help track suspected terrorists and prevent terrorist attacks.
- **Data providers:** The NATGRID will have data related to all immigration entry and exit, banking and financial transactions, credit card purchases, telecom, individual taxpayers, air flyers, train travellers besides others to generate intelligence inputs.
- **User agencies:** The 10 agencies which will be able to access the NATGRID data on real-time basis are:
  - Intelligence Bureau (IB)
  - Research & Analysis Wing (R&AW)
  - Central Bureau of Investigation (CBI)
  - Enforcement Directorate (ED)
  - Directorate of Revenue Intelligence (DRI)
  - Financial Intelligence Unit (FIU)
  - Central Board of Direct Taxes (CBDT)
  - Central Board of Excise and Customs (CBEC)
  - Directorate General of Central Excise and Intelligence (DGCEI)
  - Narcotics Control Bureau (NCB)

Initially, no state agencies will be given direct access to the NATGRID data. However, whenever any relevant information is required, they can approach the NATGRID through any of the 10 user agencies.

ECONOMY

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.**
- **Inclusive growth and issues arising from it.**
- **Government Budgeting.**
- **Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.**
- **Infrastructure: Energy, Ports, Roads, Airports, Railways etc.**
- **Investment models.**

4.1 NBFC

Why in News: NBFCs asked to maintain liquidity buffer; minimum stock of HQLAs to be held fixed Reserve Bank of India (RBI) released its guidelines for the asset liability management (ALM) framework of non-banking financial companies (NBFCs).

The liquidity risk management guidelines should be adhered to by:

- All non-deposit taking non-banking financial companies (NBFC-NDs) with asset size of Rs 100 crore and above
- All deposit taking NBFCs
- Systemically important core investment companies

Further, as a matter of prudence, all other NBFCs are also encouraged to adopt these guidelines on liquidity risk management on voluntary basis.

❖ **Important Terms**

➤ **Liquidity Coverage Ratio (LCR):** LCR refers to the proportion of highly liquid assets held by financial institutions, to ensure their ongoing ability to meet short-term obligations.

- LCR is a requirement under Basel III whereby banks are required to hold an amount of high-quality liquid assets enough to fund cash outflows for 30 days
- LCR is a stress test that aims to anticipate market-wide shocks and ensure that financial institutions possess suitable capital preservation to ride out any short-term liquidity disruptions.

➢ **High Quality Liquid Asset (HQLA) –** Liquid assets that can be:
- Readily sold or immediately converted into cash at little or no loss of value
- Used as collateral to obtain funds in a range of stress scenarios

  Asset Liability Management (ALM) framework – ALM is a mechanism to address the risk faced by a bank due to a mismatch between assets and liabilities either due to liquidity or changes in interest rates.
- That is, ALM framework is the process of managing the use of assets and cash flows to reduce the firm's risk of loss from not paying a liability on time.

ASSET LIABILITY MANAGEMENT (ALM)

Asset Liability Management Cycle: Get Data → Calculate Cash Flows → Structure Portfolios → Evaluate Revenue/Risks → Develop Strategies → Make Decisions → Monitor Results

❖ A note on difference between NBFC-NDs and other NBFCs

A Non-Banking Financial Company (NBFC) is a company engaged in the business of:

- Loans and advances
- Acquisition of shares/stocks/bonds/debentures/securities issued by Government or local authority or other marketable securities of a like nature, leasing, hire-purchase, insurance business, chit business
- It does not include any institution whose principal business is that of:
    - Agriculture activity
    - Industrial activity
    - Purchase or sale of any goods (other than securities) or providing any services
    - Sale/purchase/construction of immovable property.

- They are registered under the Companies Act, 1956.

- **NBFC-NDs are effectively NBFCs that do not raise public deposits.**

➢ **Systemically Important Core Investment Companies(CIC-ND-SI)**

A Systemically important core Investment Company means a Core Investment Company fulfilling both the following conditions:

- Having total assets of not less than Rs.100 crore, either individually or in aggregate along with other Core Investment Companies in the Group.
- Raises or holds public funds

➢ **Core Investment Companies (CIC) are those** companies that have their assets mainly as investments in shares for holding stake in group companies but not for trading, and also do not carry on any other financial activity.
- CICs have a minimum 90% of their assets in the group concerns either in the form of equity, preference shares or convertibles bonds or loans.
- Further the component of equity holdings should not be less than 60% of their assets.

NOTE: KINDLY HAVE CLARITY ON THESE TOPICS USING AUTHENTIC SOURCES

4.2 RCEP

Why in News: India has announced its decision of not joining the mega Regional Comprehensive Economic Partnership (RCEP) agreement.

- Stand: The present form of the RCEP Agreement does not fully reflect the basic spirit and the agreed guiding principles of RCEP.
- Furthermore, it does not address satisfactorily India's outstanding issues and concerns.
- However, a joint leaders' statement indicated that despite India's "unresolved" outstanding issues, other countries were prepared to go ahead with the RCEP agreement.

❖ **RCEP**
- The Regional Comprehensive Economic Partnership (RCEP) is a trade deal that is currently under negotiation among 16 countries.
- It includes 10 member countries of the Association of Southeast Asian Nations (ASEAN), and the six countries with which the ASEAN bloc has free trade agreements (FTA).

❖ Purpose of RCEP

- The purpose of RCEP is to create an integrated market spanning all 16 countries, making it easier for products and services of each of these countries to be available across this region.
- The deal will provide a framework aimed at lowering trade barriers and securing improved market access for goods and services for businesses in the region.
- The negotiations are focused on areas like trade in goods and services, investment, economic and technical cooperation, intellectual property, competition, dispute settlement, e-commerce, and small and medium enterprises

❖ Significance of RCEP

- It accounts for around 30% of global GDP, 30% of global trade, 26% of foreign direct investment (FDI) flows and 45% of the total population.
- RCEP's share of the global economy could account for half of the estimated $0.5 quadrillion global (GDP, PPP) by 2050.
- India's exports to RCEP account for about 15% of its total exports and imports from RCEP comprise 35% of total imports.
- The initiative is the largest FTA negotiation in Asia, and the biggest FTA negotiation that India has ever participated in. If negotiated successfully, it would create the world's largest trading bloc.

❖ Issues
- All the RCEP participating countries, except for India, have "concluded" text-based negotiations for all 20 chapters of the proposed deal, as well as their market access issues.
- But India has held back because of "significant outstanding issues, which remain unresolved".
- Throughout the RCEP negotiations, several sections of the Indian industry have raised concerns over India signing the deal.
- They have argued that some domestic sectors may take a hit due to cheaper alternatives from other participant countries. For instance, the dairy industry was expected to face stiff competition from Australia and New Zealand. Similarly, steel and textiles sectors have also demanded protection.

❖ Concerns
- There is fear that some domestic sectors may be hit by cheaper alternatives from other RCEP countries.

- Indian exporters may not gain much as agreements with other major countries such as ASEAN members, Japan and South Korea are already in place.
- Critics are also not confident that India would be able to take advantage of the deal, given its poor track record of extracting benefits from the FTAs with these countries. And it is feared that India's trade gap with these countries may widen if it signs the RCEP deal.

❖ The China factor

- China is India's biggest trading partner, accounting for almost 10% of overall trade. Sino-Indian bilateral trade increased from a mere $1.8 billion in FY2000 to $72 billion in FY2017.
- RCEP will only end up opening the market to China, with which India has a massive trade deficit. Of India's $105-billion trade deficit with RCEP countries, nearly half was with China.
- With China, India's trade seems to be skewed and China's capacity overhang in most sectors may lead to a surge of imports into India with very limited access for Indian exports to the Chinese market.
- At a time of growing protectionism and the US' stance towards China, opening the market to China can be prove to be disastrous, given that proper standards and processes are not in place in India.
- Many fear that the new rules being used in RCEP will make it easier for Chinese goods to be routed into India via a third country. While India will lower import duty on 80% of goods coming from China over a 20-year period, in case of ASEAN countries, the coverage will be around 90%. So if a Chinese company cannot export an item into India at a concessional duty, it may just route it through Vietnam.

❖ Market Access for India

- India has also not received any credible assurances on its demand for more market access, and its concerns over non-tariff barriers.
- RCEP participants like China are known to have used non-tariff barriers in the past to prevent India from growing its exports to the country.

Insignificant gains on the Services front

- While more services trade may be touted as the big takeaway from RCEP, experience with Singapore and Asean shows that Indian professionals have not gained much.
- For instance, Singapore had virtually stopped issuing visas to Indian IT professionals, although it had committed to it under the FTA.
- India's demands on services have not found much traction and suggestions such as visa-free travel in the region for Indian businessmen have been trashed by negotiators from other countries, although the facility is available to the Chinese.

In any case, negotiators from other countries have focused on extracting more on goods trade than offering any openings on services.

INDIA'S TRADE WITH RCEP COUNTRIES (2018-19, $ bn)

	India's exports	Imports	Trade deficit
China	16.8	70.3	53.5
Asean	37.5	59.3	21.8
South Korea	4.7	16.8	12.1
Australia	3.5	13.1	9.6
Japan	4.9	12.8	7.9
New Zealand	0.4	0.6	0.2

RCEP
$67.8bn
$172.9bn
105.1

Source: Commerce dept
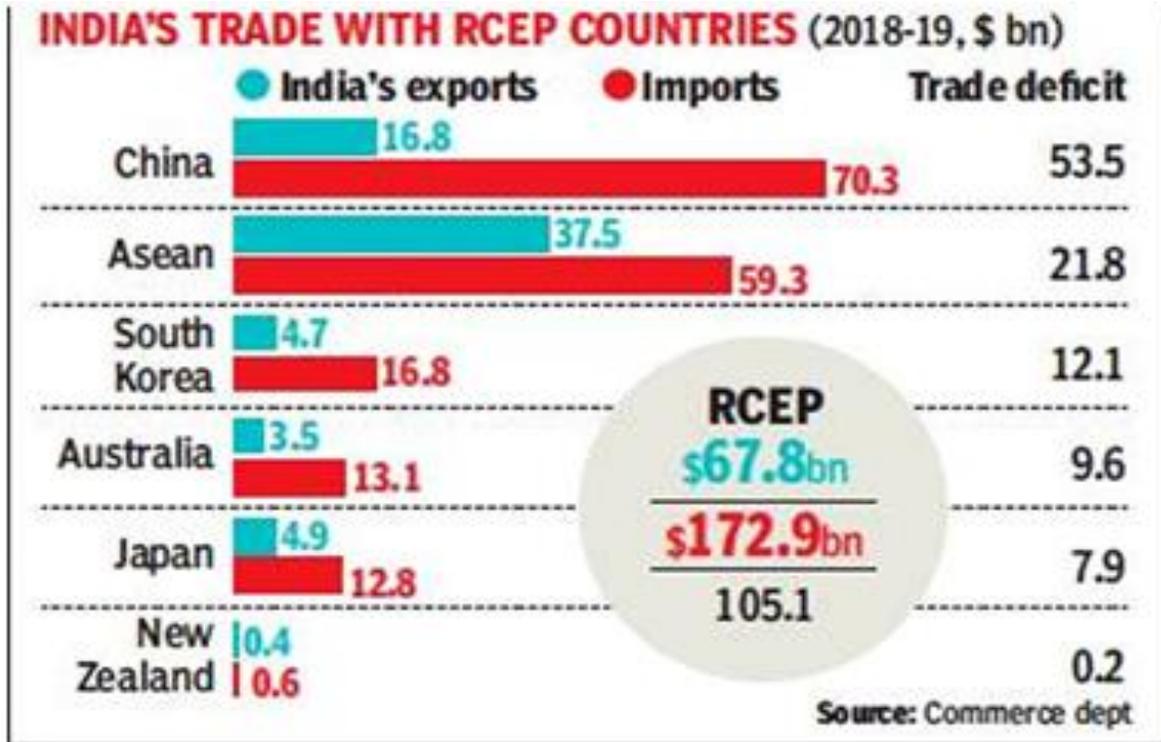
❖ **Base year negotiation**

- During negotiations, it was also not able to get a favourable outcome on its demands on the base year that would be used to reduce the tariffs on the products.
- India had sought to safeguard the interests of its domestic industry through measures like seeking a 2014 base year for tariff reductions instead of 2013, when negotiations on RCEP began.
- As it has raised import duties on several products between 2014 and 2019. Using a base year before 2014 would mean a drastic drop in the import duties on these products.

❖ **Past experience**

The Indian resistance can further be traced to the disappointing outcomes of earlier FTAs with Singapore, Malaysia, Japan and Korea. Indian industry accuses these FTAs of largely increasing imports into India from regional markets.

India runs a trade deficit with 10 of the 16 RCEP countries at a whopping $104 billion — 64 per cent of India's total trade deficit in 2017-18. Moreover, this deficit has reportedly been growing in the past few years.

❖ Way Ahead

- By walking out of RCEP, India has signaled to its trade allies that it is unwilling to do business on their terms but remains open for business.
- The idea is to be selective, especially with countries with which India has a massive trade deficit, such as China.
- The Indian government is expected to pursue separate trade agreements with some of the countries that will be part of the bloc, such as Australia and New Zealand.
- It will also explore agreements where negotiations have not made substantial progress in recent years, such as the European Union.
- As all other RCEP nations have agreed to sign the treaty on the terms negotiated, they will likely try to persuade India to agree to the same. It remains to be seen whether those efforts ultimately bear fruit.

4.3 CORE SECTOR

Why in News: Core sector output falls 1st time in 4 years. The eight core sectors reported their worst decline in at least eight years, shrinking 5.8% in October. The fall is the sharpest since the start of the new data series using 2011-12 as the base year.

❖ Index of Industrial Production (IIP)

- Index of Industrial Production (IIP) shows the performance of different industrial sectors of the Indian economy.
- The IIP is estimated and published on a monthly basis by the Central Statistical Organization (CSO) of the Ministry of Statistics and Program Implementation..
- The base year for the current series of IIP is 2011-12.
- It is published monthly with a time lag of six weeks from the reference month.
- As an all India index, it gives general level of industrial activity in the economy. It is a short term indicator of industrial growth till the results from Annual Survey of Industries (ASI) and National Accounts Statistics (Example: GDP) are available.

❖ Importance of Index of Industrial Production:

- The IIP is used by public agencies including the Government agencies/ departments including that in the Ministry of Finance, the Reserve Bank of India etc. for policy purposes.
- The all-India IIP data is used for estimation of Gross Value Added (GVA) of manufacturing sector on quarterly basis.
- Similarly, the data is also used extensively by analysts, financial intermediaries and private companies for various purposes.
- It is crucial considering the IIP is the only measure on the physical volume of production.

❖ Core Industries

- The core sector is an aggregate of 8 core sectors that are fundamental to the Indian economy.
- These are Electricity, Steel, Refinery products, Crude oil, Coal, Cement, Natural gas and Fertilisers.
- These 8 sectors constituting the core sector are important because they account for nearly 40.27% of the overall IIP and hence have long term repercussions for corporate profit growth as well as for the overall GDP growth.
- The growth of the country's eight core sectors is a lead indicator of the monthly industrial performance.
- Core sectors and their weights in their 40.27% contribution to the calculation of IIP

Sector	Weight
Coal	10.3
Crude Oil	9.0
Natural Gas	6.9
Refinery Products	28.0
Fertilizers	2.6
Steel	17.9
Cement	5.4
Electricity	19.9
Overall Index	**100**

- According to recent data released by the Commerce and Industry Ministry, the core sectors saw a second straight month of contraction.
- The slump in the eight core sectors in October to 5.8% was even worse than September, when the index saw a 5.2% decline.
- According to data shared by the Commerce Ministry, overall growth has been hit by declining production in most core sectors, especially a steep drop in electricity production.
- Only two industries: fertilizer and refinery products in positive terrain.

SLIPPING FURTHER
Core sector growth (%)
Source: Govt
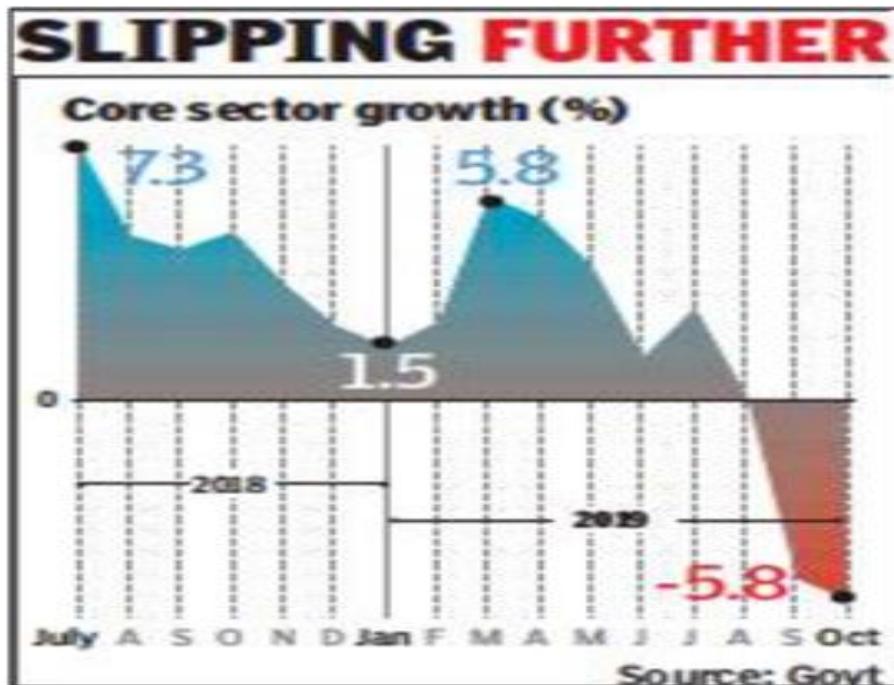
❖ Significance

- These sectors are lead indicators for performance of the industrial sector.
- Contraction in these sectors of the economy in October reflects the broader slowdown facing the Indian economy.
- The weakness in these industry groups is expected to adversely impact the index of industrial production (IIP) since the core sector has an over 40% weight in IIP calculation.
- The decline witnessed in electricity is mainly due to lower power demand in major industrial states.
- A part of the reason for the decline in the core sector index may have been disruption caused by rains as also fewer working days due to the festival season.

4.4   CROP INSURANCE SCHEME

Why in News: The area under the flagship crop insurance scheme fell 17% in the two years upto kharif season 2018. At a time when rural incomes are sliding, this is the only existing safety net for farmers who seem to have lost interest in the scheme. It must be assessed.

❖ Background

- The Pradhan Mantri Fasal Bima Yojana (PMFBY) was launched in June 2016
- But the scheme has over time shown many flaws. Over past two years there has been a fall of 16% in people opting for the scheme. And as farmers are losing interest on their only fallback, farm distress is getting further propelled.
- **Scheme:** Any farmer who avails a loan will simultaneously sign up for insurance; any crop damage will be evaluated by state government officials; and the insurer would eventually pay out a compensation amount commensurate to the degree of yield loss.
  - In practise, few farmers get compensation on time: According to estimates, as on 1 November, insurance companies owe farmers 16% of estimated claims from the kharif 2018 crop season.
  - For winter crops harvested in April-May of 2019, farmers are waiting for another 26% of estimated claims.
  - Many states are suffering crop losses due to heavy rains this year. In Maharashtra alone, an estimated 10 million farmers are affected. Farmer organizations are now demanding that the state be declared hit by a "wet-drought".
  - Drought, for the lack of rainfall in the early months of monsoon (June-July), and wet since crops like soya bean, cotton and onion were washed away by three weeks of continuous rains in October.
  - Globally, India is a major laggard in providing crop insurance coverage. In China, 69% of gross cropped area is insured while in the US, the share is 89%. In 2017-18 the share in India dipped to 26%.

- **Issues that farmers face:**
  - The insurers are mostly private firms who do not have a local office. This makes it difficult for the farmers to reach out to them, and mostly it is through the banks from which they took their loans.
  - Most insured farmers have no knowledge about whom to report their losses to. They do not have any details about the insurance policy, which crop was insured, or the amount of coverage (sum insured).
  - The helplines of the private insurers' do not work most of the time, and when they do; the customer executives seldom follow the local language of the farmers.
  - There has also been report of cases where a private bank sold mortgage insurance to a Telangana farmer who was made to believe it was crop insurance.
  - Most insurers expect farmers to intimate them within 48 hours of crop damage. But in reality, 48 hours of a calamity are critical for farmers and such an outreach to the insurer is not feasible or possible. For example, in case of Kosi flooding in Bihar, most farmers reported their homes being under water for the first 48 hours.

❖ Flaws in the scheme

- There is limited use of technology which can improve efficiency.
- The scheme is gaping with implementation challenges.
- There is limited evidence of success of the scheme.
- Farmers and insurers are increasingly getting caught up in a web of distrust regarding the scheme.
- Many a times farmers lack documents and land records to avail the insurance benefit.

❖ Structural Issues

Private exit: Lately, four private insurers did not bid for insurance clusters in the kharif 2019 crop season. As adverse weather conditions are hitting farmers more, private insurers are taking an exit. Insurance industry is also facing a slew of problems which is forcing them to exit:

- High costs of reinsurance due to erratic weather
- Rising number of claims, driven by extreme weather conditions
- Political interference in crop loss estimation
- Given terms are not viable for private insurance business, as crop insurance is basically a social insurance.

State government reluctance: Under the crop insurance scheme, farmers pay only 2% of the premium while rest is borne equally by the Centre and state governments. State governments spend a significant amount of their agriculture budget on the scheme, but are reeling under the following issues:

- They are reluctant to pay their share of premium on time.
- There are examples like the Madhya Pradesh government limiting the maximum pay-out. To lower its financial outgo due to premiums, the state government reduced the sum assured by 25% from an earlier 100%.
- The extent of estimations to be completed within a limited time frame is also an issue. Currently more than seven million crop loss assessments are to be done every year.

Maturing Market: Until recently insurance companies had decent profit margins. This was because of the unique nature of the scheme which kept costs low by selling policies through the banking network and crop loss assessments which were mostly carried out by state governments. The heavily subsidized scheme had a lot of value for insurers.

Now the market is mature, farmers are aware, and the government is eager to make insurance work for farmers. Given this backdrop, companies are now shying away as profit margins have

gone down. Insurance companies cannot be entrusted with the scheme where so much public money is flowing.

In order to maximise profits, insurance companies opt for various methods like:

- Choosing low-risk profitable clusters.
- Forming cartels in order to quote higher premiums during bidding.
- And finally exiting, if nothing works.

❖ Solutions to fill in the lacunae in crop insurance scheme

- Because the process is manual, the possibility of dispute is high and farmers are often unhappy about the choice of plots to estimate yields. Moving away from yield-based insurance to a weather-based product could offer a solution.
- The way ahead could also lie in extensive use of technology, such as satellite imagery and drones to estimate losses, which PMFBY has been slow to implement.
- Data on a host of parameters like the groundwater situation, soil moisture, irrigation, weather and remote sensing can be used to estimate yields.
- Crop Cutting Experiments (CCE) which is used to assess yields should only be used as a confirmation measure, so that the large burden of crop loss estimations is minimised. New technologies can be adopted for this purpose.

Between 1985 and 2012-13, the reach of India's crop insurance schemes was modest. PMFBY made some progress in addressing in reducing insurance premiums and expanding the insurance coverage to include more crops and risk factors faced by farmers. However, the scheme remains behind its own target. One of the major bottlenecks in accessing PMFBY is that farmers lack documents and land records to avail insurance. Also, compensation is often delayed, inadequate, and even denied. All these result in farmers facing a severe fund shortage to start their next cycle of crops. As droughts become more frequent with climate change, the concerns in better implementation of the scheme need to be addressed at the earliest.

4.5 ECONOMIC INTEGRATION

Why in News: The Regional Comprehensive Economic Partnership (RCEP) is a proposed FTA of which India aims to be a part of. The BREXIT proposal has also created pressure on India to form FTAs with the UK. In this context it is important to consider the meaning of FTA, and various other stages of economic integration.

Independent Economy

- In order to implement the principle of economic self-sufficiency, one must build an independent national economy.
- If an independent national economy is to be built, the economy must be developed in a diversified and integral manner. It requires development of heavy industry and light industry and agriculture simultaneously.
- It is necessary to establish reliable and independent sources of raw materials and fuel. Technical independence is also necessary.
- An independent economy is opposed to foreign economic domination and subjugation; but it does not rule out international economic cooperation.

Preferential Trade Area

- A preferential trade area/agreement (PTA) is a trading bloc that gives preferential access to certain products from the participating countries.
- This is done by reducing tariffs but not by abolishing them completely. A PTA can be established through a trade pact. It is the first stage of economic integration.
- Today simple PTA has evolved into bilateral PTAs and Mega-PTAs. Mega-PTA is wide regional trade agreements, such as the Transatlantic Trade and Investment Partnership (TTIP) or Trans Pacific Partnership (TPP).
- These tariff preferences create departures from the normal trade relations principle.

Free Trade Area

- A Free Trade Area (FTA) is a group of countries who have mutually agreed to limit or eliminate trade barriers - tariffs or quotas - among them.
- FTAs tend to promote free trade and the international division of labor, allowing countries to increase specialization in their respective comparative advantages.
- To develop a FTA, participating nations must develop rules for how the new FTA will operate and decide upon the following:
  - Customs procedures that each country will follow
  - Tariffs, if any, that will be allowed and their costs
  - Trade despite resolution mechanism
  - Transportation of goods
  - Intellectual property rights protection and management

FTA rules decide the scope and degree of how "free" trade will actually be.

- **Advantages:** FTAs can benefit consumers, who get increased access to less expensive and/or higher quality foreign goods. Population may also see increased living standards.

- **Disadvantages:** Producers can struggle with increased competition, but they might also acquire a greatly expanded market of potential customers or suppliers.
- Some jobs may be lost as production moves to areas with comparative advantage.
- Outcomes of FTA may represent the influence of pressure groups, and rent-seeking behaviors may increase.
- FTAs may actually distort patterns of international specialization and division of labor by biasing and limiting trade toward trade blocs, as opposed to allowing natural market forces to determine patterns of production and trade across countries.

Customs Union

- A Customs Union (CU) involves the removal of tariff barriers between members, and acceptance of a common (unified) external tariff against non-members.
- Countries that are part of a CU only need to make a single payment (duty), once the goods have passed through the border. Once inside the union goods can move freely without additional tariffs. Tariff revenue is then shared between members.

Common Market

- A common (or single) market is the most significant step towards full economic integration.
- A common market is the extension of free trade from just tangible goods, to include all economic resources. This means that all barriers are eliminated to allow the free movement of goods, services, capital, and labour.
- Tariffs and all non-tariff barriers are also reduced and eliminated.
- For a common market to be successful there must also be a significant level of harmonisation of micro-economic policies, and common rules regarding product standards, monopoly power and other anti-competitive practices.
- There may also be common policies affecting key industries, such as the Common Agricultural Policy (CAP) and Common Fisheries Policy (CFP)

Economic Union

- An Economic Union is a type of trade bloc which is composed of a common market with a customs union. It has common trade policy towards non-members, although members are free to pursue independent macro-economic policies.

- The member countries have common policies on product regulation, freedom of movement of goods, services and factors of production (capital and labour) and a common external trade policy.
- The European Union (EU) is the best known Economic union, and came into force on November 1st 1993, following the signing of the Maastricht Treaty (formally called the Treaty on European Union.)

Monetary Union

- Monetary union is the first major step towards macro-economic integration, and enables economies to converge even more closely.
- In monetary union, members adopt a single, shared currency, such as the Euro for the Euro-17 countries, and the East Caribbean Dollar for 11 islands in the East Caribbean.
- This means that there is a common exchange rate, a common monetary policy, including interest rates and the regulation of the quantity of money, and a single central bank, such as the European Central Bank or the East Caribbean Central Bank.

Fiscal Union

- A fiscal union is an agreement to harmonise tax rates, to establish common levels of public sector spending and borrowing, and jointly agree national budget deficits or surpluses.
- The majority of EU states agreed a fiscal compact in 2012. Though it is a less binding version of a full fiscal union.

Economic and Monetary Union

Economic and Monetary Union (EMU) is a key stage towards compete integration, and involves a single economic market, a common trade policy, a single currency and a common monetary policy.

Complete Economic Integration

Complete economic integration involves a single economic market, a common trade policy, a single currency, a common monetary policy, together with a single fiscal policy, including common tax and benefit rates – in short, complete harmonisation of all policies, rates, and economic trade rules.

SCIENCE AND TECHNOLOGY

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Science and Technology- developments and their applications and effects in everyday life**
- **Achievements of Indians in science & technology; indigenization of technology and developing new technology.**
- **Awareness in the fields of IT, Space, Computers, robotics, Nano-technology, bio-technology and issues relating to intellectual property rights.**

5.1 NAVIC

Topic: Science and Technology – Awareness and developments in space technology

Why in News: The Indian Space Research Organization (ISRO) and its older commercial arm Antrix Corporation Ltd. are poised to commercialise India's regional navigation satellite system, NavIC. To this end, Antrix recently floated two separate tenders to identify industries that can develop dedicated NavIC-based hardware and systems.

❖ NavIC or IRNSS:

- NavIC (Navigation with Indian Constellation) is the operational name of Indian Regional Navigation Satellite System (IRNSS).
- IRNSS is an independent regional navigation satellite system being developed by India (like GPS or US but only having regional coverage).
- It is designed to provide accurate position information service to users in India as well as the region extending up to 1500 km from its boundary.
- Under the IRNSS constellation, eight satellites are currently in orbit. Seven satellites are being used for navigation purpose and one satellite only for messaging purpose.
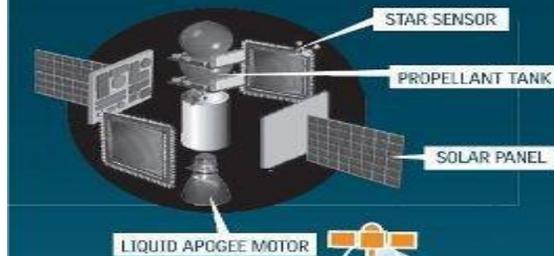
IRNSS will provide two types of services

- **Standard Positioning Service (SPS):** This is provided to all the users.
- **Restricted Service (RS):** which is an encrypted service provided only to the authorized users.

❖ **Applications of IRNSS:**
- Terrestrial, Aerial and Marine Navigation
- Disaster Management
- Vehicle tracking and fleet management
- Integration with mobile phones
- Precise Timing
- Mapping and Geodetic data capture
- Terrestrial navigation aid for hikers and travellers
- Visual and voice navigation for drivers

❖ **Commercialization of NavIC**

- In September 2019, Global mobile telephony standards body, 3GPP (The 3rd Generation Partnership Project), has given its approval to NavIC, paving the way for its wider commercial adoption, allowing it to be integrated with 4G, 5G and internet of things technology (IoT).
- The specifications will be available in March 2020 and the Telecommunications Standards Development Society, India (TSDSI) has said it would adopt them as a national standard.
- Once these specifications are adopted, IoT devices here can make a switch from the US-made GPS to NaVIC.
- The potential market for NavIC-based products and integrated circuits can be very large and Indian companies and start-ups can now design them.
- Antrix is currently identifying suitable device manufacturers on the one side and comprehensive integrators of NavIC-based systems (SIs) on the other side.
- Eligible manufacturers from the two sets would be empanelled so that they could bid for government projects that require monitoring of moving assets and fleet.
- Thus, electronics companies can start designing and building integrated circuits and mass manufacture other products uniquely created to be compatible with NavIC.
- Soon, more NavIC apps will come out that will benefit the common man. Some apps based on NavIC are already functional and being immensely used.

5.2 Pegasus

- Pegasus is a spyware and all spyware do what the name suggests : they spy on people through their phones.
- Pegasus works by sending an exploit link, and if the target user clicks on the link, the code is installed on the user's phone. Once Pegasus is installed, the attacker has complete access to the target user's phone.
- The spyware leaves no trace on the device, consumes minimal battery, memory and data consumption and comes with a self-destruct option that can be used any time.

- **What it can do?**
- It is capable of surveillance on three levels: initial data extraction, passive monitoring and active collection.
- Once the phone is exploited and Pegasus installed, it begins contacting the operator's command and control servers to receive and execute operator commands.

- It sends back the target's private data, including passwords, contact lists, calendar events, text messages, and live voice calls from popular mobile messaging apps.
- The operator can even turn on the phone's camera and microphone to capture activity in the phone's vicinity.
- In the latest vulnerability, clicking the 'exploit link' may also not be required and a missed video call on WhatsApp will enable opening up the phone, without a response from the target at all.

Zero day exploits

- Pegasus delivers a chain of zero-day exploits to penetrate security features on the phone and installs Pegasus without the user's knowledge or permission.
- A "zero-day exploit" is a completely unknown vulnerability, about which even the software manufacturer is not aware, and there is, thus, no patch or fix available for it.
- In the specific cases of Apple and WhatsApp, therefore, neither company was aware of the security vulnerability, which was used to exploit the software and take over the device.

Target users

- While tools such as Pegasus can be used for mass surveillance; it would seem likely that only selected individuals would be targeted.

- In the present case, the complaint alleges that the target users included attorneys, journalists, human rights activists, political dissidents, diplomats, and senior foreign government officials.
- The lawsuit claimed that the clients include government agencies in the Kingdom of Bahrain, the United Arab Emirates, and Mexico as well as private entities spread across at least 20 countries on five continents.

❖ Indian Government's response

- The Ministry of Home Affairs underlined that the government is committed to protect the fundamental rights of Indian citizens, including the right to privacy.
- It also informed that it operates strictly as per provisions of law and laid down protocols.
- The government has expressed concern over the breach and has asked the messaging platform to explain the kind of breach and what it is doing to safeguard the privacy of millions of Indian citizens.
- It also warned of strict action against those found violating the law of the land.

- In a reply to an RTI query, the ministry denied having any information regarding purchase or proposed purchase of the Pegasus spyware from NSO Group.

❖ **Way Forward**

- That 100 human rights activists, journalists and others were targeted should serve as a wake-up call for technology companies, governments and all Internet users.
- Tools that enable surveillance into private lives are being abused, and the proliferation of this technology into the hands of irresponsible companies and governments puts everyone at risk
- While the WhatsApp-NSO issue has emerged in the open, it is important to ensure that no other social media platform can be similarly used.
- It is vital that as a democracy, India remain vigilant about the risk of our freedoms being eroded by technological means.

5.3 FASTags

Topic: Science and Technology- developments and their applications and effects in everyday life

Why in News: From December 1, lanes on national highway toll plazas across India will accept toll only through FASTag without human intervention.

All new vehicles bought over the last few years, in fact, already come with FASTag pre-installed. However, one hybrid lane will continue to accept cash in addition to being tag-enabled. Vehicles entering FASTag lanes without FASTag will be charged twice the toll amount.

❖ **FASTags**

- The idea was a brainchild of Road Transport & Highways Minister Nitin Gadkari, the idea picked up after the Prime Minister's call for a Digital India.

- The government has been trying to make FASTag popular for years, but it was not really picking up. Hence, it has now decided that the only way to bring vehicle owners on board was by making FASTag mandatory for toll payment.

❖ How does FASTag work

- The device employs Radio Frequency Identification (RFID) technology for payments directly from the prepaid or savings account linked to it. RFID technology is similar to that used in transport access-control systems, like Metro smart card.
- A FASTag is valid for five years, and can be recharged as and when required. It is affixed on the windscreen, so the vehicle can drive through plazas without stopping.
- If the tag is linked to a prepaid account like a wallet, or a debit/credit card, then owners need to recharge/top up the tag.
- If it is linked to a savings account, then money will get deducted automatically after the balance goes below a pre-defined threshold.
- Once a vehicle crosses the toll, the owner will get an SMS alert on the deduction. In that sense, it acts like a prepaid e-wallet.

❖ Status of State highways

- Under a new One Nation One FASTag scheme, the NHAI is trying to get states on board so that one tag can be used seamlessly across highways, irrespective of whether it is the state or the Centre that owns/manages it.
- Recently as part of a pilot, Karnataka, Andhra Pradesh and Haryana signed MoUs with the Centre to accept FASTags in state highways also.
- Further, the Centre has told state governments to turn all their cash toll points on state highways into electronic toll collection points. The Centre will help the State governments in the said conversion, free of charge.

❖ Benefits of FASTags

- The initiative will remove bottlenecks and ensure seamless movement of traffic and efficient collection of user fee.
- It is likely to reduce the nation's GDP loss by bringing down loss of fuel while waiting at toll plazas along with controlling pollution
- India could save up to Rs 12,000 crore every year in terms of fuel and man-hours with the switch to 100% FASTag-based toll collection on national highways (NH).

- A startup launched by two IIT-Kanpur alumni estimates 35% of the Rs 12,000-crore loss is on account of wasted fuel, while 54-55% is on account of wasted man-hours. Carbon emissions make up the rest of the lost value.

5.4 CARTOSAT-3

Topic: Science and Technology – Awareness and developments in space technology

Why in News: India's PSLV-C47 successfully launched Cartosat-3 and 13 commercial nanosatellites from Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota.

- ISRO said that Cartosat-3 will have the 'sharpest eye' of civil remote sensing satellites in the world, with ground resolution of 25 cm.
- Till now, WorldView-3, a satellite owned by U.S. company Maxar, has the best ground resolution of 31 cm.

- **Payloads on PSLV-C47**
- The main purpose of the mission is to place the 1,625-kg Cartosat-3 satellite, the third generation of Earth-observation remote sensing satellites that ISRO has been launching and using since 1988.
- Thirteen commercial nano satellites of two U.S. customers will be the secondary payloads.
- Twelve of them are Flock-4P satellites, (also Earth-observation satellites), from the private company Planet, which has sent several such satellites on PSLV rockets earlier.
- In fact, it was an earlier version of these same Flock satellites that, in February 2017, had helped ISRO launch a world record 104 satellites at one go.
- Of the 104 satellites on board PSLV-C37, 88 were Flocks. Those Flocks were called doves, and the current bunch is known as super-doves.

PSLV-C47

CARTOSAT-3

Cartosat-3 is a third-generation advanced Earth-observation satellite with high-resolution imaging capability.

Mean altitude: 509 km

Mean inclination: 97.5°

Overall mass: 1,625 kg

Power generation: 2,000 MW

Mission life: 5 years

CARTOSAT-3

13 nano-satellites
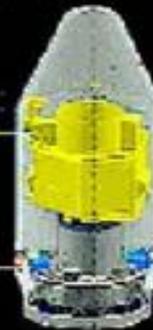
WHAT IT IS FOR

Cartosat-3 will address increased demands for large-scale urban planning, rural resource and infrastructure development, coastal land use and land cover etc, according to ISRO

Source: ISRO

Mapping the earth

Cartosat-3 is a third generation earth observation satellite with high resolution imaging capability. A look at some of its features

Uses: Large scale urban planning, rural resource and infrastructure development, coastal land use and land cover

Overall mass: 1,625 kg

Mission life: 5 years

A view of Cartosat-3 at the Assembly Complex at Sriharikota. • PTI

Minute details: The satellite will be able to see objects that are just

25 cm

from its orbital perch around 500 km away

- The previous best view from a Cartosat was 65 cm

- Only government or government-authorised agencies can access images below a resolution of 1 m

❖ Earth observation satellites

- The Earth-observation satellites of ISRO include Cartosats, Resourcesats and RISAT series, the Oceansat series and many more. These satellites now focus on generating theme-based user-friendly data that are in great demand.
- The Resourcesat and RISAT series of satellites, provide imageries and data that are needed for land and water resources applications.
- The Oceansat series and the SARAL satellite, produce data on the oceans, while satellites like INSAT 3D, INSAT-VRR or MeghaTropiques study the atmosphere.
- Data from Earth-observation satellites are in great demand, both from government agencies, which need it for planning and infrastructure development, as well as private companies looking to execute infrastructure and other projects.

❖ Cartosats

- The Cartosat satellites are used mainly for large-scale mapping of the Earth through high-resolution cameras.

- A key feature of the Cartosats is that they help to detect changes in natural geographical or man-made features. Their cameras can `look back and forth' in an angle to generate continuous spot images.
- Cartosat satellites come back to the same place after every few months, so that they are able to capture the change that is happening on the ground.
- They are a part of the large range of earth observation satellites deployed by ISRO, starting with the Indian Remote Sensing series of satellites.

❖ Applications of Cartosats

- These satellites are used for applications like 3-D mapping, disaster management, agriculture management and recording of changes in land use.
- They are also used for urban and rural infrastructure planning, utility management such as monitoring road networks, water grids or distribution, creation of land use maps and even border surveillance.
- While the ISRO does not discuss outside its mandate, it is frequently heard that imageries from Cartosat-2 series were used to plan and execute military operations.
- For example, the trans-border `surgical strikes' across the Line of Control with Pakistan in September 2016 and in Manipur at the border with Myanmar in June 2015.

ECOLOGY and ENVIRONMENT

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Conservation, environmental pollution and degradation, environmental impact assessment**
- **Disaster and disaster management.**

❖ **Prelims Oriented Questions**

6.1 PARIS PACT

Why in News: On November 4, 2019, the United States initiated the process of leaving the Paris Agreement, notifying the United Nations of its withdrawal from the landmark climate deal.

❖ Background

➢ **Paris Climate Agreement of 2015**
- The Paris Agreement, adopted in COP21, 2015, entered into force in November 2016.

➢ **Accordingly the parties have agreed upon the following:**
- All countries to take action on both mitigation as well as adaptation, both pre-2020 actions and post-2020 actions
- Keep global temperature increase well below two degrees centigrade and, if possible, below 1.5 degrees.
- A universal legally binding agreement applicable to all
- Obligation of developed countries to provide developing countries with financial support.
- Recognition that States have common but differentiated responsibilities (CBDR) to cut greenhouse gas emissions
- A financial component of $100 billion to assist more vulnerable countries
- Each country to prepare Intended Nationally Determined Contribution (INDC) to reduce greenhouse gas emissions

➢ **Leading countries' commitments:**
➢ **India:** To reduce the emissions intensity of its GDP by 33% to 35% by 2030 from 2005 level.
➢ **USA:** The United States intends to achieve an economy-wide target of reducing its greenhouse gas emissions by 26%-28% below its 2005 level in 2025.

➢ **China:**
- To achieve the peaking of carbon dioxide emissions around 2030 and making best efforts to peak early.
- To lower carbon dioxide emissions per unit of GDP by 60% to 65% from the 2005 level

➢ **EU:** Binding target of an atleast 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990.

- ➤ **Russia:** Limiting anthropogenic greenhouse gases in Russia to 70-75% of 1990 levels by the year 2030.

The Paris climate agreement: key points
The historic pact, approved by 195 countries, will take effect from 2020

Temperatures
2100

- Keep warming **"well below 2 degrees Celsius".** Continue all efforts to limit the rise in temperatures to 1.5 degrees Celsius"

Finance
2020-2025

- Rich countries must provide **100 billion dollars from 2020,** as a "floor"
- Amount to be updated by 2025

Differenciation

- Developed countries **must continue to "take the lead"** in the reduction of greenhouse gases
- Developing nations are encouraged to "enhance their efforts" and move over time to cuts

Emissions objectives
2050

- Aim for greenhouse gases emissions to peak "as soon as possible"
- From 2050: **rapid reductions to achieve a balance between** emissions from human activity and the amount that can be captured by "sinks"

Burden-sharing

- **Developed countries** must provide financial resources to help developing countries
- Other countries are invited to provide support **on a voluntary basis**

Review mechanism
2023

- **A review every five years** First world review: 2023
- Each review will inform countries in "updating and enhancing" their pledges

Climate damage

- Vulnerable countries have won recognition of the need for "averting, minimising and addressing" losses suffered due to climate change

AFP

- ➤ **Country leaving the Paris Agreement:**
- Article 28 of the Paris Agreement allows countries to leave the Paris Agreement and lays down the process for leaving.
- A country can only give a notice for leaving at least three years after the Paris Agreement came into force. The agreement came into force on November 4, 2016.
- Therefore, the US was eligible to move a notice for leaving on November 4, 2019.

- The withdrawal is not immediate, and takes effect one year after the submission of the notice. It means the United States will be out of Paris Agreement only on November 4, 2020.

➢ Reasons for US withdrawal:

- President Trump blamed India and China for his decision to withdraw from climate agreement. He claimed that the Paris climate agreement gives undue advantage to India and China while it made the U.S. pay for these nations which benefited the most from the deal.
- As per agreement, China had time up to 2030 to start action on emission, while USA had to start it immediately.
- He claimed that USA has massive energy reserve through exploration & technological improvement, but if Paris climate deal has been effective then it cannot exploit these resources. He said that this was very unfair and not in the interest of US economic development.
- He further said that the accord would have cost America trillions of dollars, killed jobs, and hindered the oil, gas, coal and manufacturing industries.
- Also, as per agreement, 'developed nations' had to finance 'developing nations' for to meet their targets. Commenting on this, with reference to India, he said that USA is also a growing country with huge investment needs for its economic development, and cannot finance other countries for their growth.

➢ Direct impact of US withdrawal from the Paris deal:

On GHG emissions:

- The United States is the world's second largest emitter of greenhouse gases.
- As part of its commitment to the Paris Agreement, the United States had promised to reduce its emissions by 26 per cent to 28 per cent by the year 2025 from 2005 levels.
- While exiting the Paris Agreement does not automatically mean the abandonment of this target or of any future action by the United States on climate change, it would no longer be committed to these actions.
- If the US withdraws from the Paris deal and does not reduce its emissions befitting its status as the second largest emitter, it could seriously jeopardise the world's objective of keeping the global temperature rise to within 2 degrees Celsius from pre-industrial times.

On financing of climate change action:

- The biggest impact of the exit of the United States from the Agreement might be on the financial flows to enable climate actions.

- The United States plays a preeminent role in mobilising financial resources globally, and its absence from the scene could seriously hamper that effort.
- Under the Paris Agreement, developed countries are under obligation to mobilise at least $100 billion every year from the year 2020 in climate finance meant for the developing world. But they are already struggling to reach this amount by 2020.
- This amount was to be revised upwards after five years, which now may not be possible with US withdrawal.

Way forward:

It is also possible that the United States does a rethink and actually never leaves the Paris Agreement. It has one full year to reconsider its decision.

Almost exactly a year from now, on November 3, 2020, the United States will vote to elect a new President. Even if the US formally withdraws, there is no bar on a country rejoining the Paris Agreement. Trump said USA would be open to renegotiating the deal that would be in interest of America.

US will not be entirely missing from the climate negotiations, despite withdrawal from Paris deal. US remain part of the UNFCCC, the mother agreement that was finalised in 1994. The framework laid down the principles and guidelines to achieve the objective of stabilising the greenhouse gas concentrations in the atmosphere to levels that would cause least damage to climate system. By virtue of being a signatory to the UNFCCC would continue to be a part of the other processes and meetings under the Framework Convention.

6.2 ETHANOL BLENDING

Why in News: The Ministry of Environment and Forests has announced that mills would not require separate environmental clearance to produce additional ethanol from B-heavy molasses.

The proposals to undertake additional ethanol production from B-heavy molasses/would be considered under the provisions of the EIA notification, 2006, by an expert appraisal committee for granting environmental clearance. The decision comes at a time when the

country is looking at heavy oversupply of sugar, and various measures have been launched by the central government to address the systemic issue.

❖ Background

- In September 2019, the government approved an increase in the price of ethanol to be procured by public sector oil marketing companies from sugar mills for blending with petrol from December 1.
- The Cabinet Committee on Economic Affairs also allowed conversion of old sugar into ethanol, which is expected to help mills deal with the current overproduction in the sweetener
- Ethanol production has been additionally facilitated with the government mandating 10% blending of petrol with ethanol.

❖ Ethanol and Molasses

- Ethanol, can be produced from sugarcane, maize, wheat, etc which have high starch content and is a liquid that has several uses.
- At 95% purity, it is called rectified spirit and is used as the intoxicating ingredient in alcoholic beverages.
- At 99%-plus purity, ethanol is used for blending with petrol. Both products are made from molasses, a byproduct of sugar manufacturing.
- For making sugar, mills crush sugarcane which typically has a **total fermentable sugars (TFS) content of 14%.**
- The TFS component consists of sucrose along with the reducing sugars glucose and fructose. Most of this TFS component gets crystallized into sugar, and the remaining part is called molasses.

❖ Molasses stages

- The molasses go through three stages — A, B, and C, the last one being where the molasses are most un-crystallized and non-recoverable.
- The 'C' molasses roughly constitute 4.5% of the cane, and have a remaining TFS of 40%.
- After C-molasses are sent to the distillery, ethanol is extracted from them. Every 100 kg of TFS yields 60 liters of ethanol.
- Thus, from one tonnes of cane, mills can produce 115 kg of sugar (at 11.5% recovery) and 45 kg of molasses (18 kg TFS) that gives 10.8 liters of ethanol.

❖ How more ethanol can be Produced

- Mills can also produce only ethanol from sugarcane, without producing sugar at all. In this case, the entire 14% TFS in the cane is fermented. Here, a mill can make 84 litres of ethanol and zero kg of sugar.
- In between the two extreme cases, there are intermediate options as well, where the cane juice does not have to be crystallised right till the final 'C' molasses stage.
- The molasses can, instead, be diverted after the earlier 'A' and 'B' stages of sugar crystal formation. Mills, then, would produce some sugar, as opposed to fermenting the whole sugarcane juice into ethanol.
- If ethanol is manufactured using 'B' heavy molasses (7.25% of cane and with TFS of 50%), around 21.75 liters will get produced along with 95 kg of sugar from every 1 tonne of cane.
- The latest move by the government is to waive the environmental clearance required to produce ethanol at this stage. This was done since this process does not contribute to the pollution load.

❖ Ethanol Blending

- The use of ethanol as an automobile fuel is as old as the invention of the internal combustion engine itself. Ethanol was examined as an automotive fuel by Nikolas A Otto in 1897 during his early engine studies.
- It has been used in cars since Henry Ford designed his 1908 Model T to operate on alcohol. Brazil has been using this fuel since 1920s.

❖ Benefits

- It helps in reducing dependence on oil imports, at the same time keeping a check on the import bill by saving precious foreign currency.
- **Environment friendly:** As the ethanol molecule contains oxygen, it allows the engine to more completely combust the fuel, resulting in fewer emissions. Since ethanol is produced from plants that harness the power of the sun, it is also considered a renewable fuel
- **Engine Friendly:** With a high octane rating, ethanol is a high performance fuel on the market and keeps today's high-compression engines running smoothly. Ethanol-blended fuel keeps the fuel system clean for optimal performance because it does not leave gummy deposits.
- It helps prevent wintertime problems by acting as gas-line antifreeze.

6.3 Rare Vultures

Why in News: Rare vulture spotted in Aravalis after 5 yrs

- A flock of 15 Himalayan Griffon vultures were spotted at the Aravali Biodiversity Park in Gurgaon.
- This is the first time in five years they were spotted in the Delhi-NCR region.

❖ Himalayan Griffon

- The Himalayan Griffon, or the Himalayan vulture (Gyps himalayensis), has a distinct appearance, with a very large wing span.
- It moves in loose flocks from the Himalayan range to winter in peninsular India.
- It is revered in Tibetan culture as the "feeder of the dead in the afterlife".

❖ Habitat Type
- Rocky areas (eg. inland cliffs, mountain peaks)
- Grasslands

- **IUCN Conservation status: Near Threatened**

❖ Vultures
- Vultures are scavenger birds which feed on the carcasses of large animals.
- Vultures are the natural cleaners of the environment: They feed on dead decaying animals there by enhancing the process of mineral return to the soil. Moreover, by disposing the dead bodies they check the spread of infectious diseases. In absence of vultures, the population of animals like rodents and stray dogs tend to increase leading to the spread of rabies.

Vulture species in India:

- 9 species of vultures are found in India.
- Of these nine species, 4 are listed as Critically Endangered species of Vultures and one as endangered species in IUCN red list of endangered species.

- **Species of Vultures found in India and their Conservation Status**

- Indian Vulture or Long-billed vulture (Gyps indicus): Critically Endangered
- Indian White-backed Vulture (Gyps bengalensis): Critically Endangered

- Red-headed Vulture (Sarcogypscalvus)- Critically Endangered
- Slender-billed Vulture (Gyps tenuirostris)- Critically Endangered
- Egyptian Vulture (Neophronpercnopterus)- Endangered
- Cincerous Vulture (Aegypiusmonachus)- Near Threatened
- Bearded Vulture (Gypaetusbarbatus)- Near Threatened
- Himalayan Vulture (Gyps himalayansis)- Near Threatened
- Griffon Vulture (Gyps fulvus)-Least Concern

- **Vulture numbers have come down vastly:** Vultures in India have reduced from 40 million (in 1990) to less than 60 thousand (2012). The fast disappearing population of vultures is a serious problem and there is need to protect them to ensure their survival.

- **Threats to Vulture survival:**
- **Diclofenac:** According to Bombay Natural History Society (BNHS) veterinary use of diclofenac as pain reliever in cattle is the main threat to the vultures in India. Vultures feeding on the carcasses of animals recently treated with diclofenac suffer renal failure and die.
- **Habitat destruction:** Developmental activities like establishment of power projects, irrigation projects, industrial units, construction of highways etc. have ruined the habitats of vultures resulting into decline in their population.
- **Pesticide pollution:** The chlorinated hydrocarbon D.D.T (Dichloro Diphenyl Trichloroethane) used as pesticide enters the body of vultures through food chain where it affects the activity of estrogen hormone, as a result of which the egg shell is weakened. Consequently the premature hatching of egg takes place causing the death of the embryo.
- **Slow breeding rate:** Vultures lay a single egg in a breeding season. Hence, their slow breeding rate is also a threat to their survival.
- **Use of poisoned carcasses:** Poison used by humans kill cattle-killing carnivores is also a threat to Vultures in India, as consumption of such poisoned carcasses by vulture leads to their death.

- ❖ **Conservation of vultures:**

- **Cutting use of diclofenac for cattle:** While the use of safe veterinary drugs is continuously advocated, carcass sampling is undertaken across the country to monitor for the presence of diclofenac. There is need to evolve an effective substitute of diclofenac, and the present available substitute meloxicam needs to be subsidized.

- **Captive Breeding Centers:** The Jatayu Conservation Breeding Centre (JCBC) established at Pinjore in 2001 was the first Vulture Care Centre (VCC) in the country.
- **VCCs** were later upgraded to Vulture Conservation and Breeding Centres (VCBC). At present there are nine VCBCs in India, of which three are directly administered by Bombay Natural History Society (BNHS).
- The three species of vultures bred in the VCBC are the White-backed, Long-billed and the Slender-billed vultures.
- **Upgradation in status of protection:** Protection status of White backed, Long Billed and Slender Billed Vultures has been upgraded from Schedule IV to Schedule I of the Wild Life (Protection) Act, 1972.
- **Vulture safe zones:** Eight vulture safe zones were set up, which are diclofenac free areas with a radius of 100 km and at least one nesting colony.

6.4 SAMBHAR LAKE

Why in News: Thousands of migratory birds have been found dead at Sambhar Lake, about 80 km southwest of Jaipur city.

❖ Sambhar Lake

- Sambhar Lake is India's largest inland saltwater lake at 230 sq km, spread mostly across Jaipur and Nagaur districts and also a part of Ajmer.
- It has a catchment area of 5,700 square km, with the water depth fluctuating between 60 cm in the dry season to about 3 meters at the end of the monsoon.
- Every year, the lake attracts thousands of migratory birds and a total 83 species of water birds have been recorded at the lake.
- The most abundant of which are little grebe, great crested grebe, great white pelican, little cormorant, black stork, and darter, apart from various species of plovers, egrets, herons, and geese.
- **The lake was recognised as a wetland of international importance when it was designated as a UNESCO Ramsar Site in 1990. Today, as per NGO Wetlands International, it has the worst possible Wetland Health Score at E.**

❖ Causes

The clinical signs exhibited by affected birds included dullness, depression, anorexia, flaccid paralysis in legs and wings, and neck touching the ground due to which the birds were unable to walk, swim, or take flight. There was no rise of body temperature, no nasal discharge, no respiratory distress or any other sign.

On the basis of history, epidemiological observations, classical clinical symptoms and post-mortem findings, the most probable diagnosis is avian botulism, but this has not been officially confirmed.

- Viral infection
- Toxicity, as a new area has been filled up after almost 20 years, and there could be higher concentration of salts along the edges
- Bacteriological infection: Higher temperature and high water levels due to a good monsoon. This might have led to an increase in competition for resources.
- The weaker individuals, exhausted from the long journey, perhaps were unable to compete, and may have succumbed to stress emanating from the shortage of food, susceptibility to disease/pollutants/toxins.

❖ Way Ahead

- The government should pass legislation in the Assembly to create a Sambhar Lake Development and Conservation Authority along the lines of Odisha's Chilika Development Authority.
- This authority should be handed the entire responsibility of Sambhar Lake and the chief minister should be made its Chairman.
- There is no document about management of Sambhar Lake. World Wildlife Fund had created a document about 22 years ago, and it is now outdated.
- A fresh document should study why the water from four rivers, which flows into the lake, has decreased over the years.
- It should study the hydrology, sedimentation, the increase or decrease in depth of the lake, as well as birds, animals, their food sources, etc.

SOCIAL ISSUES

❖ **Paper I: The articles in this section are relevant to the following topics:**

- **Salient features of Indian Society, Diversity of India.**
- **Role of women and women's organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.**
- **Effects of globalization on Indian society**
- **Social empowerment, communalism, regionalism & secularism.**

7.1 OPEN DEFECATION STATUS

Why In News: The country did successfully build 100 million toilets, but this success must be made sustainable

❖ Background

- In the past four years, India has built 100 million toilets in about 0.6 million villages and another 6.3 million in cities.
- The country has been declared open defecation free (ODF) — a seemingly impossible task just some years ago.
- According to government estimates, by February 2019, over 93 per cent of the country's rural households had access to toilets; over 96 per cent of them also used the toilets, suggesting an important change in behaviour.
- 99 per cent of the toilets were found to be well maintained, hygienic and in 100 per cent of these toilets, excreta was "safely" disposed — there was no pollution and, in fact, in 95 per cent of the villages, there was no stagnant water, no wastewater and only minimal litter.

❖ Current scenario

- Let's be clear that slippages happen in all programs. So, even if toilets are built and people have started using these, the trend can reverse in no time.
- In many districts of Uttar Pradesh an earlier laggard state there were people, particularly women, who were using toilets and wanted more.

- But in Haryana, declared ODF, people were slipping back to the old habit of open defecation; this is when it had invested in changing the behaviour of people.
- There is the issue of excreta disposal. NARSS 2018-19 uses an inadequate and erroneous definition of "safe" it defines safe disposal if the toilet is connected to a septic tank with a soak pit, single or double leach pit, or to a drain.
- There is the issue of credibility of assessments crucial to know that we are on track. At present, all the studies are commissioned by the project funders or the proponent ministries.

- **Swachh Bharat Mission:** An outstanding achievement, but challenges remains
- Including people who still lack toilets, overcoming partial toilet use and retrofitting sustainably unsafe toilets are some of the massive tasks ahead
- The Swachh Bharat Mission-Gramin (SBM-G) was a remarkable program. Nowhere, has there been a rural sanitation program that has combined political priority with resources on such a big scale.
- The Mission faced the pressure of reporting both toilet coverage and behavioural change.
- The massive task is to include people who still lack toilets, overcome partial toilet use, and retrofit toilets which are not yet sustainably safe.
- There is a time bomb of rural and small town faecal sludge management as tanks and single pits fill up and are difficult to empty. But solid and liquid waste management is now receiving the much deserved attention. Children's faeces and hand washing are in the frontier.
- Methodologies evolved like the national Swachhath on to crowd source innovations; Rapid Action Learning Workshops for lateral sharing of experiences, immersive research for ground truthing; and now CLNOB (Community Leave No One Behind) to facilitate communities to reach and support those behind people with disabilities, the old and infirm, the very poor and weak, migrants, marginalised, and others.

❖ The fight for open defecation-free status is far from over

- Rural India is so densely settled that open defecation spreads diseases, killing and harming children.
- Open defecation still exists, especially in the multiply disadvantaged, densely populated villages of rural north India. Such was the pace that India was on in the 2015-16 Demographic and Health Survey.
- Open defecation is an important challenge in these four states: Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh.

- However, the decline in open defecation from 2014 to 2018 in these states was, according to statistical accounting, entirely due to increasing latrine ownership not to behavioural change. The fraction of latrine owners who defecate in the open did not change over these four years.

Thirty-year journey to ODF

1986: Central Rural Sanitation Programme launched

Aim: Safe sanitation to rural areas

Execution: Mainly supply- and hardware-driven; families received a subsidy of ₹2,000; little focus on information, education and communication (IEC)

Achievement: Most toilets remained dysfunctional

1999: Total Sanitation Campaign launched

Aim: Access to toilets for all

Execution: Focus on rural areas; incentive of ₹3,200 offered; awareness programmes like Nirmal Gram Puraskar introduced to motivate gram panchayats; converged with Indira Awas Yojana

Achievement: Not much information in public domain

2012: Total Sanitation Campaign renamed Nirmal Bharat Abhiyan

Aim: Attaining "Nirmal" status, improving quality of life and providing latrines to all

Execution: Focus was on rural areas; financial assistance raised to ₹10,000 (₹4,600 through direct incentive and the remaining under the Mahatma Gandhi National Rural Employment Guarantee Act); stronger IEC campaigns introduced by roping in ASHA and anganwadi workers; annual targets introduced

Achievement: 43 million toilets built during 2009-2014

2014: Swachh Bharat Mission launched

Aim: Clean India by 2019

Execution: Separate missions were launched for rural and urban areas; incentive was increased to ₹12,000 from ₹10,000; IEC campaigns received as much focus as toilet construction; celebrities roped in for maximum impact; 650,000 swachhagrahis appointed for spreading the message; 90 per cent toilets were geo-tagged; an online database was prepared to monitor the progress real time

Achievement: India becomes ODF

7.2 PHYSICAL INACTIVITY

Why in News: 74% of India's teenagers physically inactive: WHO

The Lancet Child and Adolescent Health study was recently released.

❖ About the study

- The data for the study was pooled from 298 school-based surveys across 146 countries including 1·6 million students aged 11–17 years.
- The study presents adolescent prevalence of insufficient physical activity and estimates for the first time – global, regional and national trends from 2001 to 2016.
- The assessment included all types of physical activity, such as time spent in active play, recreation and sports, active domestic chores, walking and cycling or other types of active transportation, physical education and planned exercise.
- It study proves that game time in playgrounds has been replaced by screen gaming for today's teenagers.

❖ Global findings

- More than 80 per cent of school-going adolescents globally did not meet current recommendations of at least one hour of physical activity per day – including 85 per cent of girls and 78 per cent of boys.
- Between 2001 and 2016, prevalence decreased by 2·5 percentage points (significant change) for boys (from 80·1% to 77·6%), whereas there was no significant change for girls (from 85·1% to 84·7%)
- If these trends continue, the global target of a 15 per cent relative reduction in insufficient physical activity will not be met by 2030.

❖ Country wise performance

- The lowest levels of insufficient physical activity in boys were found in Bangladesh, India and USA.
- The US rates (64 per cent) may be driven by good physical education in schools, pervasive media coverage of sports, and good availability of sports clubs (such as ice hockey, American football, basketball, or baseball).

- In 2016, Philippines was the country with the highest prevalence of insufficient activity among boys (93 per cent), whereas South Korea showed highest levels among girls (97 per cent) and both genders combined (94 per cent).
- Girls found to be less active than boys
- The study also finds across all 146 countries studied between 2001-2016 girls were less active than boys in all but four countries (Tonga, Samoa, Afghanistan and Zambia).
- The difference in the proportion of boys and girls meeting the recommendations was greater than 10 percentage points in almost one in three countries in 2016 (43 of 146 countries)
- The biggest gaps were seen in the United States of America and Ireland (more than 15 percentage points). Most countries in the study (107 of 146) saw this gender gap widen between 2001-2016.

❖ Indian findings

- India is among the top ten ranking countries with the lowest level of insufficient physical activity among adolescents.
- In India the overall prevalence of insufficient physical activity in adolescents in 2001 was 76.6 per cent which has now decreased to 73.9 per cent in 2016.
- Also similar to the global trend, since 2001, India has shown small decreases in insufficient physical activity in boys, but not in girls.
- Among boys the prevalence of physical activity in 2001 was 76.6 per cent which has climbed down to 71.8 per cent in 2016.
- Among girls it was 76.6per cent in 2001 which has decreased slightly to 76.3 per cent in 2016.

❖ Reasons for lower prevalence of insufficient physical activity

The study cited that the potential explanation for this somewhat lower prevalence of insufficient physical activity in India as compared to other countries could be the importance of sports like cricket (particularly for boys). Further, adolescents are still active as they walk to and from school and girls are more actively involved in household chores.

❖ Skepticism over Indian findings
- While India is below the global average there are still 74% of Indian adolescents not getting enough physical activity.

- The country's relatively better performance doesn't take away the fact that India is largely an inactive nation.
- Experts were also skeptical about the India findings as it was too "generalised'' and failed to address the huge rural-urban divide.

❖ Indian Efforts to address inactivity

- Director of the state task force on non-communicable diseases informed that they have embarked upon a campaign to fight obesity and step up awareness on physical inactivity.
- The campaign recommends compulsory physical activity for an hour at schools apart from creating enough playgrounds across towns and cities.
- It has also released a documentary `The Zero Life' to draw attention of schools, families and society to the increasing menace of obesity.

WHY WE NEED 'FIT INDIA MOVEMENT'

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Indians shy away from physical activity

54% Indians are physically inactive

Less than 10% engage in recreational physical activity

Burdened with diseases

Obesity 13.5cr

Diabetes 7.2cr

Thyroid disorders 4.2cr

Hypertension 8cr

Cardiovascular disease 5.5cr

Source: Indian Council of Medical Research (ICMR), News reports   ILLUSTRATION: RAM

MISCELLANEOUS and SCHEMES

❖ The Global Snow Leopard and Ecosystem Protection Program (GSLEP) (Source: The Hindu)

- It seeks to address high-mountain development issues using the conservation of the charismatic and endangered snow leopard as a flagship.
- The GSLEP is a range-wide effort that unites range country governments, nongovernmental and inter-governmental organizations, local communities, and the private sector around a shared vision to conserve snow leopards and their valuable high-mountain ecosystems
- The GSLEP is a high-level inter-governmental alliance of all the 12 snow leopard range countries.
- The snow leopard countries namely, India, Nepal, Bhutan, China, Mongolia, Russia, Pakistan, Afghanistan, Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan.
- It majorly focuses on the need for awareness and understanding of the value of Snow Leopard for the ecosystem.
- The GSLEP Program (2019) was organized by the Ministry of Environment, Forest and Climate Change at New Delhi.
- The Steering Committee meetings of GSLEP is currently chaired by Nepal and co-chaired by Kyrgyzstan.

❖ ANNUAL FISHING BAN TO PROTECT OLIVE RIDLEYS IN GAHIRAMATHA (Source: Indian Express)

- **Gahiramatha, in the state's Kendrapada district, was declared a marine sanctuary in 1997. Known as the world's largest Olive Ridley rookery,** the animals come in their lakhs in the waters surrounding the sanctuary in November for mating. The females lay eggs in March.
- Trawlers and boatmen have been directed not to fish within 20 kilometers of the coastline.
- 16 turtle protection camps have already been established including three offshore camps at Agaranashi, Barunei and Babubali islands to protect turtles in the sanctuary.
- **The Wild Life Protection Act, 1972 and its latest amendments in 2006 provide legal protection to all the sea turtle species occurring in the state.**

➢ Odisha's Gahirmatha

- The mass nesting of Olive Ridley sea turtles started at Odisha's Gahirmatha Marine Sanctuary in Kendrapara district.
- The sanctuary has is considered to be the world's largest rookery of sea turtles.
- Nearly 80,000 sea turtles came ashore at the Nasi-1 and Nasi-2 islands of the sanctuary for Arribada, a Spanish term for mass nesting.
- The beach gets littered with thousands of nesting turtles; as a result, there is little space for laying eggs for other turtles. Many are laying eggs in the same pits dug by others. In the process, thousands of turtle eggs are being destroyed.

➢ Olive Ridley sea turtles

- The name for this sea turtle is tied to the color of its shell an olive green hue.
- They are currently the most abundant of all sea turtles.
- Their vulnerable status comes from the fact that they nest in a very small number of places, and therefore any disturbance to even one nest beach could have huge repercussions on the entire population.
- Generally found in coastal bays and estuaries, but can be very oceanic over some parts of its range. They typically forage off shore in surface waters or dive to depths of 500 feet (150 m) to feed on bottom dwelling crustaceans.
- The olive ridley inhabits tropical and subtropical waters of the Pacific, Indian and Atlantic Oceans.
- Sea turtles are a fundamental link in marine ecosystems and help maintain the health of coral reefs and sea grass beds.
- All stages of a sea turtle's life are affected by environmental conditions such as temperature even the sex of offspring. The warmer the nest beach conditions, the more female hatchlings that emerge from the eggs.
- Warmer sea surface temperatures can also lead to the loss of important foraging grounds for marine turtles, while increasingly severe storms and sea level rise can destroy critical nesting beaches and damage nests.

❖ STEEL SCRAP RECYCLING POLICY

- The government released Steel Scrap Recycling Policy that aims to reduce imports, conserve resources and save energy.
- The Steel Scrap Policy will ensure processing and recycling of products in an organized, safe and environment friendly manner.

- It will evolve a responsive ecosystem to produce high quality ferrous scrap for quality steel production minimizing the dependency on imports.
- It envisages a framework to facilitate and promote establishment of metal scrapping centers in India that will boost steel production.
- It also aims to decongest the Indian cities from reuse of ferrous scrap, besides creating a mechanism for treating waste streams and residues produced from dismantling and shredding facilities.
- The country's steel scrap imports were valued at Rs 24,500 crore in 2017-18, while the deficit was to the tune of 7 MT.
- The policy is based on "6Rs principles of Reduce, Reuse, Recycle, Recover, Redesign and Remanufacture through scientific handling, processing and disposal of all types of recyclable scraps including non-ferrous scraps, through authorized centers / facility".
- The gap between demand and supply of scrap can be reduced in the future and the country may be self-sufficient by 2030.
- National Steel Policy 2017 aims to develop a globally competitive steel industry by creating 300 MT per annum steel production capacities by 2030 with a contribution of 35-40 per cent from EAF/IF (Electric Arc Furnace/Induction Furnace) route.

❖ WASTELAND ATLAS   (Source: PIB)

The Union Minister for Rural Development, Agriculture and Farmers Welfare & Panchayati Raj has recently released the Wastelands Atlas – 2019.

- **Wasteland Atlas:** The wasteland mapping exercise is carried out by National Remote Sensing Centre (NRSC), Department of Space using the Indian Remote Sensing Satellite (IRSS) data.
- The atlas is then jointly published by The Department of Land Resources (Ministry of Rural Development) and National Remote Sensing Centre.
- The Wastelands Atlas – 2019 is the fifth edition of all atlases. The previous editions released were in 2000, 2005, 2010 and 2011.

- **Need of Wasteland atlas:**

India with 2.4% of total land area of the World is supporting 18% of the World's population. The per capita availability of agriculture land in India is 0.12 ha whereas World per capita agriculture land is 0.29 ha.

Unprecedented pressure on the land beyond its carrying capacity is resulting into degradation of lands in the Country.

Therefore, robust geospatial information on wastelands assumes significance and effectively helpful in rolling back the wastelands for productive use through various land development programmes.

❖ Findings of Wastelands Atlas – 2019

- The changes in wastelands between 2008-09 and 2015-16 have been presented in this Atlas. The effort has resulted in estimating the spatial extent of wastelands for entire country to the tune of 55.76 Mha (16.96 % of geographical area of the Country) for the year 2015-16 as compared to 56.60 Mha (17.21%) in the year 2008-09.
- During this period 1.45 Mha of wastelands are converted into non wastelands categories. There is a net conversion of 0.84 Mha (0.26%) of different wasteland categories in the country during 2008-09 to 2015-16.
- A reduction in wasteland area was observed in the categories of land with dense scrub, waterlogged and marshy land, sandy areas, degraded pastures (grazing land) and gullied and ravenous land.
- It provides district and state wise distribution of different categories of wastelands area including mapping of about 12.08 Mha hitherto unmapped area of Jammu & Kashmir.
- **The wastelands have undergone positive change in the states of Rajasthan (0.48 Mha), Bihar (0.11 Mha), Uttar Pradesh (0.10 Mha), Andhra Pradesh (0.08 Mha), Mizoram (0.057 Mha), Madhya Pradesh (0.039 Mha), Jammu & Kashmir (0.038 Mha) and West Bengal (0.032 Mha).**
- **Majority of wastelands have been changed into categories of 'croplands' (0.64 Mha), 'forest-dense / open' (0.28 Mha), 'forest plantation' (0.029 Mha), 'plantation' (0.057 Mha) and 'industrial area' (0.035 Mha).**

❖ ICEDASH AND ATITHI   (Source: PIB)

ICEDASH: Indian Customs Ease of Doing Business Dashboard

- ICEDASH is Ease of Doing Business (EoDB) monitoring dashboards of the Indian Customs helping public see the daily Customs clearance times of import cargo at various ports and airports.
- With ICEDASH, Indian Customs has taken a lead globally to provide an effective tool that helps the businesses compare clearance times across ports and plan their logistics accordingly.

- This dashboard has been developed by Central Board of Indirect Taxes and Customs in collaboration with National Informatics Centre (NIC) and can be accessed through the CBIC website.

ATITHI: Custom Department App

- The Central Board of Indirect Taxes and Customs (CBIC) have launched a new mobile app named "ATITHI" for improved customs clearance.
- It will also facilitate arriving international passengers with e-filing of baggage and currency declarations.
- It is expected to increase the transparency of customs functioning and reduce interface

Some of the key features of ATITHI Mobile App include:

- ATITHI app is effortless to use mobile application for international travellers to file Customs declaration in advance.
- With this application, CBIC has introduced an easy to use mobile app for the passengers can use this app to file a notice of dutiable items as well as currency with the Indian Customs before boarding the flight to India.
- The application will create a tech-savvy image of India Customs and that would encourage the business travel as well as tourism to India.
- The app. ensures access from any time at anywhere and also makes it easier for the passengers to access the custom duty information.
- In addition to that, it also supports the faster customs processes and provides multiple application support that fits the requirements of the users.
- ATITHI app can be used by all the travellers including Indian residents as well as foreign nationals those who are arriving in India by air across the globe.

❖ **CYCLONE BULBUL** (Source: The Hindu)

- Bulbul damages crops, houses, electricity and water connections in Odisha and West Bengal
- Very Severe Cyclonic Storm Bulbul is an active tropical cyclone which struck the Indian state of West Bengal.
- At Category 2 hurricane-equivalent intensity and is currently a flood and storm surge threat to Bangladesh.
- Originating from the remnants of Severe Tropical Storm Matmo over the southern Bay of Bengal.
- It is only the fourth tropical cyclone ever recorded to regenerate over the Andaman Sea, having crossed Southeast Asia overland.

- The cyclone has been named by Pakistan.

❖ NATIONAL GRID OF PORTS   (Source: The Hindu)

- Government plans to develop a National Grid for Ports based on the synergy between the major and minor ports in the country.
- During the 17th Meeting of Maritime states Development Council (MSDC): the apex advisory body for the development of the maritime sector—government announced a plan to develop a National Grid for Ports.
- Out of the 204 minor ports in the country, only 44 are functional; the National Grid for Ports (NGP) will connect the major and minor ports.
- Ports have been centres of India's maritime activity in the past; the objective is to once again revive ports as important centres of sea trade.
- The objective is also to improve infrastructure and to reduce and finally eliminate human interface.
- Ministry of shipping is planning a wider expansion of port capacity across the country.
- The study on NGP will be different than 'Sagarmala' study.

❖ TIGER TRIUMPH EXERCISE   (Source: PIB)

- Tiger Triumph is a bilateral tri-service amphibious military exercise involving the armed forces of India and the United States.
- It is the first tri-service military exercise between the two countries.
- India has previously only held tri-service exercises with Russia.
- The final planning conference for Tiger Triumph was held at the Eastern Naval Command headquarters in Visakhapatnam, Andhra Pradesh.

BAYESIAN INVERSION   (Source: The Hindu)

- Scientists at the Indian Space Research Organisation (ISRO) have used a novel mathematical technique and analysed satellite images to estimate the strength of North Korea's underground nuclear test of September 2017.
- Those tests are considered the most powerful thermonuclear devices to have been exploded by the country. In the normal course, the detection and estimation of nuclear

device explosions is based on the reading of earthquake monitoring sensors. Results said that it was equal to 17 times that of Hiroshima explosion.