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**IASBABA'S
MONTHLY
MAGAZINE
APRIL 2019**

**100TH ANNIVERSARY OF JALLIANWALA BAGH MASSACRE
INDIA'S ANTI-SATELLITE (ASAT) TEST - MISSION SHAKTI
CASE FOR COMPREHENSIVE JUDICIAL REFORMS
US SANCTIONS AND THE END OF CHEAP OIL**

**A MANIFESTO FOR HEALTH
TOWARDS A LOWER GHG FUTURE
HOW TO ACHIEVE 24X7 POWER FOR ALL?
DRAFT INDIAN FOREST ACT**

PREFACE

With the present shift in examination pattern of UPSC Civil Services Examination, 'General Studies – II and General Studies III' can safely be replaced with 'Current Affairs'. Moreover, following the recent trend of UPSC, almost all the questions are issue-based rather than news-based. Therefore, the right approach to preparation is to prepare issues, rather than just reading news.

Taking this into account, our website www.iasbaba.com will cover current affairs focusing more on 'issues' on a daily basis. This will help you pick up relevant news items of the day from various national dailies such as The Hindu, Indian Express, Business Standard, LiveMint, Business Line and other important Online sources. Over time, some of these news items will become important issues.

UPSC has the knack of picking such issues and asking general opinion based questions. Answering such questions will require general awareness and an overall understanding of the issue. Therefore, we intend to create the right understanding among aspirants – 'How to cover these issues?'

This is the 47th edition of IASbaba's Monthly Magazine. This edition covers all important issues that were in news in the month of **APRIL 2019** which can be accessed from <https://iasbaba.com/current-affairs-for-ias-upsc-exams/>

VALUE ADDITIONS FROM IASBABA

- **Must Read and Connecting the dots.**
- **Also, we have introduced Prelim and mains focused snippets and Test Your Knowledge (Prelims MCQs based on daily current affairs) which shall guide you for better revision.**
- **'Must Read' section**, will give you important links to be read from exam perspective. This will make sure that, you don't miss out on any important news/editorials from various newspapers on daily basis.
- Under each news article, **'Connecting the dots'** facilitates your thinking to connect and ponder over various aspects of an issue. Basically, it helps you in understanding an issue from multi-dimensional view-point. You will understand its importance while giving Mains or Interview.

Must Read Articles: We have not included them in the magazine. Those following DNA on daily basis may follow it- <https://iasbaba.com/current-affairs-for-ias-upsc-exams/>

"Tell my mistakes to me not to others, because these are to be corrected by me, not by them."

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HISTORY/CULTURE/GEOGRAPHY

Jallianwala Bagh Massacre and India-UK relations

Part of: GS Prelims and Mains I and II – Indian History; International Relations; India and the World

Context:

- The Year 2019 marks the **Centenary of the Jallianwala Bagh Massacre**, also known as the Amritsar Massacre that occurred on April 13, 1919.
- On this day, soldiers of the British Indian Army, on the orders of **Colonel Reginald Dyer**, massacred peaceful and unarmed celebrators, including women and children, on the occasion of the Punjabi New Year (Baisakhi). This massacre is remembered as one of the deadliest attacks on peaceful civilians in the world.
- The massacre of innocents had shaken the whole of India and was the beginning of the end of the British Colonial Empire in India.
- It left a permanent scar on India-British relations and was the prelude to Mahatma Gandhi's full commitment to the cause of Indian Nationalism and independence from Britain.

In news:

- British Prime Minister expressed "regret" in Parliament for the **Jallianwala Bagh massacre**, ahead of the **100th anniversary** of the killings on April 13.
- Theresa May described the Jallianwala Bagh massacre in Amritsar as a "shameful scar" on British Indian history but stopped short of a formal apology sought by a cross-section of Parliament in previous debates.

Reflections on a massacre

Context:

- The Year 2019 marks the **Centenary of the Jallianwala Bagh Massacre (100 years)**, also known as the Amritsar Massacre that occurred on **April 13, 1919**.
- On this day, soldiers of the British Indian Army, on the orders of **Colonel Reginald Dyer**, massacred peaceful and unarmed celebrators, including women and children, on the occasion of the **Punjabi New Year (Baisakhi)**.

- This massacre is remembered as one of the deadliest attacks on peaceful civilians in the world.

Examples of other such massacre or killings (on same lines of Jallianwala Bagh):

- **1942 Lidice massacre** – In World War II, in Nazi-occupied Czechoslovakia, the Lidice massacre was a complete destruction of the village of Lidice, now in the Czech Republic. Orders were passed from Adolf Hitler and Heinrich Himmler.
- **1968 My Lai massacre** – The My Lai massacre was one of the most horrific incidents of violence committed against unarmed civilians during the Vietnam War. Many unarmed people were killed by the U.S. Army soldiers.

Do you know?

- When we compare the number of people who were killed, massacre at Jallianwala Bagh was relatively small. It was nothing compared to the **hundreds of thousands killed by the Japanese army in Nanjing in 1937-38 or by Indonesian soldiers in East Timor 1975 onward.**
- But Jallianwala Bagh's importance lies not in the numbers killed but in what preceded it and in what followed.

1919 Rowlatt Act

- The **Anarchical and Revolutionary Crimes Act of 1919**, popularly known as the **Rowlatt Act**, was passed by the Imperial Legislative Council in Delhi on 10 March 1919.
- The Act passed by the British Government was intended to give themselves greater power over the people.
- Rowlatt Act allowed the British to arrest and jail anyone they wished without trial, if they were thought to be plotting against the British. The Viceroy Government also had the power to silence the press.
- The Rowlatt Act sparked a large amount of anger with the leaders and common people of India. This however did not greatly affect the British as they were still able to keep control over the people.
- To try and put an end to this, Gandhi and the other leaders called for a Hartal (a time of fasting and suspension of work) to show the British the Indians' discontent with their rule.
- In the Punjab the protest movement was very strong, and two renowned leaders Dr Satya Pal and Dr Saifuddin Kithlew were arrested on 10th April, 1919.
- In order to protest against the arrest, public had held meeting on 13th April at Jallianwala Bagh in a small park. The meeting was attended by many women and children as well, and is considered to be a peaceful meeting.

What preceded after the Jallianwala Bagh massacre?

- The perpetrator of the massacre, General Dyer, was honored and rewarded by the British public and this removed all illusions about benign British rule in the country.
- It also marked the start of a liberation struggle like no other under Mahatma Gandhi.
- Rabindranath Tagore renounced his knighthood in protest against Jallianwala Bagh incident.
- The insults and sufferings faced by the people of Punjab trickled through the gagged silence, reached every corner of India, and the universal agony of indignation roused in the hearts of people throughout the country.
- This event caused many moderate Indians to abandon their loyalty to the British and become nationalists distrustful of the British.
- The massacre stirred nationalist feelings across India and had a profound effect on one of the movement's leaders, Mohandas Gandhi. After the Amritsar Massacre he became convinced that India should accept nothing less than full independence. To achieve this end, Gandhi began organizing his first campaign of mass civil disobedience against Britain's oppressive rule.

Connecting the dots:

- Jallianwala Bagh's importance lies in what preceded it and in what followed. Elucidate.

The legacy of Ambedkar

Introduction:

- B R Ambedkar is regarded as the **principal architect of our Constitution**.
- He believed that freedom and democratic values of the people can be protected only when the **moral values of a constitution are upheld**.
- Ambedkar also attached great importance to constitutional morality in the working of the Constitution.

Below are some of his views on different areas:

1. On the question of whether the President was bound by ministerial advice (whether he could act independently of it or contrary to it) –

- Ambedkar was of the firm view that “the President could not act and will not act except on the advice of the Ministers. He will never be able to act independently of the Ministers”.
- Shamsher Singh case – In this case, SC accepted Ambedkar's above view.

2. On Fundamental Rights and Article 32

- Ambedkar was passionate about the guarantees of fundamental rights being appropriately incorporated in the Constitution.
- He said - guarantees of fundamental rights remain ornamental promises unless they can be judicially enforced.
- With that objective in mind, the draft Constitution provided that a person can move the Supreme Court directly for the enforcement of his or her fundamental rights without going through the high court.
- Article 32 - the right to Constitutional remedies to enforce fundamental rights.

Commenting about Article 32, Dr. B R Ambedkar said –

- “If I was asked to name any particular article of the Constitution as the most important—an article without which this Constitution would be a nullity—I would not refer to any other article except this one. It is the very soul of the Constitution and the very heart of it.”

3. On functioning of democracy

- Ambedkar expressed that if democracy should be maintained, first thing to do is to hold fast to **constitutional methods of achieving** our social and economic objectives.
- It means people should abandon the bloody methods of revolution. It means that people should abandon the method of civil disobedience, non-cooperation and satyagraha.
- Ambedkar felt – where constitutional methods are open, there can be no justification for unconstitutional methods.

4. On religion and politics –

- Ambedkar warned that Bhakti in religion may be a road to the salvation of the soul. But in politics, Bhakti or hero-worship is a sure road to degradation and to eventual dictatorship.

5. On social justice –

- Social justice was Ambedkar’s mission. He believed that mere equality on paper was not sufficient.
- He said if equality in our social and economic life is denied then political democracy will be in peril. Therefore, it is important remove this contradiction at the earliest possible moment else those who suffer from inequality will blow up the structure of democracy which the Constituent Assembly has so laboriously built up.

Conclusion:

- If Dr. Ambedkar was not there in the formation of constitution, then perhaps the kind of emphasis that social justice got would not have been possible. This explains the importance of Dr. Ambedkar.
- As was his ideas of nation building so strong, so were his concerns about what was following to be there. He had cautioned fellow legislators against the use of non-constitutional methods of protest and was worried about limitless powers provided to the person whom the people worshipped. He also underlined the importance of creating not just a political democracy, but also a social and economic one. He supported the minority rights and opined that there should be solution wherein existence of the minorities are recognized as well as enable majorities and minorities to merge somebody into one. Being a social thinker, political reformer, philosophical writer with progressive ideas, he has been able to bring forward the basic human survival principles.
- Unfortunately, many of Ambedkar's hope and ideas have not fructified. Social justice, the signature tune of our Constitution, still eludes us.
- The struggle for social justice must continue with determination and its achievement would be the best tribute we can pay to one of the greatest sons of India.

Connecting the dots:

- Examine in detail the ideas and ideals of Dr. Ambedkar to make India a modern nation.
- What is the meaning and significance of a 'Modern Nation'? Describe the role of father of constitution to make India into one such nation.

Himas or Khasi kingdoms to revisit 1947 agreements

Part of: GS Prelims and Mains II – History; Polity; Tribal/Welfare issues; Centre versus state

In news:

- A federation of 25 Himas or Khasi kingdoms that have a cosmetic existence today, plan to revisit the 1948 agreements that made present-day Meghalaya a part of India.
- The revisiting is aimed at safeguarding tribal customs and traditions from Central laws in force or could be enacted, such as the Citizenship (Amendment) Bill.

Do you know?

- The 25 Khasi states had signed the Instrument of Accession and Annexed Agreement with the Dominion of India between December 15, 1947, and March 19, 1948.
- The conditional treaty with these states was signed by Governor General Chakravarty Rajagopalachari on August 17, 1948.

- The Khasi states, though, did not sign the Instrument of Merger unlike most other states in India.
- After independence, Khasi states had to sign documents beginning with the Standstill Agreement that provided a few rights to the states.
- Though the Constitution has provided self-rule to a considerable extent through tribal councils, there has been an increasing demand for giving more teeth to the Khasi states.

Rare stucco statue put on show in Hyderabad

Part of: GS Prelims I - Indian Heritage and Culture

In news:

- Nearly 1,700 years after a **life-size stucco Bodhisattva** was created by craftsmen at Phanigiri during the peak of the Ikshvaku dynasty rule, the 1.74-metre statue was put on display.
- Brown and white fragments of the statue covered with soil were laid out on two tables at the State Museum at Gunfoundry.
- This is a stucco statue and lot of soil and earth has accreted to the figure. Officials said it was one of the rare life-size figures in stucco to be unearthed in India.
- The unearthing of a large number of artefacts and structures at **Telangana's Phanigiri site** has thrown light on the Buddhist civilization that thrived there.

About Bodhisattva

- In early Buddhism, bodhisattva meant "the previous lives of a (or the) Buddha."
- In Mahayana Buddhism, bodhisattva refers to a human being committed to the attainment of enlightenment for the sake of others. Becoming a bodhisattva is the goal of Mahayana Buddhism.
- Bodhisattva may also refer in Mahayana Buddhism to archetypal bodhisattvas: mythical beings such as Avalokiteshvara and Manjushri, who are objects of devotion. to protect wildlife as summer peaks

April and May to be warmer than normal, says IMD

In news:

According to India Meteorological Department (IMD) –

- Average maximum temperatures from April to June are likely to be warmer by half a degree in several places in central and northwest India.
- The forecast is in line with the IMD's position in March, when it said March-May would be "warmer" than normal.
- The weather office also established the development of rain busting El Nino over the Pacific Ocean which will persist till June this year.
- The persistence of the phenomenon could negatively impact the June to September southwest monsoon season which delivers 70% of the country's annual rainfall.

Do you know?

About El Nino and La Nina

- El Niño and La Nina are opposite phases of what is known as the El Nino-Southern Oscillation (ENSO) cycle
- The ENSO is a recurring climatic pattern involving temperature changes in the waters of the eastern and central tropical Pacific Ocean, and changes in the patterns of upper and lower level winds, sea level pressure and tropical rainfall across the Pacific Basin.
- El Nino is often called the warm phase and La Nina is called the cold phase of ENSO. These deviations from the normal surface temperatures can have a large-scale impact on the global weather conditions and overall climate.
- El Nino refers to the large-scale ocean-atmosphere climate interaction linked to a periodic warming in sea surface temperatures across the central and east-central Equatorial Pacific. It is associated with high pressure in the western Pacific. El Nino adversely impacts the Indian monsoons and hence, agriculture in India.
- The cool surface water off the Peruvian coast goes warm because of El Nino. When the water is warm, the normal trade winds get lost or reverse their direction. Hence, the flow of moisture-laden winds is directed towards the coast of Peru from the western Pacific (the region near northern Australia and South East Asia).
- This causes heavy rains in Peru during the El Nino years, robbing the Indian subcontinent of its normal monsoon rains. The larger the temperature and pressure difference, the larger the rainfall shortage in India.

EL NINO AND LA NINA

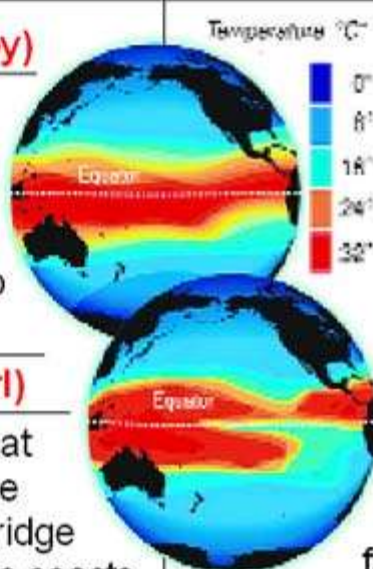
Forecasters say EL Nino weather pattern may develop later this year

EL NINO (the boy)

An irregular event of warming of Pacific waters. Occurs at intervals of two to seven years

LA NINA (the girl)

A cold episode that usually follows the warm equatorial ridge cools between the coasts of South America and Oceania



Effects on climate

The warm currents flowing towards the east displace the cooler currents to Oceania. Rainfall occurs over Central and eastern Pacific, and drought in Indonesia and Australia

Currents contribute to form a warm pool in Oceania, increase rainfall in Asia and Australia, lower the temperature on the American coasts and increase aridity

<https://www.tribuneindia.com/2012/20120813/ind7.jpg>

Chenchus

- The Chenchus are Particularly Vulnerable Tribal Group, living in dense jungles spread across Andhra and Telangana.
- The Chenchus are considered to be the most primitive and one of the two tribes in south India that still largely depend for its survival on food gathering and hunting which are their traditional occupations.
- The Chenchus speak the Chenchu language, a member of the Dravidian language family.
- Since time immemorial they have inhabited the forest-clad hills on either sides of the Krishna River, and even today the forests are their true habitat. There is no community in India poorer in material possessions than the Chenchus.
- They are inveterate forest dwellers, who have, over centuries, steadfastly refused to move out of their woods regardless of the perils of such life. If patriotism be defined as love for the land, Chenchus are patriots in true spirit.

Srinagar-Leh NH open for traffic after 4 months

Part of: GS Prelims and Mains II – Geography

In news:

- The 434-km strategic Srinagar-Leh National Highway, connecting the Kashmir Valley with the Ladakh region was thrown open after being closed for over four months due to heavy snowfall.
- Zojila Pass, at 11,516 feet above sea level, connects the picturesque Kashmir Valley with the cold Indus valley desert through the 434-km long Srinagar-Leh road.
- Border Road Organisation was involved in the snow clearance operation.

Do you know?

- Zojila: Asia's longest bi-directional road tunnel
- Zoji La will provide all-weather connectivity between Ladakh and Kashmir.
- It is said to be Asia's longest bi-directional tunnel
- Situated at an altitude of 11,578 feet on the Srinagar-Kargil-Leh National Highway
- The project, on completion, would lead to enormous boost in employment as local businesses will get linked to the national market and the beautiful region is able to receive round-the-year tourist traffic.
- It will also be of strategic value to the armed forces.
- Part of Bharatmala project
- The government has set an ambitious target of construction of 35,000 km of national highways in the next five years involving an investment of Rs 5,35,000 crore under Bharatmala.

Cyclone Fani gathers force, to hit Odisha

Part of: GS Prelims and Mains I and III – Geography; Disaster management

In news:

- Cyclone Fani intensified into a "severe cyclonic storm" and is headed towards the Odisha coast, the IMD said.
- It could become an "extremely severe cyclone" prompting the government to put the NDRF and the Coast Guard on high alert.
- Fishermen are advised not to venture into the sea and fishermen in deep sea have been asked to return at the earliest.

Do you know?

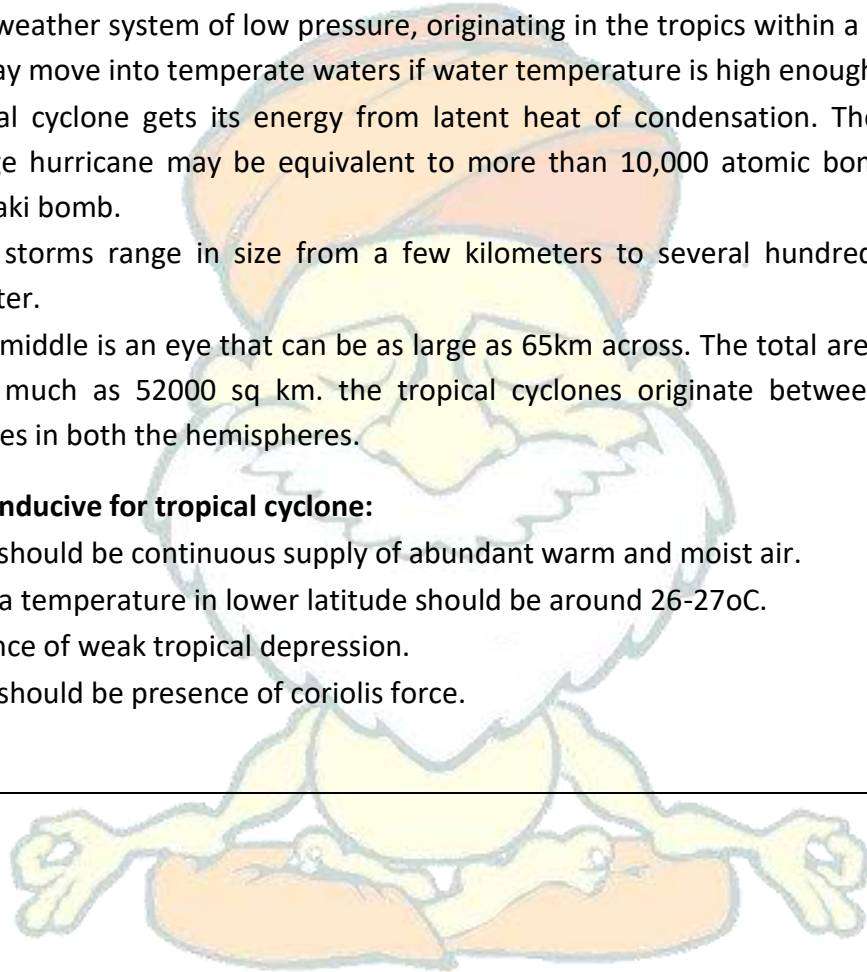
- Tropical cyclones form over oceans with surface temperatures above 26°C as strong low pressure systems that can reach diameters of more than 500 km.
- Evaporation of immense amounts of water vapour under these high temperature conditions and the related condensation aloft provide ample energy for the cyclone dynamics, leading to high wind speed and extreme precipitation.
- These usual natural phenomena are occurring more frequently than usual due to various anthropogenic and changing natural factors.

Tropical cyclones:

- It is a weather system of low pressure, originating in the tropics within a single air mass, but may move into temperate waters if water temperature is high enough to sustain it.
- Tropical cyclone gets its energy from latent heat of condensation. The energy in an average hurricane may be equivalent to more than 10,000 atomic bombs the size of Nagasaki bomb.
- These storms range in size from a few kilometers to several hundred kilometers in diameter.
- In the middle is an eye that can be as large as 65km across. The total area involved may be as much as 52000 sq km. the tropical cyclones originate between 10° and 25° latitudes in both the hemispheres.

Conditions conducive for tropical cyclone:

- There should be continuous supply of abundant warm and moist air.
- The sea temperature in lower latitude should be around 26-27°C.
- Existence of weak tropical depression.
- There should be presence of coriolis force.



POLITY/GOVERNANCE

Lokpal and Lokayuktas Act, 2013

Why effective implementation of this act is very important?

- To enhance the accountability of those in high posts.
- To make public administration clean and fair.
- To curb the growing menace of corruption of public servants in India.

What are the current laws relating to corruption cases against public servants?

- Currently, public servants (such as MPs, government employees, judges, armed forces and police personnel) can be prosecuted for acts of corruption under the **Indian Penal Code, 1860** and the **Prevention of Corruption Act, 1988**.
- This includes offences such as bribery, embezzlement, abuse of official position and unlawful purchase of property .

Actors against corruption

There are now three principal actors at the national level –

1. the Lokpal,
2. the Central Vigilance Commission (CVC), and
3. the Central Bureau of Investigation (CBI)

Corruption cases under the **Prevention of Corruption Act** and the **Indian Penal Code** can be investigated either by the **Central Bureau of Investigation (CBI)** or the **Anti-Corruption Bureau (ACB) in each state**.

- The CBI can investigate all corruption cases related to all the departments under the central government and in the union territories.
- It can also investigate cases referred to it by state governments.
- The state ACBs investigate corruption cases within the states. The investigating agencies can initiate the prosecution process **only after they have got the prior sanction of the central or state governments**.

The **Central Vigilance Commission (CVC)** is an independent body that monitors corruption in government departments. It **supervises the functioning of the CBI**.

The CVC refers cases (under the Prevention of Corruption Act) for investigation either to the CBI or to the Chief Vigilance Officer (CVO) in each department of the central government.

Based on the inquiry report, the CVC or the CVO recommends the action to be taken against a public servant. The decision to take **any disciplinary action against a civil servant rests with the department authority.**

Jurisdiction issues

The main issues are related to the jurisdiction of the Lokpal, the composition and manner of appointment and the powers vested in the body.

- The **Lokpal has jurisdiction over Group A and B public servants.** This does not deprive the CBI of its own jurisdiction over these two groups.
- The **Lokpal Act permits using the CBI for examining a complaint** against a public servant for misconduct.
- Although the **Lokpal has its own Inquiry Wing**, it can nevertheless **forward a complaint to the CBI** for a preliminary inquiry, and thereafter for registering a regular case under the Prevention of Corruption Act, 1988.
- However, it is not clear what happens when such a complaint is already being inquired into by the CBI.
- In addition to the Lokpal, the **government is also competent to order a preliminary inquiry and permit the CBI to proceed with a regular case.**
- **CBI can also register a case even without the government's nod** in instances in which a public servant is caught red-handed while receiving a bribe.
- The Lokpal Act also creates a **Prosecution Wing** exclusively for the Lokpal.

Therefore, it is not sure –

- How will Lokpal's prosecution body coordinate with the CBI's Director of Prosecution in respect of a matter handled by both of them?
- If an individual lodges a complaint with the government and the Lokpal, what should the Lokpal do?
- Does Lokpal have the authority to give direction to the CBI to keep its hands off the matter and wait for the Lokpal's own Inquiry Wing to handle the matter?
- Can the Lokpal order the CBI to suspend its inquiry in respect of a complaint and report on it to the exclusion of the government?

In crux, there is overlap in jurisdiction and functions of CVC, Lokpal and even CBI in certain areas, which can create serious functional problems.

Connecting the dots:

- The Lokpal could create more problems than it will solve. Critically comment.
- Lokpal in its existing form creates functional problems. Do you agree? Analyze whether integrating anti-corruption wings of CBI, CVC with Lokpal will solve the problems.

RTI and Judiciary

Context:

- One of the landmark legislations in India which changed the nature of governance and brought an unprecedented transparency and accountability was the Right to Information Act (RTI) passed in 2005.
- Right to information has been seen as the key to strengthening participatory democracy and ushering in people centred governance - a master key to good governance.
- However, there are certain areas where there is a debate about whether the RTI Act should be applied or not. One such institution is the higher judiciary.

Do you know?

- In 2010, the Central Information Commission (CIC) had ordered on a petition that, all correspondence between the collegium and government about the appointment of the three SC judges should be disclosed under the RTI Act.
- This order was challenged by Central Public Information Office of SC after rejecting the request of the petitioner. Ever since, the case has been pending in the apex court.
- Incidentally, the apex court which had initially resisted to even disclosing the assets and liabilities of the judges, later decided to make voluntary disclosures on the court's website.

Section 8(1)(j) of RTI, Act

- **RTI is not absolute**, it is balanced out with right to privacy of public servant and with necessarily check on disclosure of such information which can cause damage to national security or would cause embarrassment to the Government in its functioning or would be prejudicial to national interest.
- In this context, Section 8(1)(j) of RTI, Act prohibits the sharing of personal information that has no nexus to public activity or which amounts to an unwarranted invasion of privacy unless the larger public interest justifies such a disclosure.
- However, the Act left this power to Public Information Officer (PIO) to cancel request on this ground on its discretion with very limited accountability.

Whether judges are required to publicly disclose their assets under the RTI Act?

- Recently, a Constitution Bench of the Supreme Court has finally concluded hearing a crucial appeal, which raise questions whether judges are required to publicly disclose their assets under the RTI Act in light of Section 8(1)(j).

Argument in favour for disclosure of asset by Judges:

- In a landmark judgments in **PUCL (2003)** and **Lok Prahari v. Union of India (2018)**, the court rubbished the privacy claims of the political class while forcing them to publicly disclose not just their assets but also the sources of their income.
- Section 44 of the **Lokpal Act, 2013**, requires all public servants (this includes judges) to disclose their assets but is silent on whether the disclosure should be to the competent authority or the general public. This provision has already been the subject of an amendment in 2016.

Argument against for disclosure of asset by Judges:

- **Accountability of Judiciary and Public Servant vs Political Class:** Public disclosure of political class is done with the view of the right to freedom of expression of voters under Article 19 to express their choice of vote. On the other hand judiciary and public servant are not directly accountable to public but accountable to Constitution and Laws by Parliament.
- **Disclosure of Asset to CJI:** Judges of the Supreme Court had complied with the terms of a resolution adopted in 1997, in which all judges had committed to disclosing information about their assets and liabilities to the Chief Justice of India (CJI) well before the enactment of RTI. SC held that ‘there is no question on the integrity and neutrality of the CJI. Hence transparency must not be seen as panache, it must be balanced with trust, privacy and national interest.’
- In **Girish Ramchandra Deshpande v. Central Information Commissioner, 2012**, the Supreme Court ruled that the assets of the bureaucrat could not be revealed to an applicant under the RTI Act unless there was a showing of a larger public interest. Hence there is no blanket ban, if the person seeking such information could demonstrate a “larger public interest” such as wrongdoing or impropriety on the part of the public official, the information could be disclosed.

Conclusion:

- The foundation of RTI is being true to power. If the purpose is to seek truth in exercise of all power then the question is not about all kinds information has to be put in public domain.
- Complete information in public domain does not mean good governance. It is also about the mindset and approach towards transparency.
- RTI is a tool through which the institutions become accountable to the people of a country. How the further actions of constitutional bench will take place is a matter of wait and watch.

Connecting the dots:

- [Has RTI been successful in bringing transparency into governance? Critically evaluate.](#)
- The Judiciary must be brought under the purview of the Right to Information Act to address the lack of transparency in its processes and functioning. Do you agree? Critically examine.

Open up the Supreme Court

About:

Today's editorial deals with the following issues –

- 2009 Delhi HC judgment on RTI and Judiciary
- Whether Judiciary (Office of the CJI) comes under the purview of RTI Act?
- SC's stand on the issue – esp. concerned with – whether CJI is a public authority; disclosure of the information on judges' assets and correspondence of the Collegium
- Criticism of Collegium system and need for transparency in judges appointments

Context:

- High Court of Delhi (Justice Ravindra Bhat), in its 2009 landmark judgment, held that the **Office of the Chief Justice of India (CJI) was a “public authority”**, and therefore, **subject to the provisions of the Right to Information (RTI) Act**.
- Therefore, information held by the CJI (such as some context of the case or information about judges' assets) could be requested by the public through an RTI application.
- However, the Supreme Court appealed against this judgment and a stay was granted. Matters remained in limbo for a few years.
- But recently a five-judge Bench of the court finally heard the case on merits, and reserved judgment.

The issues under consideration involved –

- Justice Ravindra Bhat's ruling on the status of the Chief Justice as a public authority and the disclosure of judges' assets.
- Also on the question of whether the correspondence of the Collegium (the body of judges that selects and makes appointments to the higher judiciary) was subject to the RTI.

The following should be our stand on some questions/areas:

Does the Office of the CJI come under the purview of RTI Act?

- **Yes.** Justice Ravindra Bhat had also correctly observed in the High Court judgment that “all power— judicial power being no exception — is held accountable in a modern Constitution”.
- A blanket judicial exemption from the RTI Act would **defeat the basic idea of “open justice”**.
- Judiciary is one among the powerful organs of state and hence, workings of the courts have to be as transparent and open to public scrutiny as any other body.

Would bringing the judiciary under the RTI Act destroy the personal privacy of judges?

- **No.** RTI Act itself has an inbuilt privacy-oriented protection, which authorises withholding the disclosure of personal information unless there is an overriding public interest.

Can public request information related to judges’ assets?

- Yes. Disclosure of assets is arguably justified by an overriding public interest.

On disclosure of the correspondence of the Collegium

- This was the hot issue during the recent hearing.
- Attorney-General of India, who represented the Supreme Court before the Constitution Bench, argued that disclosing the correspondence of the Collegium would “destroy” judicial independence.
- The CJI also seemed to agree, noting that disclosing the reasons for rejection of a judge would “destroy” his or her life or career.

Do you know?

- The Collegium includes the five senior-most judges of the Supreme Court, who collectively constitute the selection panel for judicial appointments to the Supreme Court (and the three senior-most judges when it comes to the High Courts).
- India is one of the few countries where judges have the last word on judicial appointments, through the mechanism of the Collegium.
- The Collegium itself is not mentioned in the text of the Constitution. It arose out of a judgment of the Supreme Court, and in response to increased executive interference in judicial appointments, particularly during Indira Gandhi’s regime.
- Therefore, the Collegium began life as a tool to secure and guarantee the independence of the judiciary.

We are aware of “National Judicial Appointments Commission”, which was suggested as an alternative to Collegium system. But NJAC was struck down by the SC in 2015.

Why was NJAC struck down by the SC?

- SC bench had held **that judicial primacy in appointments was the only constitutionally-authorised way of securing/ensuring judicial independence** against an increasingly powerful political executive.
- However, the Collegium had come under increasing criticism, because of its opacity and perceived notion that judicial appointments were too often made in an ad hoc and arbitrary manner.
- SC too acknowledged the above criticism and vowed to evolve a system where concerns of transparency will be addressed.
- A small step towards this was made during Dipak Misra's tenure as CJI, when the resolutions of the Collegium began to be published online.

Self-serving attitude of Judiciary

- Collegium system was specifically put in place by the Supreme Court in order to guarantee judicial independence.
- Judiciary or SC's stand that there is only one permissible method to secure judicial independence — and that is through ensuring judicial primacy in the appointments process — and then to argue that the only permissible way in which this system can work is by making it immune to transparency, seems self-serving.
- SC has instituted a process of appointment that makes itself the final arbiter of judicial appointments. It should be the responsibility of SC to also ensure that that same process meets the standards of accountability in a democratic republic.

Conclusion:

Except India, judicial appointments elsewhere suggest that transparency in appointments is integral to the process.

For example –

- In the US, candidates for judicial appointments in the federal judiciary are subjected to public confirmation hearings by the Senate.
- In Kenya and South Africa, the interviews of candidates taken by judicial appointments commissions are broadcast live.

The public, thus, is in a position to judge for itself the selection process. This is crucial to maintaining public faith in the impartiality of the institution.

However, in India, the **Collegium has immunised itself from any form of public scrutiny**. The nomination process is secret, the deliberations are secret, the reasons for elevation or non-elevation are secret. This had led to extremely unhealthy climate, in which rumours become staple, and whispers about executive interference are exchanged in court corridors.

In the name of transparency, one should not destroy an institution.

A judiciary that is confident of itself and of its place in the democratic republic should not be worried about subjecting judicial appointments to public scrutiny.

Connecting the dots:

- Do you think Judiciary should be exempted from the purview of the RTI Act? Elucidate your opinion.
- The Judiciary must be brought under the purview of the Right to Information Act to address the lack of transparency in its processes and functioning. Do you agree? Critically examine.
- The independence of judiciary is necessary for ensuring its smooth functioning but at the same time transparency in the process of appointing judges is equally vital. Critically comment.

Centre denies RTI plea on CIC appointments

Part of: GS Prelims and Mains II – Polity and Governance issues

In news:

- Despite a recent Supreme Court order mandating that information on CIC appointments must be made public, the Centre has denied a RTI request for the same.

Do you know?

- The CIC is the RTI Act's highest appellate body.
- SC had directed the Centre and States to pro-actively disclose all information regarding the recruitment advertisement, the particulars of the applicants, the search and selection committees and the criteria for short-listing candidates on their websites.

Governor's impropriety

Context:

- Recently, Rajasthan governor Kalyan Singh appealed voters to re-elect Narendra Modi as the Prime Minister.
- The Governor's remarks were in violation of the Model Code of Conduct and also the neutral post he holds.

Position of the Governor in India

- According to the Indian Constitution, a **governor is a neutral post** who is supposed to **hold a neutral stance** and not side **with any political party**.
- In other words, the post of governor is constitutional and in democracy it is expected from governors to be non-partisan and maintain distance from party politics.

Therefore, such political endorsement by the Governor does not suit the dignity of the post.

Do you know?

- Over the past 65 years, no other institution in India has been misused by the ruling party at the Centre for their partisan ends the way the gubernatorial office has been.
- There have been certain instances in which Governors subverted the people's mandate, made a mockery of democracy and threw Constitutional propriety to the winds during the last 65 years.

Rajasthan governor Kalyan Singh's political endorsement is one such incident and has **reignited the debate on the independence and neutrality of the constitutional post**.

Given the vagueness surrounding the process of appointing and removing the Governor, **doubts have been raised about the 'legal nature' of his office**.

Governor is expected to advance the cause of 'federalism' and 'democracy', which form a part of the basic structure of the Constitution.

Views on post of Governor

- The Sarkaria Commission described the Governor as **"a Constitutional sentinel and a vital link between the Union and the State."**
- In S.R. Bommai (1994), the Supreme Court said, "The office of the Governor... is intended to **ensure protection and sustenance of the constitutional process of the working of the Constitution** by the elected executive."
- M.K. Gandhi said about the Governor's office: "He would be an arbiter when there was a constitutional deadlock in the State and he would be able to **play an impartial role**."
- According to B.R. Ambedkar, "He is the representative not of a party; he is the **representative of the people as a whole of the State**. It is in the name of the people that he carries on the administration."
- In Hargovind Pant v. Raghukul Tilak (1979), the Supreme Court affirmed that the "office of the **Governor was not subordinate or subservient to the Government of India**".

Conclusion:

Despite his unique constitutional positioning, the Governor is sometimes not seen as willing or able to discharge his functions as judiciously, impartially and efficiently as envisaged by the first Administrative Reforms Commission.

Successive reports by Sarkaria, Punchhi and Venkatachaliah Commissions reveals that the independence and dignity of the **gubernatorial office** is invariably undermined by the appointment of persons not suited to the post, the lack of security of tenure, the lack of an appropriate removal mechanism, with no reasonable post-retirement benefits and limitations on post-retirement political ingratiation.

It is high time that the recommendations of the relevant commissions are implemented in letter and spirit to obviate the danger of a full-blown constitutional crisis, to buttress constitutional morality and to restore the dignity of this office.

Connecting the dots:

- [Should politically active candidates be debarred from being appointed as Governors? Critically examine.](#)
- Governor has a constitutional obligation to preserve, protect and defend the constitution. They must not only be fair but also be seen to be fair. Elucidate.

Trickeries of the money bill

Context:

- The Supreme Court recently heard oral arguments in **Revenue Bar Association (RBA) v. Union of India**, in which the **validity of the Finance Act of 2017** is under challenge.
- Before going into the editorial, we should be aware about “Finance Bill”.

Basics: “Finance Bill”

- Finance bills are legislative proposals presented in the Lok Sabha (India's lower house) before the beginning of every financial year and after the budget announcement for the next financial year.
- Finance bills essentially propose all the amendments to be made to various acts (such as the Income Tax Act 1961) to implement the budget in the coming financial year.

Why Finance Act of 2017 is in news for wrong reasons?

- The Act contained provisions that bring into force the mandatory requirement for unique identification Aadhaar registration, prohibits cash payments above a certain

payment, merges quasi judicial tribunals, restructures the appointment of members to certain judicial tribunals and amends the rules on the funding of political parties.

- The controversial aspect was the way Finance Act, 2017 was styled as money bill and passed by the Lok Sabha. In addition, it contained provisions for structure and re-organisation of tribunals.
- The Act also permitted the central government to decide the terms of service including appointments, term of office, salaries and allowances, and removal of tribunal members through rules.

We know that (from Basics), ordinarily, the Finance Act seeks to give effect to the government's fiscal policies.

- However, in Financial Act of 2017, the state not only set the fiscal agenda for the year ahead but it also toppled the existing regime governing the working of 26 different judicial bodies.

Until recently, each of these judicial bodies or panels was governed by a separate statute, and those laws individually contained a set of principles providing for the criteria employed to select and remove members to and from these bodies, and for salaries, allowances and other such service conditions of the members.

Therefore, in one fell swoop, the Finance Act not only abolished some of the tribunals but also altogether repealed the standards provided in the different statutes.

In their place, the law vested in the Central government an absolute, untrammelled power to make rules to effectively govern the operation of the tribunals.

Role of Speaker and Supreme Court

- Article 110 of Indian Constitution specifically lists 'matters' that a draft Bill should contain to be deemed as a Money Bill.
- Therefore, if any other subjects/matters are listed under the Bill other than those mentioned under Article 110, could be considered as not a money bill.
- However, the Union government argued that the Speaker of the Lok Sabha decision is final and relied on Article 110(3), which states that in cases where a dispute arises over whether a bill is a money bill or not, the Speaker's decision shall be considered final. It also went on to assert that speaker decision was beyond judicial review.
- But, the Supreme Court has repeatedly held that the finality accorded to the Speaker's decision does not altogether oust the court's jurisdiction.

- Constitution expressly vests in the Supreme Court and in the high courts the power to review governmental actions, and issue prerogative writs every time those actions exceed the Constitution's remit.
- The SC holds that the Speaker derives her power from the Constitution and therefore, in classifying a draft law as a money bill, her decision has to be demonstrably justifiable.
- Also if provided immunity from judicial scrutiny, it would effectively allow the government to elude the Rajya Sabha's constitutional checks by simply having the Speaker classify a draft law as a money bill regardless of whether it, in fact, meets the conditions stipulated in Article 110(1) or not.

Conclusion:

- Money bills exist simply to ensure that the Rajya Sabha isn't allowed to bring down a government by refusing it access to the exchequer for everyday governance. To use it as a means to nullify the Upper House's democratic role in making substantive legislation denigrates the Constitution's form which Ambedkar and the Constituent Assembly considered inviolate.
- Such move could whittle down judicial independence, as the state can appoint its own personnel to tribunals and control the appointment process.
- It undermines the parliamentary democracy and violates the basic principle of separation of power.

Connecting the dots:

- The recent stalemate in the Rajya Sabha over crucial bills has given impetus to a thought that important bills should be converted into money bills so that their legislation doesn't require the approval of the Rajya Sabha. What are your views on this issue? Also discuss the constitutional provisions in this regard.
- What reasons would you attribute to the decline of parliamentary standards? Can you suggest some remedies?
- Many bills are passed without debates and deliberations by the Parliament. Is it a good sign for a mature democracy? Examine.

Supreme Court to deliver verdict on anonymous electoral bonds

Part of: GS Prelims and Mains II – Electoral Bonds; Governance issues; Accountability and Transparency related issues

In news:

- SC to pronounce its verdict on the legality of the electoral bonds scheme.

- The apex court had said that if the identity of the purchasers of electoral bonds meant for transparent political funding is not known, then the efforts of the government to curtail black money in elections would be "futile".

About Scheme of Electoral Bonds

- Electoral Bond would be a bearer instrument in the nature of a Promissory Note and an interest free banking instrument.
- A citizen of India or a body incorporated in India will be eligible to purchase the bond.
- Electoral Bond (s) would be issued/purchased for any value, in multiples of Rs.1,000, Rs.10,000, Rs.1,00,000, Rs.10,00,000 and Rs.1,00,00,000 from the Specified Branches of the State Bank of India (SBI).
- It will not carry the name of payee.
- Electoral Bonds would have a life of only 15 days during which it can be used for making donation only to the political parties registered under section 29A of the Representation of the Peoples Act, 1951
- Parties which secured not less than one per cent of the votes polled in the last general election to the House of the People or a Legislative Assembly.
- The Electoral Bonds under the Scheme shall be available for purchase for a period of 10 days each in the months of January, April, July and October, as may be specified by the Central Government.
- An additional period of 30 days shall be specified by the Central Government in the year of the General election to the House of People.
- The Electoral Bond(s) shall be encashed by an eligible political party only through a designated bank account with the authorised bank.

Election Commission bans release of biopics

Part of: GS Prelims and Mains II – Indian Polity and Governance

In news:

- Election Commission **banned the release of the biopic** (a film on PM Narendra Modi)
- EC ruled that any **poster or publicity material** concerning any such certified content, which either depicts a candidate for the furtherance of electoral prospect, directly or indirectly, shall not be put to display in print media, without the prescribed instructions of pre-certification in the area where **model code of conduct (MCC) is in operation**.

Do you know?

- Any cinematograph material, certified by the appropriate authority, if there exists such a violation or on receipt of complains in this regard, shall be examined by a committee duly constituted by the commission, which will then suggest appropriate action.
- The committee would be headed by a retired Justice of the Supreme Court or retired Chief Justice of any High Court.

What the constitution says?

- Under **Article 324** of the constitution, superintendence, directions and control of elections are bestowed upon the commission and it is its main duty to take necessary measures to create a level playing field and provide a conducive electoral environment to all the stakeholders.
- According to the commission, Political contents such as biopic pose a serious threat to the level playing field, as they may create an impression of the truthfulness of such content being shown through television, cinema, internet-based entertainment programmes or the social media.

Issue of EVM malfunctioning: Demand for verification of 50% of VVPAT machines

Part of: GS Mains II – National issue; Accountability and Transparency issues

In news:

- Leaders of major Opposition parties to move SC again for 50% of the Voter Verifiable Paper Audit Trail (VVPAT) machines with the Electronic Voting Machines (EVMs).
- Opposition parties argued that the confidence of voters can be gained only through paper trail. VVPAT ensures the accuracy of the voting system.

We had read recently that the SC had directed the Election Commission to increase random matching of VVPAT slips with EVMs from one polling booth to five booths in every Assembly segment to instil confidence in voters.

www.iasbaba.com

Context:

In recent weeks, much has been written about the likely politicisation of the army, especially after more than 150 senior military veterans, including several former service chiefs, wrote a letter to the President expressing their anguish over the 'politicisation' of the military.

They requested him “to take all necessary steps to urgently direct all political parties that they must forthwith desist from using the military, military uniforms or symbols, and any actions by military formations or personnel, for political purposes or to further their political agendas”.

Why military should be kept out of politics?

- The President is the supreme commander of the armed forces, not the head of any political party or alliance in power, including the Prime Minister.
- The forces serve the nation and not the government in power.
- It has no role in government decision making nor interferes with its functioning. It only advises on military matters, for which it is the sole authority.
- Therefore, any politicization will lead to violation of the very secular environment and the vibrant democracy.
- Using military activities to shop for votes will lead to political mud-slinging, to the detriment of the honour and sanctity of the special forces.

The use of the armed forces as a political tool is just one side of the coin. Even more dangerous is the fact that it sends the signal to the top brass that there is nothing wrong in intermixing politics with the military.

The eventual lesson they will learn is that they can interfere in the political process with impunity since the civilian leadership has already legitimised the military's use in the political realm.

Conclusion:

- In recent years, many senior serving officers have commented on important domestic and international issues, such as immigration and India-Pakistan relations, that until recently had been off limits for the military brass.
- This is an unprecedented development that needs to be reversed in order to preserve civilian supremacy over the armed forces and keep the political and military arenas distinct.
- Unlike the neighbouring countries, the Indian Armed Forces have practised the constitutionally mandated “civilian supremacy over the military,” even though the reciprocal dignity of the apolitical existence has not been maintained by the politicians in recent times.
- Therefore, the nexus between military and politics does not bode well for Indian democracy.

Politicisation of the armed forces is a self defeating exercise in a democracy and political parties who attempt it, do so at their own peril. Once the armed forces are politicised they become law unto themselves.

Connecting the dots:

- Changing the apolitical nature of the military forces is a dangerous trend and can have serious repercussions for democracy, the morale of soldiers and the security of the country. Elucidate.
- Discuss the need for keeping military or armed forces insulated from the effects of religion and politics.

State financing for fair and transparent poll funding

Context:

Indian elections are the world's biggest exercise in democracy but also among the most expensive. India's campaign spend is only rivalled by the American presidential race, the world's most expensive election.

- In just 28 days since the announcement of the general election, the Election Commission (EC) has seized cash, drugs, alcohol, precious metals and other items worth Rs 1,800 crore.
- **Rs 70 lakh is the legal upper limit of expenditure per candidate** for Lok Sabha elections.
- The law prescribes that the total election expenditure shall not exceed the maximum limit prescribed under **Rule 90 of the Conduct of Election Rules, 1961**.
- However, simple arithmetic would show that the seized amount can fully finance up to five candidates from each of the 543 constituencies.
- And the amount seized is just the tip of the iceberg. The expenditure in any election is estimated to be several times the legal upper limit.

Just remember –

- Rule 90 of the Conduct of Election Rules, 1961
- Rs 70 lakh is the legal upper limit of expenditure per candidate
- The EC has identified **unchecked money power as one of the biggest concerns** and has been rooting for capping party and campaign expenditure to ensure a level-playing field for all parties and to check the money power visible during every elections.
- However, expenditure in any election is estimated to be several times the legal upper limit.

Do you know?

- Under **Section 29B of the Representation of the People Act 1951**, political parties are free to accept donations from any person, except from a foreign source.
- **Reasons:** money wields the ability to disrupt political agenda and foreign money dilutes electoral integrity.

Can state financing of elections ensure free and fair elections?

- State funding of elections has been suggested in the past in response to the high cost of elections.

A few government reports have looked at state funding of elections in the past, including:

- Indrajit Gupta Committee on State Funding of Elections (1998)
- Law Commission Report on Reform of the Electoral Laws (1999)
- National Commission to Review the Working of the Constitution (2001)
- Second Administrative Reforms Commission (2008)
- State financing **will establish a fair playing field** for parties with less money. Absence of a level playing field reduces the effectiveness of our democracy.
- **Corporate donations constitute the main source of election funding** in India which is **flooded with black money**, with business and corporate donations to political parties commonly taking this form.
- Therefore, **evolving a transparent method of funding political parties** is vital to the system of free and fair elections.

But the concern for transparency in political funding is at complete odds with the **electoral bonds scheme** notified by the government.

Simply put, anybody can buy electoral bonds in the form of bearer bonds from specified branches of the State Bank of India and donate it anonymously to a political party of their choice; the party must cash the bonds within 14 days. All donations given to a party will be accounted for in the balance sheets but without exposing the donor details to the public.

The anonymity provision under the scheme is antagonistic to transparency — the bonds merely enable an “on-the-books” secretive transfer. Far from reducing the large-scale corporate funding of elections, the introduction of electoral bonds does not even address this issue.

Alternately, state funding of the recognised political parties and outlawing of corporate funding could be instrumental in making the electoral process fairer and more participatory.

State financing as a viable alternative

- Thus, necessity would dictate that the task of electoral funding be given to the EC under Article 324.
- A fair and transparent manner to finance the political parties would require a censure of unaccounted money and direct donations by corporates and non-voters to political parties.
- State funding of recognised political parties is a viable alternative.
- A state funding scheme would be viable through the levy of an election cess on the direct taxes.
- A **National Election Fund** could be maintained by the EC, into which the proceeds from this cess may be deposited
- Parties would be inclined to adopt a more inclusive agenda when in government since more votes will translate into more state funding. Parties will also vie for votes in absolute numbers than merely be the first past the post. Democracy will then truly be of the people, for the people and by the people.

Connecting the dots:

- State funding of elections is a potential solution to reduce the role of unaccounted cash in the electoral process and ensure level playing field. Comment.
- If corruption-free and fair elections are a pillar of democracy, the taxpayers should pay for elections because they have a real stake in corruption-free good governance. Do you agree? Substantiate.
- What are various electoral and political funding reforms which need to be undertaken to bring in transparency and accountability in the Indian political environment. Describe.
- The need for transparency in electoral funding for a level playing field in elections is a fundamental requirement. Discuss. Also suggest measures needed to address the problem of unchecked money power visible during every election.

Weathervane of democracy

Context:

- For the first time since the general election of 1996, the reputation of the Election Commission of India (ECI) has taken a beating.
- Surveys showed that trust in the ECI was the highest among the major public institutions in India.
- However, there are now perceptions that the ECI has responded inadequately, or not at all, to violations of the Model Code of Conduct (MCC)

Model Code of Conduct

- The MCC, like the ECI itself, is a **unique Indian innovation** and encapsulates an important story about democracy in India — the conduct of free and fair elections.
- Though **just a brief set of guidelines, not law**, the MCC is a powerful instrument.
- It comes into force when the ECI announces election dates and comprises directions to government functionaries, political parties and candidates aimed at an impartial election process.
- Important provisions include barring governments from making policy announcements to sway voters and restraining political actors from inciting hatred against any group, or bribing or intimidating voters.

Origin of MCC

- The emergence of the code (during 1962 Lok Sabha elections) and its voluntary acceptance by political parties showed the commitment of the political elite to the holding of free and fair elections.
- However, from 1967 till 1991, as political competition intensified, political actors began to resort to corrupt electoral practices. Governments made populist announcements on the eve of elections, had pliant officials in key positions while intimidation of voters and booth capturing increased.
- After 1991, the ECI refined the code, making it more stringent by including a section about the misuse of powers by ruling parties and renamed it the MCC. ECI began to command a new respect and electoral malpractices declined dramatically.
- Though it demanded that the MCC be incorporated in the law, no such law could be passed.

MCC in contemporary times

- Today, the MCC is at a crossroads, as is the ECI.
- Electoral malpractice has appeared in new forms. Voter bribery and manipulation through the media have become the techniques of unethically influencing voters in place of voter intimidation and booth capturing. These malpractices are harder to stem.
- The misuse of the media is difficult to trace to specific political parties and candidates.
- The ECI's response to the new challenges has been inadequate, even though it has evolved a code for social media.
- At the same time, the misuse of money and media power has intensified since the last two elections.
- ECI's capacity to respond to the older types of violations of the MCC has weakened.
- Political actors are regaining the confidence to flout the MCC without facing the consequences.

Today, the ECI's own commitment to the MCC (which is considered to be the weathervane of our democracy) seems to have weakened, a bad omen for our democracy.

Sealed disclosure: SC order on electoral bonds

Introduction:

Electoral Bonds are instruments for the funding of political parties. It was introduced with following objectives:

- to ensure that the funds being collected by the political parties is accounted money or clean money
- it will also boost digital transactions

However these bonds raises the question about the anonymity-based funding scheme on the grounds that

- it promotes opacity,
- opens up the possibility of black money being donated to parties through shell companies and
- empowers the ruling party, which alone is in a position to identify the donors and, therefore, well placed to discourage donations to other parties.

Recent Supreme Court Verdict:

- The Supreme Court's interim order asks political parties to disclose to the Election Commission in sealed covers, details of the donations they have received through anonymous electoral bonds.
- The court notes in its order that the case gives rise to "weighty issues which have a tremendous bearing on the sanctity of the electoral process in the country".
- However experts claim that it is an inadequate and belated response to the serious concerns raised about the opaque scheme.

Analysis of the interim order:

- It was considered that the time available was too limited for an in-depth hearing. Hence to address the concern about the dangers of anonymous political funding, it directed political parties to have the names, subscriber of Electoral bonds scheme to the EC, albeit in sealed envelopes, until the court decides if they can be made public.
- However, the order, unfortunately, preserves the status quo, and any effect that the possible asymmetry in political funding would have on the election process will stay as it is.

- There is some concern that a disproportionately large segment of the bonds purchased by corporate donors has gone to the party in power because the government can know who donated what money and to whom.
- This donor anonymity may end if the court decides that the EC should disclose the names at the end of the litigation, but the influence such donations would have had on the electoral outcome would remain undisturbed.
- Given this premise, it could be asked whether the judicial intervention could not have come earlier.
- However, all it has done now is to ensure that its interim arrangement does not 'tilt the balance' in favour of either side.

Conclusion:

- For the last two decades, the Supreme Court has been proactive in empowering voters and in infusing transparency in the system.
- It has developed a body of jurisprudence that says the electoral process involves the voter being given information about candidates, their qualifications, assets and crime records, if any.
- Now that there is no stay on the operation of the scheme, the court must render an early verdict on the legality of the electoral bond scheme.
- The glass is half filled and half empty. We have very precious things in the parliamentary democracy but we also have a very long way to go.

Connecting the dots:

- How can electoral bonds help in redefining the process of initiating electoral reforms? Examine.
- The need for transparency in electoral funding for a level playing field in elections is a fundamental requirement. Discuss. Also suggest measures needed to address the problem of unchecked money power visible during every election.
- There has been an impetus on streamlining political funding in India. In this light, discuss the potential of electoral bonds.

Being fair and transparent

Context:

- Two phases of the 2019 general election have been completed.

- Since the Model Code of Conduct came into effect, in just the first two phases this time, the Election Commission (EC) has seized cash, drugs, alcohol, precious metals and other items worth Rs 2,600 crore.
- The amount seized has already surpassed the entire seizures made in the nine phases of the general election in 2014.
- Huge hauls of drugs were smuggled into Gujarat. Uttar Pradesh is awash with liquor. Tamil Nadu has seen the largest seizures of illicit cash —over ₹514 crore.

These vast sums intended to bribe or influence voters prove several things.

1. These sums represent only a fraction of current illegal spending, as the amount seized is just the tip of the iceberg.
2. Bulk of illegal tranches of money, liquor or freebies (which have not been detected by the EC's machinery or by the vigilance of electoral officials) would have reached their destination.
3. Political players have refined their methods to move their funds to their destinations even before the elections are announced. (They are steps ahead of the EC's observers or vigilance teams)
4. Rs 70 lakh is the legal upper limit of expenditure per candidate for Lok Sabha elections (prescribed under Rule 90 of the Conduct of Election Rules, 1961). However, simple arithmetic would show that the seized amount can fully finance up to six to seven candidates from each of the 543 constituencies.

Why there is a need to re-examine our rule book?

- From the above it is clear that, **every rule in the book is being broken.**
- There is **no transparency on how political parties collect or spend their funds.**
- **Limits of candidate spending are exceeded** in every single case.
- EC had deployed over 2,000 Central observers and thousands of vigilance squads were set up – **huge cost to exchequer.**

Major concern: Electoral Bonds

- Electoral bonds, far from enabling a legitimate and transparent means of political funding, have proved to be the reverse.
- The EC, in its own affidavit before the Supreme Court, has admitted as much.
- Electoral bonds are a pathetic admission of government's failure to curb black money in political funding.
- Most political parties receive funds from corporates as well as rich individuals. The ruling parties usually get the lion's share of these funds.
- The electoral bonds scheme has been designed in such a way as to keep the identity of the donor absolutely confidential.

- Far from reducing the large-scale corporate funding of elections, the introduction of electoral bonds does not even address this issue.

The way ahead:

- Any serious reform with regard to funding must come from the EC itself.
- The EC should convene a conference of all stakeholders, including of course all recognised political parties, both Central and State.
- The list of stakeholders must also include the best constitutional and legal minds in our country.
- EC has powers inherently enshrined in Article 324 of the Constitution — powers so great that there is arguably no other electoral management body with similar powers.
- The powers of the EC are so enormous and so all-encompassing that they exceed the powers of the executive in all election-related issues during the course of the election period.
- Therefore, these powers must be exercised judiciously, fairly and equitably.

Connecting the dots:

- What are various electoral and political funding reforms which need to be undertaken to bring in transparency and accountability in the Indian political environment. Describe.
- The need for transparency in electoral funding for a level playing field in elections is a fundamental requirement. Discuss. Also suggest measures needed to address the problem of unchecked money power visible during every election.

Role of Judiciary in ensuring Free and Fair Election

Introduction:

- Free and fair election is the bedrock of democracy, as it legitimates the democracy through citizen's right to vote.
- Democratic legitimacy is periodically renewed and the foundations of the republic remain stable with the exercise of the citizen's right to vote and voting must take place as part of a free and fair election, which is ensured by Election Commission of India and complemented and enabled by the Supreme Court, where ECI lacks power and political will does not want reform due to parochial narrow political gain.

Enabling role of Supreme Court to Free and Fair Election:

In many judgments over the years, the court has set out the enabling conditions that guarantee that voting remains a meaningful activity.

For example –

- SC had held that the **citizen's right not to be arbitrarily denied the vote**. Therefore, the court has held that **voting is a fundamental freedom** guaranteed under Article 19(1)(a) of the Constitution.
- The **right to know** (thus, requiring compulsory declaration of certain information by candidates) and
- The **right to a secret ballot** (that has prompted the court to order the inclusion of a NOTA, or None of the Above option).

From the above judgments and ruling, the Supreme Court has reminded us many times, public faith in the electoral process is crucial to the continued survival of republican democracy, and it is these institutional safeguards that come together to ensure it.

However in recent conduct of Indian courts reveals an unfortunate gap between judicial rhetoric and actual enforcement.

Judicial Inaction in ensuring Free and Fair Election:

Electoral Bond issue:

- The electoral bond scheme allows limitless, secret donations to political parties, including (and especially) by corporations.
- It strikes a dagger through the heart of the right to know, because it denies to voters the knowledge of who funds the people who ask for their vote.
- The electoral bonds scheme was challenged immediately after it came into force; the Supreme Court, however, held off on hearing the case until a few weeks ago, and then it postponed the case to after the elections, citing a paucity of time.
- In the meantime, significant sums of anonymous donations have come in through electoral bonds, and an overwhelming percentage of them have gone to the ruling party.

Totaliser Machines Case and Right to Secret Ballot:

- Scholar Mukulika Banerjee had pointed out as early as 2017, and as journalist Ishita Trivedi demonstrated more recently, political parties are now able to determine voting outcomes at the level of individual booths because of the use of EVMs without totaliser machines.
- This destroys the very concept of the secret ballot, and makes threats to distorting the electoral process.
- However, when in 2018 a case was filed before the Supreme Court asking for the use of totaliser machines in elections — that would restore the secrecy of the ballot — the court dismissed it without even according it a hearing.

Freedom to Vote:

- The issue of voter deletions surfaced late last year, especially in the context of Assembly elections in Telangana, where the Election Commission of India (EC) itself admitted to the existence of the problem due to unaudited software to cleanse the electoral rolls.
- Accordingly, a case has been filed before the High Court, asking that the EC be required to reveal the source code of the algorithm it was using, and open it up for auditing.
- Months have passed, the general election has come, but the High Court has failed to decide the petition.

Conclusion:

- With recent electoral issues it seems that judiciary have dodged and ducked the issues, instead of solving them.
- While in popular imagination, the primary role of the courts is to protect the fundamental rights of individuals against the state, another — equally critical — task of courts is to ensure that the ground rules of electoral competition, which are necessary to ensure free and fair elections, are maintained.
- This, therefore, is an arena where courts have to be even more vigilant than usual, because what is at stake is the foundational legitimacy of democracy itself.

Connecting the dots:

- Analyze the complementary role of Supreme Court in ensuring free and fair election along with Election Commission of India.
- Illustrate the contribution of Election Commission and Supreme Court in strengthening electoral democracy in India.

Tackling hate speech**In news:**

- There were many instances of leading politicians involved in communally provocative and divisive speeches.
- Below are some laws that can be used in speeches that are communally sensitive or incite religious feelings.

Tackling hate speech

Some laws that can be used in speeches that are communally sensitive or incite religious feelings:

(i) Indian Penal Code, 1860

- Section 124A IPC penalises sedition
- Section 153A IPC penalises 'promotion of enmity between different groups on grounds of religion, race, place of birth, residence, language, etc., and acts prejudicial to maintenance of harmony'

(ii) Representation of The People Act, 1951

- Section 123(3A) and Section 125 prohibits promotion of enmity on grounds of religion, race, caste, community or language in connection with election as a corrupt electoral practice and prohibits it

(iii) Cable Television Network Regulation Act, 1995

- Sections 5 and 6 of the Act prohibit transmission or re-transmission of a programme through cable network in contravention to the prescribed programme code or advertisement code

(vi) Cinematograph Act, 1952

- Sections 4, 5B and 7 empower the Board of Film Certification to prohibit and regulate the screening of a film

Pic:

https://d39gegkjaqduz9.cloudfront.net/TH/2019/04/17/DEL/Delhi/TH/5_01/17960ce8_2876028_101_mr.jpg

Govt. suspends cross-LoC trade in J&K

Part of: GS Mains II and III – Centre-State Relations; Security issues; Economy and issues related to it.

In news:

- Ministry of Home Affairs (MHA) suspended the cross-Line of Control (LoC) trade in Jammu and Kashmir, citing “funneling of illegal weapons, narcotics and fake currency” as reasons.
- A probe by the National Investigation Agency (NIA) and the MHA revealed that trade are being operated by persons closely associated with banned terrorist organisations.
- And especially after India withdrew the Most Favoured Nation status to Pakistan aftermath Pulwama attack and imposed higher duty, the LoC trade was likely to be misused to a much larger extent.

Suspension of cross-LoC trade

Part of: GS Mains II and III – Centre-State Relations; Security issues; Economy and issues related to it.

Context:

- In previous DNA, we read that Ministry of Home Affairs suspended the cross-Line of Control (LoC) trade in Jammu and Kashmir, citing “funnelling of illegal weapons, narcotics and fake currency” as reasons.
- The decision is set to impact around 300 traders, and more than 1,200 people who are directly and indirectly associated with the trade on this side.

Now in news:

- Traders and politicians in Kashmir have criticised the government over the sudden suspension of cross-Line of Control trade.
- Sources in the Ministry of Home Affairs said the government was particularly alarmed by the case of U.S.-origin California almonds, which was not just a violation of the barter arrangement but also was under-invoiced to provide funds to anti-national elements and terrorist organisations in the Valley to fuel anti-India operations.
- The government will revisit the issue of resuming trade after stricter measures are put in place.

 [-based terrorists had role in cross->](#)

Part of: GS Mains III – Economy; Security issues

In news:

- Ten Pakistan-based terrorists have been found involved in funneling illegal weapons, narcotics and fake currency into the Valley after the government suspended cross-Line of Control (LoC) trade between Jammu and Kashmir and Pakistan-occupied Kashmir (PoK).
 - The Ministry of Home Affairs had cited misuse by militants as the reason for shutting down the trade.
 - Firms under the control of some militants were doing LoC trade with Indian trading firms operated by their own relatives on the Indian side.
 - The channel of LoC trade, meant to facilitate exchange of goods of common use between local populations, was being exploited to fund illegal and anti-national activities in Jammu & Kashmir.
-

Suspension of LoC trade

Context:

- In the last decade, the **Line of Control (LoC)** in Jammu and Kashmir has often been re-interpreted as the **line of commerce and co-operation**. This paradigm shift was the result of initiation of two **confidence-building measures (CBMs)** between India and Pakistan — cross-LoC trade and cross-LoC travel.
- It was representative of a **constructive bilateral engagement process** in the midst of political upheavals.
- However, recently, the government of India announced the suspension of trade across LoC at the two designated points expressing concerns over 'illegal inflows of weapons, narcotics and currency' in the country.
- 'A stricter regulatory regime' is expected for re-initiation of trade.
- The unexpected suspension of the trade has affected locals. Traders have incurred significant losses as most of the goods were in transit while some goods were sold at a lower price in the local markets of Jammu and Kashmir.

Do you know?

- Cross-LoC trade is an intra-Jammu and Kashmir trade, in the form of barter of goods on a reciprocal basis.
- Started on October 21, 2008, the trade has been conducted through a standard operating procedure (SOP) mutually agreed by both the countries.
- The SOP enlists the 21 categories of items to be traded on zero tariffs.
- As per the SOP, LoC trade takes place four days a week, wherein traders are allowed to exchange 70 trucks per day.
- The trade-in (import) and trade-out (export) goods have to be balanced to zero for each trading firm within a period of three months.

Cross-Border trade

- The total number of traders registered is approximately 600.
- Since 2008, trade has shown an average year-on-year growth of about 19%, reaching a cumulative value of over ₹6,500 crore to date.
- It has generated more than 1.6 lakh job days.
- Generated approximate freight revenue of ₹66.50 crore

The above figure indicates the potential that this trade holds for social and economic development within Jammu and Kashmir.

Limitations:

- Despite its success in generating economic benefits, the **operational and policy level deficiencies** render the trade vulnerable to misconceptions and malpractices.
- **Lack of clarity in the SOP** towards rules of origin, items list, goods and services tax (GST)/local taxation mechanisms are some of the limitations.
- A practice of **‘trade number selling’** was prevalent at Trade Facilitation Centres (TFCs) wherein few trading firms sell their registration/token numbers to other trading firms to send the latter’s goods across the LoC out of turn in the roster system.
- This practice has created a gap between the number of genuine traders and traders involved only in ‘trade number selling’.
- Presence of ‘seasonal traders’ - traders who are active only for few months led to a negative balance overall in the barter trade.
- Infrastructural issues such as a non-functional weighbridge, lack of CCTV cameras and truck scanners, and an absence of regular communication channels – warrant reforms in the trade practices.

The way out:

- Streamlining LoC trade would require both infrastructural and policy level interventions.
- A revision in the SOP is required to highlight the trader re-registration process.
- There should be clarity on the ‘rules of origin’ of goods and tradeable commodities need to be identified.
- Eight-digit HS (harmonised system) codes must be assigned to ensure clarity on the items.
- A token system on a first-come-first-serve basis should be explored. This will check the misuse of trade registration number in the roster system.
- Digitisation of the TFCs must take place, therefore, process of record keeping becomes easy, transparent and accessible.
- Digitised TFCs should be enabled with a ‘trader notification system’ for timely reminders to achieve zero barter balance for continuation of trade.
- In case of non-compliance, a strict ‘trader de-listing policy’ needs to be put in place.
- Regular meetings must also be held between the trade facilitation officers of both sides of the LoC to ensure co-ordination of such activities and exchange of the list of suspended/banned traders.
- Infrastructure upgradation such as installation of truck scanners, functional CCTV cameras for security, and calibration of weighbridges, are essential to check the inflow of banned items, narcotics and weapons.
- Sustenance of a CBM requires regular policy and operational-level interventions.

Connecting the dots:

- Do you think suspension of LoC trade is a poorly-thought move that shrinks the space for manoeuvre in Kashmir and with Pakistan?
- Discuss why India and Pakistan resort to informal trade?

Plea in SC on voting rights of undertrials and convicts

Part of: GS Prelims and Mains II – Polity; Fundamental Rights; Election and Voting Rights

In news:

- Supreme Court is hearing a plea filed by a law student questioning an electoral law which denies undertrials and convicts their right to vote.
- The petition highlights how the Section sees both an undertrial and a convicted person equally. The former's guilt is yet to be proved in a court. A person is innocent until proven guilty by law.
- Despite this, it denies an undertrial the right to vote but allows a detainee the same. However, a person out on bail is allowed to cast his vote.
- The plea argued that the provision violates the rights to equality, vote (Article 326) and is arbitrary. It is not a reasonable restriction.

Do you know?

- **Section 62(5) of the Representation of People Act of 1951** mandates that “no person shall vote at any election if he is confined in a prison, whether under a sentence of imprisonment or transportation or otherwise, or is in the lawful custody of the police”.
- The provisions however exempt a person held under preventive detention from this rigour.
- **Article 326** of Indian Constitution: Elections to the House of the People and to the Legislative Assemblies of States to be on the basis of **adult suffrage**.

SC: filthy language not criminal intimidation

Part of: GS Prelims and Mains II – Polity

In news:

- Supreme Court recently held that – ‘abusing a person with filthy language alone does not constitute the offence of criminal intimidation’.

- The judgment held that - the threat must be with intention to cause alarm to the complainant to cause that person to do or omit to do any work. Mere expression of any words without any intention to cause alarm would not be sufficient to bring in the application of this section.
- In other words, intentional insult must be of such a degree that it should provoke a person to break the public peace or commit any other offence. The mere allegation that the appellant came and abused the complainant does not satisfy the ingredients of criminal intimidation.

Tendered vote

Part of: GS Prelims and Mains II – Polity

In news:

- According to **Section 49P** of the **Conduct of Election Rules, 1961**, if a voter realises that someone has already voted in his/her name, he/she can approach the presiding officer at the polling booth and flag the issue.
- Upon answering the presiding officer's questions about his/her identity satisfactorily, the voter will be allowed to cast a tender vote. Tender votes are cast on ballot papers and sealed and locked away.
- These votes are useful when the margin between the winning candidate and the runner-up is slim. However, if the difference is large, tender votes are not counted.

The case for comprehensive reforms of our judicial system

Context:

- We are aware of issues confronting the judiciary

Issues confronting the judiciary:

- Slow delivery of justice and pendency in courts
- Abnormal delays that amount to justice being doubly blind
- Inadequate infrastructure and lack of facilities for judicial functionaries
- Insufficient budgetary provision
- Vacancies or delays in promotional appointments

- Resourceful defendants are seen escaping culpability not necessarily on merit, but due to their ability to quickly manage judicial processes to their advantage
- Without self-discipline and enforceable timelines, non-judicial staff are also found taking advantage of the prevailing opaqueness
- Disposal delays largely occur when lawyers seek unnecessary processes and repeated adjournments. Often, lawyers are found trying to influence the conduct of courts.

State and central governments are held responsible for the above issues. However, a scrutiny of higher financial allocations in the last 10-15 years, including hikes in salaries of judicial officers vis-à-vis other state services, does not suggest that visible improvements in facilities have led to noticeably faster disposal of pending cases.

The courts cannot hold governments responsible for vacancies or delays in promotional appointments either, since the Supreme Court and respective high courts now exercise full control over judicial appointments.

Elected governments are blamed for even judicial mal-administration, including the pendency pile-up.

Conclusion:

- Therefore, it is time to examine the functioning of courts and signs of an increasing loss of public faith in the judiciary.
- The judiciary needs to overhaul and regulate itself, as none other is empowered to do this under the constitutional architecture as interpreted by apex court.
- It is also time to make genuine procedural changes to discourage the prioritization of a few high-profile cases, fix timelines for submissions by litigants, bring in IT-based automation, have petitions registered online and pload digitally-signed copies of every court order.
- It is equally essential to impose punitive measures on those who indulge in frivolous litigations, document-faking, perjury, contempt of court, and the like.

Connecting the dots:

- Judiciary is no longer a 'secret' organisation when it comes to its functioning. Discuss the various transparency initiatives taken by Indian judiciary.
- A fundamental shift is required in the way courts are administered. Discuss.
- The role of a robust judiciary in a nation's development is pivotal. Discuss.

SOCIAL ISSUE/WELFARE

Protect the protectors of the forest

Context:

- **India harbors a wealth of unique plant species** that can be used to cure diseases. In fact, **indigenous traditional medicine** is based on the plants and animals found in its different forests.
- For centuries, **indigenous healers (especially Adivasis) have passed on their wisdom from generation to generation** – a wisdom that may be lost if deforestation and pollution continue to destroy the biodiversity and traditional lifestyles of the country.
- India contains the largest collection of living plants and animal species in the world - many of them yet unknown.
- **Pharmaceutical companies** are scouting the forest areas for possible new cures and **tapping into the wisdom of traditional indigenous healers.**

Concept of Bio-piracy

- **Biopiracy** is a term used to describe a practice in which **indigenous knowledge** of nature, originating with indigenous peoples, is **used by others for profit, without authorization or compensation to the indigenous people** themselves.

For example,

- Pharmaceutical companies have realized that their research generates better outcome if they co-operate with indigenous Adivasi people and tap into their wisdom.
- Once the pharmaceutical companies have developed the drug, they file patents claiming exclusive rights to the medical use of the plant – hence limiting or even denying access to the plants that indigenous peoples have relied upon for centuries.
- While making billions of Dollars selling rainforest medicine, the industry has to this day failed to compensate indigenous people adequately. This process of “stealing” natural resources and knowhow from indigenous peoples is called “biopiracy”.

What is India doing?

- The ‘New India’ has **chose to attack Adivasis and forest-dwellers** instead of those destroying its ecology. **(recent SC order with regard to eviction of Adivasis and forest-dwellers)**
- Recently acquired literacy in schools is valued more than the invaluable ‘indigenous knowledge’ (the knowledge gained over centuries of lived experience).

- 'New India' is unable to see any virtue in the lives of Adivasis and other forest-dwellers who have lived in and by the forests since times immemorial.
- It sees people who live in and by the jungles as 'underdeveloped' criminals who are among those responsible for the thinning of the forests.
- The ignorant India fails to distinguish between Adivasis who know something about living sensibly with nature and the rest of us, who do not.
- Even the courts have failed and at many instances have fallen to such abysmal levels of understanding.

For instance, on February 13, the Supreme Court ruled that over 1.12 million households from 17 States, who have had their claims rejected under the Forest Rights Act (FRA) 2006, are to be evicted by the State governments before July 27. The Central government also failed to send its attorney to the court.

Ironically, the FRA contains no legal provision for the eviction of rejected claimants. In the face of loud protests from around the country, the court issued a stay order (till July 10) on its ruling.

Close to 8-10% of the Adivasi population may be asked to vacate their traditional homes and abandon their livelihoods.

We can conclude that the Court has failed to contemplate the gravity of the implications. Where are these people supposed to live and make a living? What justice is there in acting in such an inhumane manner? The Courts have chosen to attack the weakest and the wisest.

Where is conservation?

- The world's largest refinery is coming up in the Konkan, which will uproot 17 villages, over half a million cashew trees and over a million mango trees.
- Thousands of acres of Himalayan forests and over a hundred villages will be submerged by one of the world's tallest dams coming up in Pancheshwar in Uttarakhand.

Courts show little courage when it comes to tackling the land mafias, builder-developers, realtors, constructors and miners, but their conscience is ablaze over conserving Adivasis in the jungles.

Conclusion:

- Freeing the forests of their traditional inhabitants can be considered as organized plundering or attack in the name of development.
- If remote habitats are emptied of Adivasis, there may be nobody to forewarn us when ecologically perilous tipping points are crossed in the future.

- The recent proposed amendments to the Indian Forest Act, 1927, which further strengthen the stranglehold of forest officials over India's jungles and its inhabitants, is worrisome and might make matters more worse.

Gandhi's words: "A time will come when those, who are in the mad rush today of multiplying their wants, vainly thinking that they add to the real substance, real knowledge of the world, will retrace their steps and say: 'What have we done?'"

Connecting the dots:

- [What is bioprospecting? Discuss its pros and cons. How is it different from biopiracy? Examine.](#) (Try to know about Bio-Prospecting)
- You should be now able to answer why eviction of indigenous tribals, adivasis and forest-dwellers is a bad idea; implications of development versus conservation; and need for respecting the invaluable 'indigenous knowledge'.

Humanise the law: draft Indian Forest Act

Context:

- Indian Forest Act, 1927 is considered to be unsuitable as **its provisions having been drafted to suit the objectives of a colonial power** that had extractive uses for forests in mind.
- In the colonial era, the **British diverted abundant forest wealth** of the nation to meet their economic needs.
- While **procedure for settlement of rights** was provided under statutes such as the Indian Forest Act, 1927, these **were hardly followed**.
- As a result, tribal and forest-dwelling communities, who had been living within the forests in harmony with the environment and the ecosystem, **continued to live inside the forests in tenurial (land) insecurity**, a situation which continued even after independence as they were marginalised.

The Ministry of Environment, Forest and Climate Change (MoEF&CC) has finalised the draft Indian Forest Act, 2019 to modernize the colonial era law.

Draft Indian Forest Act, 2019

- Currently, only 2.99% of India's geographic area is classified as very dense forest; the rest of the green cover of a total of 21.54% is nearly equally divided into open and moderately dense forest.

- Therefore, the new law **aims at expanding India's forests** and **ensuring the well-being** of traditional forest-dwellers and biodiversity in these landscapes.
- It encourages **community-led, scientifically validated conservation**.

Concerns:

- However, the draft Bill reinforces the idea of bureaucratic control of forests, providing immunity for actions such as use of firearms by personnel to prevent an offence.
- In other words, as per the new draft, forest officials have been given the absolute authority to shoot tribals for "violation of laws".
- The draft bill also contains some of the hardline policing approach such as – emphasis on creating infrastructure to detain and transport the accused, and to penalise entire communities through denial of access to forests for offences by individuals.
- Such provisions invariably affect poor inhabitants, and run counter to the empowering and egalitarian goals that produced the Forest Rights Act.

The way ahead:

India's forests play a key role in moderating the lives of not just the adivasis and other traditional dwellers, but everyone in the subcontinent, through their impact on the climate and monsoons. Their health can be improved only through collaboration.

Any new forest law must, therefore, aim to –

- Reduce conflicts, incentivise tribals and stop diversion for non-forest uses.
- Recognize all suitable landscapes as forests and insulate them from commercial exploitation.
- Develop partnership with communities on the one hand, and scientists on the other.

Connecting the dots:

- The recent amendments to the Indian Forest Act, 1927 contains some of the hardline policing approach which might invariably affect poor inhabitants, and run counter to the empowering and egalitarian goals that produced the Forest Rights Act. Discuss.
- The recent amendments to the Indian Forest Act, 1927 is even more colonial and frightening. Critically comment.

Potato farmers cry foul as PepsiCo sues them

Part of: GS Mains II and III and Prelims – Welfare/social issue; Farmers' issue; IPR issues

In news:

- Multi-billion dollar conglomerate PepsiCo sued four Gujarati farmers, asking them to pay ₹1.05 crore each as damages for 'infringing its rights' by growing the potato variety used in its Lays chips.
- Farmers groups have launched a campaign calling for government intervention.
- According to the farmer groups, the law allows them to grow and sell any variety of crop or even seed as long as they don't sell branded seed of registered varieties, and warned that the case could set a precedent for other crops.

Do you know?

- The issue: alleged infringement of intellectual property rights (IPR) of a plant variety registered under the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001.
- FL 2027, also called FC5 – is a variety of potato on which PepsiCo claimed exclusive rights by virtue of a Plant Variety Certificate (PVC) under the Act.
- India had designed a *sui generis* law in compliance with the WTO's TRIPS Agreement (Agreement on Trade-Related Aspects of Intellectual Property Rights), which is the PPV&FR Act, 2001. Under this statute, farmers' *apriori rights* with regard to seeds and planting material have been clearly protected under Section 39 of the said Act.

National Institution Ranking Framework (NIRF) for 2019

Part of: GS Prelims and Mains II – Education; Human Resource Development; Governance

In news:

- IIT Madras has topped the Centre's ranking of higher education institutions, followed by the IISc, Bengaluru, and IIT Delhi.
- Seven IITs appear in the top 10 list.
- Jawaharlal Nehru University, Delhi and Banares Hindu University, Varanasi, take the remaining places.
- Announcing the rankings, President Ram Nath Kovind said "Recent expansion in higher education has widened access and improved equity. Even so, quality remains a concern".

Do you know?


- Management rankings are topped by IIM-Bangalore, while XLRI, Jamshedpur, is the only institute apart from IIMs in the top 10.

- Delhi's Miranda House tops the list of colleges, followed by Hindu College, Delhi, and Presidency College, Chennai. VIT, Vellore, tops the list of private or self-financed institutions.

Top 5 About 3,127 institutions applied for different categories of the NIRF this year. A list of the top 5 across categories

Categories/ Rank	1	2	3	4	5
Overall	IIT-M	IISc., Bengaluru	IIT-D	IIT-B	IIT Kharagpur
University	IISc., Bengaluru	JNU	BHU	Univ. of Hyderabad	Univ. of Calcutta
Engineering	IIT-M	IIT-D	IIT-B	IIT-Kgp	IIT-K
Medical	AIIMS, Delhi	PGIMER, Chandigarh	CMC Vellore	SGPIMS, Lucknow	Amrita Vidyapeeth
Management	IIM-B	IIM-A	IIM-C	IIM-L	IIM-Indore
Colleges	Miranda House, Delhi	Hindu College, Delhi	Presidency College Chennai	St.Stephen's, Delhi	LSR, Delhi

Indian Institute of Technology, Madras.



https://d39gegkjaqduz9.cloudfront.net/TH/2019/04/09/CNI/Chennai/TH/5_07/f77e4e55_670782eb_101_mr.jpg

Important Value Additions:

About NIRF:

- The National Institutional Ranking Framework (NIRF) was approved by the MHRD and launched by the Minister of Human Resource Development on September 29, 2015.
- This framework outlines a methodology to rank institutions across the country. The methodology draws from the overall recommendations broad understanding arrived at by a core committee set up by MHRD, to identify the broad parameters for ranking various universities and institutions.
- The parameters broadly cover Teaching, Learning and Resources, Research and Professional Practices, Graduation Outcomes, Outreach and Inclusivity, and Perception.

WOMEN AND CHILDREN ISSUE

Women activists join hands against liquor use in elections

Part of: GS Mains I and II – Society; Role of women; Role of NGOs/CSOs; Social issue

In news:

- Female anti-liquor activists formed human chains in Odisha to create awareness against the use of liquor during election campaign.
- For the last three decades, women from the state are continuing their crusade against liquor menace under the banner of 'Nari Mahasangh'.
- The women who participated in the human chains were farmers and daily wagers who are the worst sufferers of liquor addiction of men in their families.

Jurisdiction no bar in dowry harassment case

Part of: GS Mains II – Women Issue; issue with vulnerable section; Role of Judiciary

In news:

- The Supreme Court recently held that a woman can file a case of dowry harassment under Section 498 IPC against her husband and in-laws at the place where she is currently sheltered.
- The above judgment is another example of court's expansionary jurisdiction to provide relief to victims of dowry harassment.

SC to decide on entry of women into mosques

Part of: GS Prelims and Mains I and II – Indian Society; Women issue and empowerment; Secularism; Fundamental Rights

In news:

- Supreme Court to consider a plea by a Muslim couple to lift the ban on Muslim women's entry into all mosques across the country.
- The court issued notice to the government and various bodies, including the National Commission for Women.
- Muslim couple told the court that the ban was illegal, unconstitutional and a violation of their dignity and right to equality.

Early brain function affected in poor kids

Part of: GS Mains II – Health issue; Welfare/Social issue

In news:

According to research from the University of East Anglia (UEA) –

- Children born into poverty show key differences in early brain function.
- Children from lower income backgrounds, where mothers also had a low level of education, had weaker brain activity and were more likely to be distracted.
- Each year, 250 million children in low and middle income countries fail to reach their developmental potential. Therefore, there is a growing need to understand the global impact of poverty on early brain and behavioural development.
- Using a portable ‘functional near infrared spectroscopy’ (fNIRS) device, they measured the brain activity of 42 children aged between four months and four years in rural settings.
- The research team found that the children in India from families with low maternal education and income showed weaker brain activity and poorer distractor suppression in the left frontal cortex area of the brain that is involved in working memory.

Do you know?

- Previous work has shown that poverty and early adversities significantly impact brain development, contributing to a vicious cycle of poverty. But few studies have looked at brain function early in development.

Special kits to probe sexual assault cases

Part of: GS Mains II – Women safety issues; Government policies and schemes

In news:

- Over 3,100 special kits for collecting blood and semen samples, besides other evidence, to carry out immediate investigation into sexual assault cases have been distributed among the States and Union Territories by the Ministry of Home Affairs.
- Sexual Assault Evidence Collection Kits (SAECK) or ‘rape investigation kits’ are designed to carry out immediate medico-legal investigation and aid in furnishing evidence in sexual assault and rape cases.

- The kits are expected to help law enforcement agencies to ensure effective probe in a timely manner for better prosecution and conviction in sexual assault cases.

CJI violated procedure by hearing own case: SC lawyers

Part of: GS Mains II – Issues related to women safety;

- Several social activists and academics came together to issue a statement demanding an independent probe into the sexual harassment allegations against Chief Justice of India Ranjan Gogoi.
- In an emergency hearing the chief justice himself presided over the matter. Refuting the allegations, CJI Gogoi said that there was a “bigger plot” to deactivate the office of CJI.
- According to critics - “The act of the Chief Justice of India to constitute a special bench headed by himself to hear this issue on the judicial side, rather than constituting a credible and independent inquiry committee, goes against all just and settled principles of law.”
- If the Court is unable to credibly deal with this challenge, public confidence in the judiciary will be severely eroded.

Accountability and transparency

Part of: GS Mains II – Accountability and transparency; Social Justice

In news:

- SC appointed its former judge, Justice A.K. Patnaik, to probe ‘conspiracy’ against CJI.
- Over 250 women, including lawyers and activists, had penned a letter to the SC, demanding a special, impartial inquiry into the allegations against Gogoi under the Sexual Harassment of Women at Workplace Act 2013.
- According to the activists, CJI Gogoi’s request for an in-house committee violates the 2013 Act that requires an outside, independent panelist to probe allegations of sexual assault.

Do you know?

- Supreme Court Bar Association (SCBA) comprising 6,000 lawyers passed a resolution stating that the CJI violated legal procedure by hearing a case against himself.

- The SCBA also asked the SC to take necessary legal action for an unbiased hearing against Gogoi.

There is a need for a judicial accountability mechanism for the high courts and Supreme Court through a constitutional amendment, as in so many countries.

There must be a procedure to answer the adage *Quis custodiet ipsos custodes: Who will be the custodian of the custodians?*

A half-written promise

Introduction

- Recognition of sexual and reproductive rights of women in India is almost negligible.
- Manifestos of major political parties' reveals piecemeal promises to women and the reproductive rights are limited to child marriage, female foeticide, sex selection and menstrual health and hygiene.

Sexual and reproductive rights in India must include concerns with –

- maternal deaths
- access to maternal care to safe abortions
- access to contraceptives
- adolescent sexuality
- prohibition of forced medical procedures such as forced sterilizations and
- removal of stigma and discrimination against women, girls and LGBT persons on the basis of their gender, sexuality and access to treatment

State of women in India:

According to the **UNICEF India** and **World Bank data**,

- India has one of the highest numbers of maternal deaths. (45,000 maternal deaths every year or an average of one maternal death every 12 minutes)
- Unsafe abortions are the third leading cause of maternal deaths in India.

Unsafe abortions: a major concern

- The **Lancet Research** shows that half of the pregnancies in India are unintended and that a third result in abortion.
- Only 22% of abortions are done through public or private health facilities.
- Lack of access to safe abortion clinics, particularly public hospitals, and stigma and attitudes towards women, especially young, unmarried women seeking abortion, contribute to this.

- Doctors refuse to perform abortions on young women or demand that they get consent from their parents or spouses despite no such requirement by law. This forces many women to turn to clandestine and often unsafe abortions.
- The **Medical Termination of Pregnancy Act, 1971** provides for termination only up to 20 weeks. If an unwanted pregnancy has proceeded beyond 20 weeks, women have to approach a medical board and courts to seek permission for termination, which is extremely difficult. The MTP Act is long overdue for a comprehensive reform.

The way ahead: Progressive view of Supreme Court on women's reproductive rights

- The court held in the **Navtej Johar judgment** (striking down Section 377) and while **decriminalizing adultery (Section 497)** that women have a right to sexual autonomy, which is an important facet of their right to personal liberty.
- In the landmark **Puttaswamy judgment** in which the **right to privacy** was held to be a fundamental right. SC held that "Privacy includes at its core the preservation of personal intimacies, the sanctity of family life, marriage, procreation, the home and sexual orientation... Privacy safeguards individual autonomy and recognises the ability of the individual to control vital aspects of his or her life."
- In the case of **Independent Thought v. Union of India** in the context of reproductive rights of girls, judges held, "The human rights of a girl child are very much alive and kicking whether she is married or not and deserve recognition and acceptance."

Therefore, the right of women and girls to safe abortion is an important facet of their right to bodily integrity, right to life and equality and needs to be protected.

Conclusion:

- Political parties, which also represent India's women, have an obligation to take forward the debates on reproductive rights, equality, and access to abortion in political debates as well as in framing laws and policies.
- The responsibility also lies with civil society and development actors to bring up these issues for public debate and in demands. The silence around unsafe abortions is leading to deaths of women and hides important problems that lie at the intersection of these concerns, such as the formidable barriers for adolescent girls to access reproductive health services, including abortion services.
- Access to legal and safe abortion is an integral dimension of sexual and reproductive equality, a public health issue, and must be seen as a crucial element in the contemporary debates on democracy.

Connecting the dots:

- Women's emancipation and safety is most important for society as well as government. Elucidate.

- Constitutional guarantee for gender equality remains vacuous independent of complementary value systems. Comment.

Empowering women through safe water

Context:

- Citizens dwelling in the areas, where use of contaminated underground water is prominent to meet the demand of their basic needs, are on the verge of getting more **prone to water pollution related disorders**.
- Nearly 2 lakh people die every year in India because of consuming contaminated drinking water.

Do you know?

- Surface water contamination receives a lot of attention because of the visible pollution of this water.
- In India, 19 states have reported **fluoride contamination** of water and groundwater in at least 10 states is contaminated with **arsenic**.
- Of the 10 states that have arsenic contamination, 7 - West Bengal, Jharkhand, Bihar, Uttar Pradesh, Assam, Manipur and Chhattisgarh - have reported contamination level that is above the permissible limit of 10 micrograms per litre ($\mu\text{g/L}$.)
- Consumption of arsenic contaminated drinking water can lead to cancer. It can also cause arsenicosis, a condition that is as sinister as it sounds, manifesting as skin lesions, pigmentation changes and an abnormal thickening of the skin.
- Excessive fluoride may cause fluorosis that can cause discolouration of teeth or can lead to skeletal deformities. It can also cause damage to neurological, muscular and gastrointestinal systems.
- Several studies have linked exposure to **uranium** in drinking water to chronic kidney disease.

Relationship between women and water

- **Women have traditionally been water bearers**, walking miles, lugging water home. They are disproportionately burdened with **unpaid tiresome domestic work**, care for the sick, robbing them of opportunities to learn skills and be employed.
- According to a World Bank report, India ranks 120 among 131 countries in **female labour force participation rates**.
- The **economic contribution of women** in India stands at 17% of GDP, which is lesser than half of the global average.

- Therefore, their participation is important for an economy to grow sustainably.
- **Small water enterprises (SWEs)** can play an important role in fostering women entrepreneurship and ensuring their economic participation in the nation's development.
- SWEs can provide opportunities to **women to turn from water bearers to water managers**, improving availability and accessibility of safe drinking water, earning livelihood, and improving their quality of life.

Role of Safe Water Network India (SWNI)

- Promoting the concept of SWEs, the **Safe Water Network India (SWNI)** took up the initiative to empower grass-roots women—self-help groups or slum-level federation by empowering them with skills, deploying technology, and reducing their work hours to mainstream them into an economic activity, thus changing their historical role from water carriers to safe water managers.
- SWNI is a nonprofit organization

Conclusion:

- Despite India's notable GDP growth rate, a huge population is underutilised. (especially women)
- **Engaging women in the management of SWEs** can help achieve the twin objectives of **women's empowerment** and **provision of safe drinking water** to the communities, contributing to **UN Sustainable Development Goals** 6 (Clean Water), 5 (Gender Equality) and 8 (Decent Work and Economic Growth).
- **Investment in SWEs** provide an opportunity to women, particularly in rural areas, to improve the health of communities and earn livelihoods.
- More initiatives need to be taken to create gender parity in the economy. It's the collective responsibility of the government and society to realise the goal of a more inclusive, sustainable and prosperous future.

Connecting the dots:

- Discuss some of the important initiatives needed to be taken to create gender parity in the economy.
- The absence of women from the start up ecosystem in India is a worrisome sign for the economic empowerment of women. What strategies should be adopted to address the existing gender asymmetry? Discuss.
- Economically empowered women can contribute better to the developmental process. Do you agree? Comment. In this regard, examine the benefits of engaging women in the management of Small water enterprises (SWEs).

HEALTH ISSUE

[Adding egg or milk can reduce stunting in young children: study](#)

In news:

- About 38% of children in India below the age of five years are stunted.
- Reason for this is that young children consume mainly cereal-based food, which lacks quality protein that can be well digested and is limited in the content of certain essential amino acids such as lysine.

Do you know?

- Studies found that the risk of stunting in children aged 1 - 3 years (in the National Family Health-4 survey) was reduced by 10% when high quality proteins such as egg and milk were consumed along with a combination of cereals and pulses.
- Young children's diet between the age of 1-3 years should contain a minimum of 100 grams of cereal (rice or wheat) and 45 grams of legume per day. Unfortunately, this is not followed in a consistent way anywhere in India.
- The equivalent will be the addition of an egg or 200 ml of milk or milk products to the diet every day, which makes it expensive for many people.

[New clinical trials rules will help patients](#)

Part of: GS Mains II – Government policies and schemes; Health issues

In news:

- The government eased the rules for clinical trials of drugs in the country.
- The Drugs and Clinical Trials Rules 2019 do away with the necessity to conduct local trials for drugs that have been approved to be marketed in the US, the UK, the EU, Canada, Australia and Japan.
- This will mean these drugs can reach patients faster than before.
- Data generated in these countries will be deemed acceptable.
- Firms introducing a drug in India that is approved in any of the six jurisdictions will only need to carry out the Phase IV clinical trial, which is a post-marketing trial that involves study of long-term effects of the drug.

India might soon have the most Caesarean births

Part of: GS Mains II – Government policies and schemes; Health issues

In news:

- A new study based on the data from the National Family and Health Survey has shown that there is a significant increase in the rate of caesarean births in India.
- While the WHO recommends the rate of caesarean delivery to be 10-15%, the number was 17.2% for India during 2015-16.

Is C-section birth bad?

- A 2018 report in The Lancet pointed out that the prevalence of maternal mortality and morbidity is higher after caesarean than after vaginal birth.
- Also, it is noted to be associated with an “increased risk of uterine rupture, abnormal placentation, ectopic pregnancy, stillbirth, and preterm birth.”

There is an urgent need to monitor the deliveries in clinics and hospitals. The government should inform practitioners and women of the unnecessary risks of non-medically justified C-sections.

Law to ban making, sale of e-cigarettes

Part of: GS Prelims and Mains II – Health issue;

In news:

- The Commerce Ministry has asked the Health Ministry to frame a law banning manufacture and sale of e-cigarettes in the country.
- Currently, there is no domestic legislation dealing with e-cigarettes and it would not be possible to put a blanket ban on its imports.

Issues:

- The chief constituent of e-cigarettes was nicotine, which is addictive.
- It also has a high level of toxicity and can lead to development of cardiovascular diseases, lung diseases, have adverse effect on the immune and gastrointestinal systems, and raise the risk of miscarriage in pregnant women.

Do you know?

- In August last year, the health ministry had issued an advisory to all states and Union Territories (UTs) to stop the manufacture, sale and import of electronic nicotine delivery

systems (ENDS), including e-cigarettes and flavoured hookah, after the Delhi High Court took strong exception to the Centre for delay in coming up with appropriate measures to tackle the “new emerging threat” of e-cigarettes in the country.

- Without banning domestic sale and manufacturing of ENDS through a law, it will be an infringement of global trade norms to put an import ban.
- In March, the Central Drugs Standard Control Organisation also directed all Drug Controllers in States and UTs not to allow the manufacture, sale, import and advertisement of ENDS, including e-cigarettes and flavoured hookah, in their jurisdictions.

About E-cigarettes

- Electronic cigarettes or e-cigarettes are devices that do not burn or use tobacco leaves but instead vaporise a solution, which a user then inhales.
- The main constituents of the solution, in addition to nicotine, are propylene glycol (with or without glycerol and flavouring agents).
- In its general advisory to the public in August 2018, the Health Ministry had said that as per the World Health Organization report, governments of 30 countries had already banned ENDS.

[Global measles cases up by 300%, says WHO](#)

Part of: GS Prelims and Mains II – Health issue; Role of international organization

In news:

According to the WHO –

- Measles cases rose 300% worldwide through the first three months of 2019 compared to the same period last year.
- Measles, which is highly contagious, can be entirely prevented through a two-dose vaccine.
- The reason for rise is attributed to impact of anti-vaccination stigma.
- Most measles-related deaths are caused by complications associated with the disease. Serious complications are more common in children under the age of 5, or adults over the age of 30.
- The most serious complications include blindness, encephalitis (an infection that causes brain swelling), severe diarrhoea and related dehydration, ear infections, or severe respiratory infections such as pneumonia.

- Severe measles is more likely among poorly nourished young children, especially those with insufficient vitamin A, or whose immune systems have been weakened by HIV/AIDS or other diseases.

Important Value Additions:

About Measles

Measles is a deadly disease. It can lead to following complications –

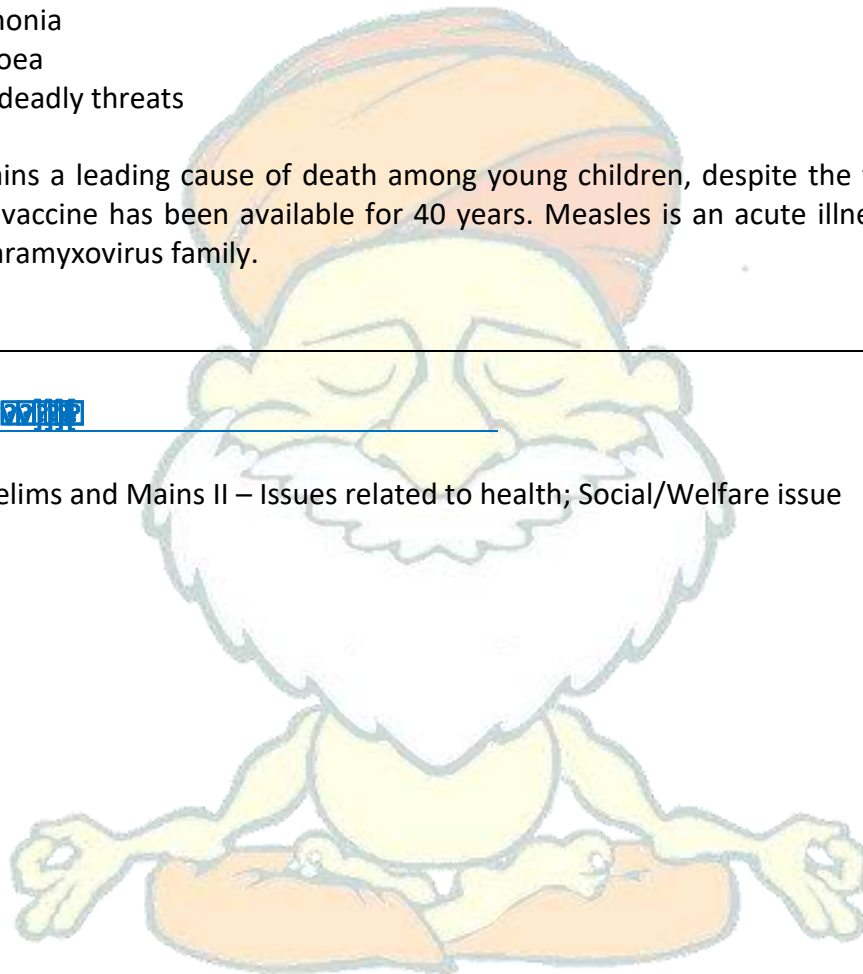
- Pneumonia
- Diarrhoea
- Other deadly threats

Measles remains a leading cause of death among young children, despite the fact that a safe and effective vaccine has been available for 40 years. Measles is an acute illness caused by a virus of the paramyxovirus family.



Part of: GS Prelims and Mains II – Issues related to health; Social/Welfare issue

In news:



Know your medicine

The Central Drugs Standard Control Organisation has asked manufacturers to inform the general public about known symptoms/side effects after the intake of some popular antibiotics



Antibiotics	Known/possible side effects
Cefotaxime	Swelling under the skin due to the accumulation of fluids
Ofloxacin	Rashes/blisters on the skin and mucous membranes
Cefixime	Pain, diarrhoea, nausea and headache
Tranexamic Acid	Nausea, diarrhoea and seizures
Quetiapine	Involuntary leakage of urine
Sulfasalazine	Decreased appetite, headache & nausea
Sodium Valproate	Drowsiness and unsteadiness

https://www.thehindu.com/sci-tech/health/2tuxdh/article26823574.ece/ALTERNATES/FREE_960/Drug

- The **Drug Controller General of India (DCGI)** has asked manufacturers of several common antibiotics to place safety warning on above listed drugs, after reports of adverse drug reactions.
- The **Pharmacovigilance Programme of India (PvPI)** that collects and evaluates reports of adverse drug reactions (ADRs) has reported that people using common antibiotic Ofloxacin are at greater risk of developing Stevens-Johnson Syndrome.
- The PvPI has therefore suggested India's drug regulatory body **Central Drugs Standard Control Organisation (CDSCO)** to take necessary steps to incorporate the adverse drug reactions in the prescribing leaflet of these drugs marketed in the country.

Do you know?

- **Stevens-Johnson Syndrome** is a rare and fatal disorder of skin and another potentially life-threatening dermatologic disorder called toxic epidermal necrolysis.
- India earlier depended on foreign agencies to learn about adverse drug reactions. The PvPI programme was started in 2010 to make a robust mechanism for patient safety.

- The PvPI programme is run by the government with the objective of ensuring the consumers and doctors know about the adverse drug reaction well on time.

The information of adverse drug reactions on drugs is important given the India faces a problem of misuse of antibiotics.

About Central Drugs Standard Control Organization (CDSCO):

- It is the national regulatory body for Indian pharmaceuticals and medical devices.
- Within the CDSCO, the Drug Controller General of India (DCGI) regulates pharmaceutical and medical devices, under the gamut of Ministry of Health and Family Welfare.
- The DCGI is advised by the Drug Technical Advisory Board (DTAB) and the Drug Consultative Committee (DCC).
- It is divided into zonal offices which do pre-licensing and post-licensing inspections, post-market surveillance, and recalls when needed.

Health of a nation: Need for a effective UHC

Key pointers:

- **World Health Day** is celebrated every year on **7th April**, under the sponsorship of the World Health Organization (WHO).
- **2019 WHD Theme: Universal Health Coverage: : everyone, everywhere**
- Through this 2019 WHD theme, WHO sought to highlight the importance and urgency of achieving Universal Health Coverage (UHC).
- United Nations **Sustainable Development Goals (SDGs)** has also set a target that all countries must **achieve UHC by 2030**.
- India, too, accepted that target date while signing up to the SDGs.

Definition of UHC

- According to WHO, UHC “means that **all individuals and communities receive the health services they need without suffering financial hardship**. It includes the full spectrum of essential, quality health services from health promotion to prevention, treatment, rehabilitation and palliative care.”

Country's performance or success of UHC depends on –

- How well UHC is defined and monitored?
- What services are to be universally provided?
- What level of financial protection is considered acceptable?

- Whether UHC will commence by offering the same set of services to the entire population and progressively expand the service package to all
- Or whether UHC first prioritise certain services to the poor and vulnerable sections, to ensure both access and affordability, while leaving the rest of the population for coverage at a later stage?
- Or whether UHC provide a basic package of services to all, with full financial protection, along with an additional set of publicly funded services to the poor and vulnerable sections.

These are all possible beginnings in the path of progressive universalisation that ultimately leads to UHC for everyone.

India's UHC

- To meet the standard set by the WHO and the SDGs, **India's UHC should include all persons in a population**, even if the service package is modest to begin with.
- In terms of financial protection, the WHO recommends that out of pocket expenditure (OOPE) on health should not exceed 15-20 per cent. And this **requires a high level of public financing**.
- Even countries which follow an insurance model have a high level of public funding to support several health services.
- **Mandated contributory insurance model will not work** in India which has over 90 per cent of the workforce in the informal sector.

How does India measure up presently and how can we achieve the 2030 target?

- India's **out of pocket expenditure (OOPE)** on health is currently around **63 per cent** (WHO recommends 15-20%)
- **Impoverishment due to unaffordable healthcare expenditure** affects 7 per cent of our population.
- **Healthcare induced financial distress** is a leading cause of **suicide** among farmers.
- **Access to health services** varies widely among states and between rural and urban populations.
- **Qualified healthcare providers are in short supply** nationally and those available are maldistributed.

It's a long way before we reach the base camp of UHC, even as the ascent to the 2030 summit seems very steep.

The way ahead: What should India need to do?

- **Public financing** is the lifeline of UHC. Important to raise public spending on health to at least 2.5 per cent by 2022 and 3 per cent by 2024.

- **Primary health care** has to be recognised as the foundational basis of an efficient and equitable healthcare system. Primary care **needs to be the fulcrum of UHC**.
- **Emergency health services** are also a high priority, to provide the link between these services and also **lifesaving care** on location and during transport. All such services have to be provided free of cost.
- Right from start, **UHC has to cover several services** like commonly needed surgeries and treatments that can protect life.
- Government funded programmes should ensure that **financial barriers should not stop access to needed advanced care**.
- As UHC evolves, the poor and near-poor must get full cost coverage while others may seek protection through employer funded schemes or privately purchased insurance. Even for them, OOPE must remain low.
- The **health work force** has to be expanded to make available multi-layered, multi-skilled teams which can deliver the needed services.
- Basic and specialist doctors, nurses, nurse practitioners, physician assistants, pharmacists and an array of allied health professionals need to be developed in large numbers and deployed across the country. This needs reforms in health professional education, cadre planning and incentives for rural postings.
- UHC has to be cashless at the point of care and health benefits under the programme have to be available for access anywhere in the country.

Strengthening of primary care infrastructure and district hospitals has to be a government priority. Free provision of essential drugs and diagnostics at public healthcare facilities will have an immediate impact on OOPE.

Connecting the dots:

- What do you understand by universal health coverage? Explain the measures taken by the government to achieve universal health coverage in India.
- Discuss the merits and challenges associated with 'Universal Health Coverage'. Analyse the ways to improve India's health profile.
- The idea of a 'Universal Health Coverage' is gaining traction across the world. Do you think India is prepared to adopt this scheme? Critically evaluate.
- Why India's health achievements are very modest and has poor health indicators compared to its neighbours? Examine. Also suggest ideas to improve the status of public healthcare in India.

A manifesto for health

Context:

- In India, health systems are in critical condition and there is significant public discontent over the lack of quality and affordable healthcare.

Concerns:

In the past five years,

- The **Union health budget has stagnated** in real terms and allocations to the National Health Mission **do not cover inflation**
- There have been avoidable deaths of scores of children in public hospitals in Gorakhpur and other places that can be ascribed to the **lack of material and human resources**.
- Governments have **failed to regulate private hospitals** effectively.
- There were numerous instances of **mismanagement and massive over-charging** of patients

Ayushman Bharat scheme - An attempt to transform India's Healthcare Map

- PM Modi had launched the Ayushman Bharat scheme a year before the elections.
- The scheme claims to benefit 50 crore Indians
- Coverage of up to ₹5 lakh a family a year will be provided for secondary- and tertiary-care hospitalization (50 crore beneficiaries)
- 1.5 lakh health and wellness centres will be established.

However, the **Pradhan Mantri Jan Aarogya Yojna** (component of the **Ayushman Bharat scheme**) is seriously underfunded (current funds being less than one-fourth of required) and will only scratch the tip of the iceberg of healthcare requirements in India.

Given this context, India needs a major health policy reboot.

Suggestions by Jan Swasthya Abhiyan

Do you know?

- The Jan Swasthya Abhiyan is a 'People's Health Movement' in the country, which is aimed at establishing health and equitable development through comprehensive primary health care and action on the social determinants of health.
- It is a worldwide network of peoples' organizations, NGOs, social activists, civil society organizations, health professionals, researchers, etc.

As per People's Health Manifesto 2019 by Jan Swasthya Abhiyan -

- There is a need to **adopt "Right to Healthcare" legislation** at the Centre and state levels. This would ensure that all residents of the country are entitled to healthcare facilities.

- There is a need to **develop a system for Universal Healthcare (UHC)** and which would require expansion and strengthening of public health services at all levels.
- **Private providers should also be involved**, as per need, to supplement the public health system.
- There is a **need to increase the public health expenditure** exponentially through taxation. (as current GDP expenditure on health is just mere 1.2 per cent and it is vital to reach 3.5 per cent of the GDP in the next five years).
- In order to **increase staff and infrastructure**, strengthen public health services, major reforms are needed.
- Guaranteed provision of **free essential medicines and diagnostics** to all patients.
- There should be a **comprehensive health sector human resource policy**, which provides upgraded skill training, fair wages, social security and decent working conditions for all public health services staff.
- The **services of all contractual health workers**, including ASHAs and anganwadi workers, should be regularised.
- **Community-based monitoring and planning of health services** should be upscaled and user-friendly grievance redressal systems put in place to ensure social accountability and participation.
- Private hospitals must be brought under the ambit of regulations by modifying and adopting the **Clinical Establishments Act** in all states.
- There is a need for effective legislation which ensures the **Charter of Patient's Rights**, which provides **grievance redressal mechanism** to patients, the rates for services must be regulated and standard treatment guidelines should be adopted in healthcare institutions.
- These initiatives must be accompanied by measures to ensure that people with special needs — women, children, differently-abled persons, people living with HIV — enjoy appropriate health services.
- Traditional social determinants of health such as nutrition, water supply, sanitation and healthy environment must be ensured.
- There should be plans in place to tackle new determinants like air and water pollution and addictions.

Conclusion:

Such a paradigm shift towards a rights-based system for universal healthcare, based on massive increase in health budgets and strengthened health systems, is not an unrealistic dream.

Connecting the dots:

- Ayushman Bharat is one of the most ambitious health schemes ever launched in India. What can be the key challenges in proper implementation of this scheme?
- What do you understand by universal health coverage? Explain the measures taken by the government to achieve universal health coverage in India.
- Enacting a Right to Health Act and setting up of an independent regulatory authority to manage and monitor the delivery of health care services are the two most important steps in the direction of universal health coverage. Comment.

WHO says one in 10 children did not get vaccinated in 2016

Part of: GS Prelims and Mains II – Role of International Organization; Social/Health issue

In news:

- Despite immunisation being one of the most successful and cost-effective means to help children grow into healthy adults, worldwide 12.9 million infants — nearly 1 in 10 — did not receive any vaccination in 2016.
- According to WHO, infants missing the first dose of diphtheria-tetanus-pertussis (DTP) vaccine means putting them at serious risk of these potentially fatal diseases.

Do you know?

- Global vaccination coverage remains at 85%, with no significant changes during the past few years.
- An additional 1.5 million deaths could be avoided if global immunisation coverage improves.
- According to WHO in 2017, the number of children immunised — 116.2 million — was the highest-ever reported.
- Immunisation prevents illness, disability and death from vaccine-preventable diseases including cervical cancer, diphtheria, hepatitis B, measles, mumps, pertussis (whooping cough), pneumonia, polio, rotavirus diarrhoea, rubella and tetanus.

Battling malaria

Introduction:

- In 1987, the pharma giant **GlaxoSmithKline** began testing a **vaccine to target the malaria parasite**.

- The initiative received support from the **WHO, Bill and Melinda Gates** Foundation and the international **NGO PATH**.
- The collaboration bore fruit on **April 23, 2019**, when health workers in Malawi rolled out the first vaccine against the viral disease.

Do you know?

- A total 3,60,000 children across three African countries — **Malawi, Ghana and Kenya** — will be covered every year with the vaccine. (pilot countries)
- The **vaccine (named RTS,S)** has taken three decades to come to fruition, and is the first one ever against a disease that **kills 4,35,000 people a year**, most of them children.
- **India ranks high** in the list of countries worst affected by the mosquito-borne disease.
- In 2018, 3,99,134 cases of malaria and 85 deaths due to the disease were reported in India, according to data from the **National Vector Borne Disease Control Programme**.
- Every year, **April 25** is celebrated as **World Malaria Day**, to consolidate and re-strengthen efforts to control the disease.
- Malaria has been in existence since the last 1,00,000 years and despite the progress made by science and medicine in controlling the disease, it continues to be the biggest killer of mankind.

About RTS,S vaccine

- RTS,S aims to **trigger the immune system** to defend against the first stages of malaria when the **Plasmodium falciparum parasite** enters the human host's bloodstream through a mosquito bite and infects liver cells.
- The vaccine is designed to **prevent the parasite from infecting the liver**, where it can mature, multiply, re-enter the bloodstream, and infect red blood cells, which can lead to disease symptoms.
- According to WHO, the malaria vaccine has the potential to save tens of thousands of children's lives.

About NGO PATH

- PATH is an international nonprofit team of innovators which advises and partners with public institutions, businesses, grassroots groups, and investors to tackle the world's toughest global health problems, including malaria.
- PATH's Malaria Vaccine Initiative (MVI) works with various stakeholders towards the development of a malaria vaccine.

Why is malaria such a major global public health challenge?

- Malaria is a potentially life-threatening parasitic disease caused by the parasites *Plasmodium vivax* (P.vivax), *Plasmodium falciparum* (P.falciparum), *Plasmodium*

malariae (P.malariae), and Plasmodium ovale (P.ovale), transmitted by the female Anopheles mosquito.

- In its most virulent form, malaria is a difficult disease to deal with. Plasmodium falciparum, the most dangerous of the virus, replicates very fast in the human body. This means if a person infected with the virus does not get diagnosed urgently, the infection assumes fatal or near fatal proportions rapidly.
- Unlike bacteria, parasites evolve complex ways to evade the immune system. The malaria parasite passes through multiple life stages, each of which presents a unique challenge to vaccine developers.
- Moreover, inside the human body the virus changes shape making it very difficult for the proteins produced by a vaccine to target the pathogen.
- Malaria remains one of the world's leading killers, claiming the life of one child every two minutes.
- Children under the age of 5 are at greatest risk from its life-threatening complications.
- The poorest children suffer the most and are at highest risk of death.

Limitations of the new vaccine

- In clinical trials, the new vaccine reduced malaria cases by less than 40 per cent — the measles vaccine, by comparison, is 97 per cent effective and the chickenpox vaccine prevents almost 100 per cent of severe cases of the disease.
- Another issue with the vaccine is that children need four doses. Critics of the vaccine argue that four trips to a clinic could be tough for families in rural Africa.

Conclusion:

Once the pilots have been completed, the WHO will review the results and come out with its recommendations for the use of the vaccine. For a country like India, the key question though is likely to be as much the efficacy of the vaccine as its cost.

The vaccine is also a significant intervention given that the WHO estimates that climate change will exacerbate the mortality caused by the disease.

Connecting the dots:

- While India has successfully eliminated small pox and polio over time. It is time coordinated efforts are put in to eliminate malaria. Discuss the challenges associated with the same. Also, suggest measures to address these challenges.
- India has suffered from a major burden of malaria for decades, but the World Malaria Report 2018 of the World Health Organisation shows that sustained public health action can end the epidemic by 2030. Critically comment.

How South-East Asian countries spearheading the global push to end TB

Context:

- Each of the WHO South-East Asia Region's member states have played a critical role in the global push to end TB by or before 2030.
- For example, in 2017, health ministers from across the region issued a call for action, highlighting the measures needed to contain and fight the disease.
- By next year it came up with a statement of action, which pledged intensified efforts to achieve that outcome, even as domestic funding reached unprecedented levels.
- In the same year, at the UN General Assembly, member states vigorously canvassed for a political declaration on the fight against tuberculosis, which was subsequently endorsed.
- Region-wide commitment, resolve and action is to be commended. It is also vitally important.

Do you know?

- The South-East Asia Region is the world's most TB-affected region.
- The life-threatening disease has serious social, political and economic impacts.
- Significantly, TB remains the region's leading cause of death and lost productive years in the crucial 15-49-year-old age group, impacting the prospects of individuals, families, communities and countries.
- The region is also home to a growing number of drug-resistant cases of the disease.

According to **UN's Political Declaration on TB**, member states' should ensure that by **2022** –

- 18 million TB patients are diagnosed and effectively treated;
- more than 500,000 patients with drug-resistant TB are successfully treated; and
- preventive treatment is provided to around 12 million people at risk of developing the disease

Steps needed to meet these challenges:

- Intensifying active case-finding, especially amongst high-risk groups, is essential.
- Intensified case-finding can dramatically reduce case incidence while also ensuring all patients receive quality treatment.
- Member states should develop a joint roadmap on how they can harness novel diagnostics to find missing cases, as well as how people-centred treatment can be provided to all.

- Covering all groups at risk of developing TB with preventive treatment should also be prioritised.
- All plans should be aligned with WHO guidelines, which recommends treating childhood, adolescent and adult contacts of TB cases, alongside other at-risk groups such as people living with HIV or those who are immuno-compromised.
- All partners should support the supply of first-line drugs via south-south cooperation, precisely as India has offered to do.
- Royalty-free technology transfers will improve access to diagnostics and the efficacy of outreach.
- Community engagement, including capacity building, must be a core priority of all countries.

Connecting the dots:

- Tuberculosis can be one of the major hurdles in converting the human capital in India to Demographic Dividend. Highlight the reasons for the rising TB problem and suggest measures to eliminate the problem.
- TB remains one of the leading causes of death from any single infectious agent worldwide. Comment on the national and global efforts to eliminate the disease by 2035.

Drug-resistant diseases could kill 10 million a year by 2050

Part of: GS Prelims and Mains II – Health/Social issue

In news:

According to a report released by UN Ad Hoc Interagency Coordinating Group on Antimicrobial Resistance –

- Drug-resistant diseases could cause 10 million deaths each year by 2050
- It added that by 2030, antimicrobial resistance could force up to 24 million people into extreme poverty.
- Currently, at least 7,00,000 people die each year due to drug-resistant diseases, including 2,30,000 people who die from multidrug-resistant tuberculosis.

Do you know?

- Antimicrobial resistance is one of the greatest threats we face as a global community.
- The report recommended that countries prioritise national action plans to scale-up financing and capacity-building efforts, put in place stronger regulatory systems and support awareness programs for responsible and prudent use of antimicrobials by

professionals in human, animal and plant health and invest in ambitious research and development for new technologies to combat antimicrobial resistance.

For a malnutrition-free India

Context:

- Despite programme commitments since 1975, such as creating **Integrated Child Development Services** and national coverage of the **mid-day meal scheme**, India continues to grapple with a high rate of undernutrition.
- Improving nutrition and managing stunting continue to be big challenges.

Concerns:

- According to the National Family Health Survey (NFHS)-4, India has unacceptably high levels of stunting, despite marginal improvement over the years.
- According to NFHS-4 data, India has more stunted children in rural areas as compared to urban areas, possibly due to the low socio-economic status of households in those areas.
- Almost double the prevalence of stunting is found in children born to mothers with no schooling.
- Stunting has lifelong consequences on human capital, poverty and equity. It leads to less potential in education and fewer professional opportunities.
- India ranks 158 out of 195 countries on the human capital index.
- Lack of investment in health and education leads to slower economic growth.

Do you know?

- In terms of geographical regions, Bihar (48%), Uttar Pradesh (46%) and Jharkhand (45%) have very high rates of stunting, while States with the lowest rates include Kerala, and Goa (20%).

National Nutrition Strategy

- NITI Ayog came with a national strategy to fight maternal and child malnutrition and anaemia among women and girls.
- The aim of the National Nutrition Strategy of 2017 is to achieve a malnutrition-free India by 2022.
- The plan is to reduce stunting prevalence in children (0-3 years) by about three percentage points per year by 2022 from NFHS-4 levels, and achieve a one-third reduction in anaemia in children, adolescents and women of reproductive age.

This is an ambitious goal, especially given that the decadal decline in stunting from 48% in 2006 to 38.4% in 2016 is only one percentage point a year.

Measures need to address the challenges of under-nutrition

- There is a need for serious alignment among line ministries, convergence of nutrition programmes, and stringent monitoring of the progress made in achieving these goals.
- Stunting prevalence tends to increase with age and peaks at 18-23 months. Timely nutritional interventions of breastfeeding, age-appropriate complementary feeding, full immunisation, and Vitamin A supplementation have been proven effective in improving outcomes in children.
- India must improve in areas like breastfeeding children within one hour of their birth, breastfeeding for minimum next 6 months, providing timely complementary foods and adequate diet.
- About 40% of children don't get full immunisation and Vitamin A supplementation. Vitamin A deficiency can increase infections like measles and diarrhoeal diseases.
- They must be provided these for disease prevention.
- Stunting shows a steady decline with increase in household income and years of schooling or education.

Conclusion:

- It is imperative to push for convergence of health and nutrition programmes right from pregnancy until the child reaches five years of age.
- India must adopt a multi-pronged approach in bringing about socio-behavioural change.
- What is really needed is effective monitoring and implementation of programmes to address malnutrition.

Connecting the dots:

- Malnutrition in Indian children has reached alarming proportions. Explain how it affects India's social performance?
- Despite rapid economic growth, hunger and malnutrition remain a challenge in many districts of India. Why? Analyse.

GOVERNMENT SCHEMES

Pradhan Mantri Ujjwala Yojna (PMUY)

Part of: GS Prelims and Mains II and III - Government schemes and policies; Infrastructure: Energy

About the scheme:

- Pradhan Mantri Ujjwala Yojana is a scheme of the Ministry of Petroleum & Natural Gas for providing LPG connections to women from Below Poverty Line (BPL) households.
- Under the scheme, five crore (now 8 crores) LPG connections are to be provided to BPL households. The identification of eligible BPL families will be made in consultation with the State Governments and the Union Territories.
- Pradhan Mantri Ujjwala Yojana (PMUY) aims to safeguard the health of women & children by providing them with a clean cooking fuel – LPG, so that they don't have to compromise their health in smoky kitchens or wander in unsafe areas collecting firewood.
- The ambitious scheme also laid down a condition — that the LPG connections will be issued in the name of the women of the households.

Do you know?

- The Ujjwala Yojna was launched in 2016.
- The scheme subsidises LPG connections for rural households by providing a free gas cylinder, regulator and pipe.
- Central government data shows that more than six crore households have received a connection through the scheme.

In news:

According to a new study from the Research Institute for Compassionate Economics (r.i.c.e) –

- There has indeed been a substantial increase in LPG ownership due to the scheme, with 76% of households now owning an LPG connection.
- However, most rural households with LPG (liquefied petroleum gas) connections still use chulhas with firewood or dung cakes.
- About 85% of Ujjwala beneficiaries in 4 States still use earthen stoves, due to financial reasons as well as gender inequalities.

The survey found that while 70% of respondents thought the gas stove was better for the health of the cook (typically a woman), more than 86% felt that cooking on the chulha was

better for the health of those eating, reflecting ignorance of the fact that ambient air pollution is harmful even to those who are not cooking the food.

Study recommends that the scheme should move beyond benefits for women alone to change household behaviour.

Why Ujjwala LPG scheme is a half-baked programme?

Context:

- We know that, Pradhan Mantri Ujjwala Yojana is a scheme of the Ministry of Petroleum & Natural Gas for providing LPG connections to women from Below Poverty Line (BPL) households.
- Under the scheme, five crore (now 8 crores) LPG connections are to be provided to BPL households.
- PMUY aims to safeguard the health of women & children by providing them with a clean cooking fuel.

Recently, the Union government claimed that it has provided over 51 million—51,407,565 at last official count—free cooking gas connections, distributed in standard-sized cylinders familiar to most people in India.

However, most households in rural Bihar, Rajasthan, Madhya Pradesh and Uttar Pradesh—despite having an LPG connection—have not switched over to exclusive use of gas.

What RICE survey says?

According to **Research Institute for Compassionate Economics (RICE)**, a non-profit research organization, which surveyed 1,550 households in late 2018 to know their cooking fuel choices —

- Burning solid fuel for cooking causes high levels of indoor air pollution and this smoke is dangerous. Solid-fuel use not only affects the health of the family that uses it, but is also harmful to their neighbours.
- Between 2014 and 2018, the region saw 44.2 percentage point **increase in households with a cooking gas connection.**
- In fact, **over three-fourths of all households** in Bihar, Rajasthan, Madhya Pradesh and Uttar Pradesh now **have LPG connections**, and 43% of them reported having received one from the government.
- But almost all households still own a chulha.

- As many as 37% of the households reported having used both a chulha and LPG stove the day before they were asked as part of the survey exercise.
- And about 36% were found to be only using solid fuel for cooking.

Reasons:

- **Poverty and high cost of LPG** – Since they are poor, and the cost of a gas cylinder or re-filling it forms a large portion of their monthly expenditure, Ujjwala beneficiaries are less likely to exclusively use LPG for cooking.
- **Beliefs and attitudes of people** – Over two-thirds of the respondents considered cooking with LPG easier and healthier for the person who cooked. However, over 85% of the survey's respondents also saw solid fuel as a better option for taste and the health of family members eating the food. Therefore, a household's fuel use is associated with its beliefs.

Conclusion:

- But the effect of air pollution on people's health is a scientific fact. By delivering so many LPG connections, the government has finished its job. However, the real goal has not, and it may take a long while before it does.
- If the Ujjwala scheme is to accomplish its goal, which is the improvement of cooking conditions for women and enhancement of Indian citizens' health, the government needs to work on changing the people's attitudes and beliefs. This could be a long-drawn process.

Connecting the dots:

- Does there exist a direct relation of smokeless kitchens with economic development. Discuss.
- Why having an LPG connection important for woman empowerment? In this regard, do you think Pradhan Mantri Ujjwala Yojana can make a difference? Examine. Also discuss its other advantages.
- If the Ujjwala scheme is to accomplish its real goal, then the government needs to work on changing the people's attitudes and beliefs. Elucidate.

Necessary Steps to End Poverty

Context:

- India is uniquely placed to drive global poverty reduction. It is home to the largest number of poor people in the world, as well as the largest number of people who have recently escaped poverty.
- Despite there had been a focus on poverty since 50 years ago, we are unable to eradicate it. This is because the approach of public policy to the problem has been to initiate schemes which could serve as no more than a palliative, as suggested by the very term 'poverty alleviation' commonly used in the discourse of this time.
- These schemes failed to go to the root of poverty, which is capability deprivation that leaves an individual unable to earn sufficient income through work or entrepreneurship.
- Income poverty is a manifestation of the deprivation, and focusing exclusively on the income shortfall schemes guaranteeing income to the poor through budgetary transfers, such as Pradhan Mantri Kisan Samman Nidhi, or Nyuntam Aay Yojana, can address only the symptom.

Concerns:

There are some concerns with existing programmes:

Pradhan Mantri Kisan Samman Nidhi (PM-Kisan):

- It promised to pay farm households below a threshold Rs. 6,000 a year.
- An income-support scheme for any one section of the population is grossly inequitable.
- Agricultural labourers and urban pavement dwellers are as equally deserving of support as poor farmers.
- While it is the case that at present agricultural subsidies go to farmers alone, these are intended as production subsidies and so channeled due to the criticality of food production to all.
- On the other hand, a welfare programme cannot, ethically speaking, exclude those equally placed.

Nyuntam Aay Yoiana (NYAY):

- It envisages an annual transfer 12 times greater to the poorest 20% households.
- While this scheme is not discriminatory, it is severely challenged by the issue of beneficiary identification in real time.
- And moreover at 13% of Budget outlay, NYAY would amount to more than twice the combined expenditure on health and education and more than capital expenditure in the same budget, they being the items of public expenditure that most impact poverty in the long run.

- There is an opportunity cost to be acknowledged of an income-support scheme of this magnitude being implemented while there exists a severe deficit of social and physical infrastructure in the country.

The way ahead: Poverty Eradication

- Poverty should be seen as capability deprivation.
- Health, education and physical infrastructure are central to the capabilities of individuals, and the extents of their presence in a society determine whether the poor will remain so or exit in poverty permanently.
- The scale at which these inputs would be required to endow all Indians with the requisite capabilities makes it more than likely that we would have to rely on public provision.

Focus should be on UBS than UBI

- In light of a pitch that has been made for the implementation in India of a publicly-funded universal basic income (UBI) scheme, we can say that from the perspective of eliminating poverty, universal basic services (UBS) from public sources are needed, though not necessarily financed through the budget.
- There is indirect evidence that the provision of health, education and public services matters more for poverty than the Central government's poverty alleviation schemes in place for almost half a century.

For example:

- Per capita income levels and poverty vary across India's States. A discernible pattern is that the southern and western regions of India have lower poverty than the northern, central and eastern ones.
- This, very likely, is related to higher human development attainment in the former. This indicator is based on the health and education status of a population apart from per capita income, bringing us back to the relevance of income generation to poverty.
- As the Central government is common across regions, differences in the human development index must arise from policies implemented at the State level.
- This further implies that a nationwide income support scheme that channels funds from a common pool to households in the poorer States would be tantamount to rewarding lower effort by their governments.

Conclusion:

The original case for a UBI came from European economists. Europe is perhaps saturated with publicly provided UBS. This is not the case in India, where the task of creating the wherewithal for providing public services has not even been seriously initiated.

- There is a crucial role for services, of both producer and consumer variety, in eliminating the capability deprivation that is poverty.
- As these services cannot always be purchased in the market, income support alone cannot be sufficient to eliminate poverty.
- It is in recognition of the role of services in enabling people to lead a productive and dignified life that the idea of multi-dimensionality has taken hold in the thinking on poverty globally.
- There are no short cuts to ending poverty, but ending it soon is not insurmountable either.

Connecting the dots:

- In terms of poverty eradication, what are the challenges faced by India? Elucidate
- Poverty is a disease which engulfs prosperity if not diagnosed and treated properly. Explain.

GOVERNANCE & INFRASTRUCTURE

Part of: GS Prelims and Mains II and III – Government schemes and policies; Infrastructure; Social/Welfare programme

In news:

- Kerala government's Mission LIFE (livelihood inclusion and financial empowerment) aims to provide shelter and security to the homeless.
- Under the initiative, the state will be providing shelter to 4.3 lakh families that are without a home.
- The initiative has been reaping some success.
- The complex offers decent living space to the homeless and has amenities that are now common in housing complexes elsewhere in the country, including waste management facilities and power back-up. Additionally, the complex also houses a health sub-centre and anganwadi.

Global Initiative of Academic Networks (GIAN)

Part of: GS Prelims and Mains II – Government schemes and programmes; Education reforms

In news:

- GIAN was launched by Union Ministry of Human Resource Development (HRD) in 2015

- It aims to boost the quality of higher education in India, facilitate participation of high quality international academicians for delivering short-term courses and programs in Indian institutions

Do you know?

- Under GIAN, initially 500 international faculties will be engaged in conducting courses and later in subsequent years 1000 faculties would be engaged throughout India.
- GIAN aims at tapping the talent pool of scientists and entrepreneurs to engage with the institutes of higher education in India

Visiting Advanced Joint Research Faculty (VAJRA) scheme

Part of: GS Prelims and Mains II – Government schemes and programmes; Education reforms

In news:

- Launched by Ministry of Science and Technology
- VAJRA scheme enables NRIs and overseas scientific community to participate and contribute to research and development in India.

Do you know?

- The Science and Engineering Research Board (SERB), a statutory body of the Department of Science and Technology will implement the Scheme.
- Foreign researchers of Indian origin or otherwise can collaborate with faculties in public funded Indian institutions.
- Public funded academic institutions and national laboratories will be eligible for hosting the VAJRA Faculty.
- The VAJRA faculty can reside in India for a minimum of 1 month and a maximum of 3 months a year.

Scheme for Promotion of Academic and Research Collaboration (SPARC)

Part of: GS Prelims and Mains II – Government schemes and programmes; Education reforms

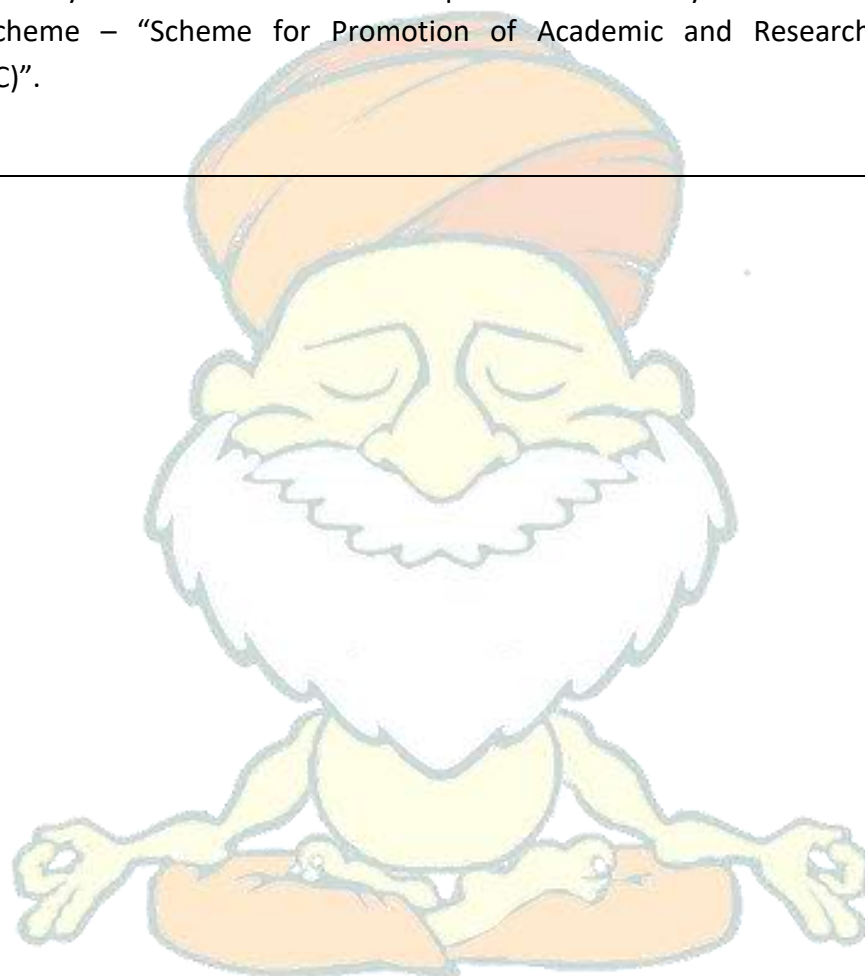
In news:

- Indian Institute of Technology, Kharagpur is the National Coordinating Institute to implement the SPARC programme.

- SPARC aims at improving the research ecosystem of India's higher educational institutions by facilitating academic and research collaborations between Indian institutions and the best institutions in the world.
- Under this Scheme, 600 joint research proposals will be awarded for 2 years to facilitate research collaboration between Indian research groups with the best in class faculty and renowned research groups in the leading universities of the world

Do you know?

- The Ministry of Human Resource Development had recently launched the web portal of the scheme – "Scheme for Promotion of Academic and Research Collaboration (SPARC)".



- Pakistan could be blacklisted by the Financial Action Task Force (FATF) due to “lobbying by India”.
- Pakistan could suffer a loss of \$10 billion annually if it remains in the watchdog’s grey list.

Do you know?

- In June last year, the Paris-based FATF had placed Pakistan on the 'grey list' of countries whose domestic laws are considered weak to tackle the challenges of money laundering and terrorism financing.
- A group of experts from the FATF recently visited Pakistan to review whether Islamabad had made enough progress on global standards against financial crimes to warrant its exclusion from the 'grey list'.
- During the visit, a delegation of the Asia-Pacific Group on money laundering, a regional affiliate of the FATF, expressed serious reservations over insufficient physical actions on ground against banned groups to block flow of funds and activities.
- The delegation reportedly raised questions over specific actions against each of the eight organisations proscribed under international requirements.
- It said activities of banned organisations and NGOs were still unchecked at the provincial, district and grass roots level, where they can still raise funds and hold meetings and rallies.

About Financial Action Task Force (FATF):

- It is an intergovernmental organization founded in 1989 on the initiative of the G7 to develop policies to combat money laundering.
- In 2001 its mandate expanded to include terrorism financing.
- It monitors progress in implementing the FATF Recommendations through “peer reviews” of member countries.
- The FATF Secretariat is housed at the OECD headquarters in Paris.

Indians in Libya told to be careful

Part of: GS Prelims and Mains II – Indian Diaspora; International Affairs

In news:

- In view of the worsening security situation in Libya, India asked its nationals to exercise extreme caution and stay in contact with others in the community.
- The Libyan Crisis (2011 to present) refers to the ongoing conflicts in Libya, beginning with the Arab Spring protests of 2011, which led to a civil war, foreign military intervention, and the ousting and death of Muammar Gaddafi.
- The civil war's aftermath and proliferation of armed groups led to violence and instability across the country, which erupted into renewed civil war in 2014.
- The ongoing crisis in Libya has so far resulted in tens of thousands of casualties since the onset of violence in early 2011.

Serial blasts across Sri Lanka

Part of: GS Prelims and Mains II and III – International affairs; Security and Terrorism related issues; Indian Diaspora

In news:

- Over 200 people were killed and nearly 500 injured in a series of blasts that shook Sri Lanka on Easter Sunday.
- Churches and luxury hotels were targeted in the deadliest incidents since the civil war ended a decade ago.
- Blasts occurred in and around the capital **Colombo** and in the eastern city of **Batticaloa**.
- No group has claimed responsibility for the blasts.
- Four Indians among blast victims.



Pic:

https://d39gegkjaqduz9.cloudfront.net/TH/2019/04/22/DEL/Delhi/TH/5_01/132b6ce8_2888158_101_mr.jpg



Pic:

https://d39gegkjaqduz9.cloudfront.net/TH/2019/04/22/CNI/Chennai/TH/5_12/8ff74172_1ac952b7_101_mr.jpg

INDIA AND THE WORLD

U.S. State Department approves \$2.6 billion chopper sale to India

In news:

- The U.S Department of State has approved the **sale of 24 MH-60R 'Romeo' multi-mission helicopters** to India under its **Foreign Military Sales (FMS) programme**.
- The value of the potential sale is \$2.6 billion.
- The Indian government had submitted a Letter of Request for the Romeos last year.
- The proposed sale will provide India the capability to perform anti-surface and anti-submarine warfare missions along with the ability to perform secondary missions, including vertical replenishment, search and rescue, and communications relay.

Do you know?

- **India was granted the unique Major Defence Partner (MDP) designation** in 2016 by the Obama administration — a step towards India accessing U.S. military technology at a level on par with those of the U.S.'s closest allies.
- India was then given **Strategic Trade Authorisation-1 (STA-1) status** by the U.S. in August last year, the **third Asian country** after South Korea and Japan (and 37th country globally) to acquire it.
- This was to further facilitate the transfer of technology in the defence and space sectors.

About the four foundational agreements

- India has signed the **Communications Compatibility and Security Agreement (COMCASA)** agreement with the U.S.
- The agreement will provide a legal basis for the U.S. to transfer secure communication equipment to India, increasing military equipment interoperability and real time data sharing.
- COMCASA is an India-specific version of the Communication and Information on Security Memorandum of Agreement (CISMOA).
- Few other agreements signed by India with US are **General Security of Military Information Agreement (GSOMIA)** and **Logistics Exchange Memorandum of Agreement (LEMOA)** in 2016.
- India is yet to sign **Basic Exchange and Cooperation Agreement for Geo-spatial Cooperation (BECA)** with USA.

Apart from the foundational agreements, the U.S. is also keen on a **broad based intelligence-sharing agreement** with India as the two countries have vastly expanded their counter-terror cooperation. (needs signing of BECA)

Sri Lanka seeks enhanced military training from India

Part of: GS Prelims and Mains II – India and its neighbours; International Relations

In news:

- Sri Lanka has sought enhanced military training from India.
- India and Sri Lanka agreed to increase cooperation in security and defence spheres in several areas, including regional security, curbing drug smuggling and human trafficking and training of members of the security forces.

Do you know?

- Currently, over 60% of Sri Lanka's military personnel pursue their young officers' course, junior and senior command courses in India, according to defence sources in Colombo.

'Exercise Mitra Shakti'

- Joint military training exercise between the Indian Army and the Sri Lankan Army
- 6th edition was concluded in Badulla district, in Sri Lanka's Central Province
- The two-week programme is part of an initiative that began in 2013 as part of military diplomacy between India and Sri Lanka.

India-Maldives:

Key points from the editorial –

- For Maldivians, the **election of President Ibrahim Mohamed Solih** in September 2018 meant a possible **opening up of democratic space** in the country.
- Former President Abdulla Yameen's term was considered to be authoritarian and tilted towards China. India and Maldives ties were low.
- President Ibrahim Mohamed Solih's victory in the Maldivian presidential elections has recalibrated his country's ties with India.

India-Maldives ties under Solih's regime:

- Since Solih's government came to power, India-Maldives ties have undergone a dramatic change, marked by renewed cooperation, close dialogue and multiple high-level visits from both sides.
- Prime Minister Narendra Modi attended President Solih's swearing-in ceremony.
- India's people-oriented projects like providing fresh water, sanitation, sewerage are deeply appreciated by the people of Maldives.
- Building roads and moving the Male commercial harbour to **Thilafushi [island west of Male]** are huge projects that are going to be major symbols of cooperation between the two countries.

(* Thilafushi is an artificial island created as a municipal landfill situated to the west of Malé. Thilafushi originally was a lagoon called "Thilafalhu")

India-Maldives ties under previous President (Abdulla Yameen) regime - Between 2013 and 2018

- As mentioned above, India and Maldives ties were low.
- President Yameen's administration was seen as tilting heavily towards China amid growing tensions with India.

Importance of India to Maldives:

- People-to-people contact: Many Maldivians live in India.
- At times of need, Maldives always sees India as the first respondent.
- For instance, on November 3, 1988, when mercenaries attacked the Maldives, India was the first to respond. In 2004, when the tsunami hit Maldives, Indian naval ships were despatched to assist them.
- During last year Male water crisis, within four hours Indian Navy and Air Force vessels were successful in delivering water.

Why Maldives is important for India?

- Geopolitical location of the Maldives – Maldives is strategically located in the Indian Ocean and important to ensure uninterrupted energy supplies to countries and connectivity.
- Freedom of maritime trade in the Indian Ocean
- The **Eight Degree Channel** is one of the major maritime lanes of the world.
- A stable, mature and democratic Maldives will help to maintain peace and security in the Indian Ocean.

10 REASONS WHY MALDIVES IS IMPORTANT FOR INDIA




- 1** Strategically located in the Indian Ocean, Maldives archipelago comprising 1,200 coral islands lies next to key shipping lanes which ensure uninterrupted energy supplies to countries like China, Japan and India
- 2** Since China started to send naval ships to Indian Ocean roughly 10 years ago —and right up to Gulf of Aden in the name of anti-piracy operations — Maldives' significance has steadily grown and now it's at the heart of international geopolitics
- 3** As the pre-eminent South Asian power and a 'net security provider' in the Indian Ocean region, India needs to cooperate with Maldives in security and defence sectors
- 4** China's massive economic presence in Maldives is a major concern for India. With the country now said to owe 70% of its external aid to China, many believe that Yameen has done to Maldives what Rajapaksa did to Sri Lanka. India had to push back at some stage and the current political crisis might just have offered India the right opportunity
- 5** A large section of population which supports the opposition parties like Nasheed's MDP wants India to act against Yameen
- 6** Maldives is also a member of Saarc. It is important for India to have Maldives on board to maintain its leadership in the region. Maldives was the only Saarc country which seemed reluctant to follow India's call for boycott of Saarc summit in Pakistan after the Uri attack
- 7** Under Yameen, radicalisation grew rapidly and it was often said that archipelago accounted for one of the highest numbers of foreign fighters in Syria in terms of per capita. India can ill-afford a neighbour which fails to check Islamic radicalisation
- 8** India and Maldives share ethnic, linguistic, cultural, religious and commercial links. India was among the first to recognise Maldives after its independence in 1965 and later established its mission at Malé in 1972
- 9** There are 25,000 Indian nationals living in Maldives (second largest expatriate community). Indian tourists also account for close to 6% of tourists Maldives receives every year
- 10** India is also a preferred destination for Maldivians for education, medical treatment, recreation and business. According to MEA, more and more Maldivians are seeking long term visa for pursuing higher studies/ medical treatment in India

Pic: <https://iasbaba.com/wp-content/uploads/2018/09/dna.png>

Connecting the dots:

- What significance Maldives hold for India? Discuss. Also enumerate the irritants in Indo-Maldives relations. How do you assess the present status of relationship?
- Discuss the political developments in Maldives in the last two years. Should they be of any cause of concern to India? (UPSC mains 2013)

U.S. ends waiver for India on Iran oil

Part of: GS Prelims and Mains II – India and US; International Affairs

In news:

- The United States said it will stop in May all waivers that allow eight nations, including India, to buy Iranian oil without facing sanctions, triggering a rise in global crude prices and a slump in Indian markets.

- The decision is taken by US President Donald Trump to pressure Tehran to give up its nuclear weapons and ballistic missile programmes.
- Analysts said the move is likely to keep crude oil prices elevated for now.
- India said it is adequately prepared to deal with the impact of the US decision to end waivers that allowed it to buy Iranian oil without facing sanctions.

Do you know?

- India was among eight countries granted waivers from the secondary impact of sanctions for six months to taper their import of Iranian crude to zero.
- The others were China, Japan, South Korea, Turkey, Taiwan, Italy and Greece.
- India, which is the second biggest purchaser of Iranian oil after China, had agreed to restrict its monthly purchase to 1.25 million tonne or 15 million tonne in a year (300,000 barrels per day), down from 22.6 million tonne (452,000 barrels per day) bought in the 2017-18 financial year.
- The world's third biggest oil consumer, India meets more than 80 per cent of its oil needs through imports.
- Iran is its third largest supplier after Iraq and Saudi Arabia and meets about 10 per cent of its total needs.

India may stop oil imports from Iran

Part of: GS Prelims and Mains II and III – India and the World; India-US ties; Indian economy and development

In news:

- Petroleum Minister said the country plans to increase imports from major oil producing nations other than Iran, indicating that it will be acceding to the U.S. plan to reduce Iran's oil exports to zero, a move criticised by the Congress.
- The U.S. that it would be cancelling the waivers from sanctions it had granted eight countries, including India, allowing them to import oil from Iran.
- In addition, the U.S. has also stipulated that India's "escrow account" used for Rupee-Rial trade cannot be operated after its May 2 deadline. However, there is no change in the exemption given for India's investments in Chabahar port as a trade route to Afghanistan.

US sanctions and the end of cheap oil

Context:

- The Trump administration has decided not to renew any of the oil waivers it had granted earlier.
- In other words, the temporary exemption granted to India and seven other countries from US sanctions on purchase of Iranian oil to end shortly.
- And the countries that do not stop buying Iranian oil by then could face American strictures.

Implications:

The removal of Iranian oil from India's energy sourcing basket may have major implications.

- India has been a major importer of Iranian oil. India imports more than 10% of its crude oil from Iran, so the government faces the immediate challenge of having to find alternative suppliers to meet its huge energy needs.
- The price of Brent crude oil to increase further, which will have negative impact on India's current account deficit, fiscal deficit and inflation in the wider economy.
- The rise in the price of oil will automatically increase the price of the commodity.
- The currency could be impacted if the trade and current account deficits were to widen. An increase in the import bill will tend to put pressure on the rupee.
- The big concern is that the substitute crude suppliers — Saudi Arabia, Kuwait, Iraq, Nigeria and the US — do not offer the attractive options that Iran does, including 60-day credit, and free insurance and shipping. The challenge is to secure an alternative supplier at competitive terms in an already tightening global situation.

The way ahead:

- India in order to protect its interests in the ever-volatile global oil market, will need to take steps to **diversify its supplier base** and also work towards **increasing domestic sources of energy supplies**.
- **Opening up the renewable energy sector for more investments** will also help avoid over-dependence on oil from the global market to meet the country's ever-increasing energy needs.
- Another key area for Delhi to focus on is **setting up of large-scale refineries** to process crude oil.
- India may increase its dependency on oil imports from **Saudi Arabia and the United Arab Emirates (UAE)** at a time when the West Asian nations plan to increase their investments in India.

- In addition, **US shale production** may offer India a reprieve, with the world's third largest oil importer upping its bets on American supplies.

In an uncertain geopolitical landscape accompanied by unpredictable behaviour by state actors today, India will constantly need to recalibrate policy and balance relations to ensure its interests are maintained.

Connecting the dots:

- How can India ensure that its relations with the US and Iran, and particularly its energy interests are not affected? Suggest.
- What do you understand by the term 'energy mix'? Elucidate its importance for India in fighting out the ensuing energy crisis.

India-China Relations: Second Belt and Road Forum (BRF)

In news:

- India has, once again, decided to not participate in China's second Belt and Road Forum (BRF) due on April 25.
- The Belt and Road Initiative (BRI), proposed by Chinese President Xi Jinping in 2013, is aimed at building a trade and infrastructure network connecting Asia with Europe and Africa along ancient trade routes.
- India's response to the BRF is deeply rooted in its territorial sovereignty concerns vis-à-vis China and Pakistan.
- India's main concern remains the much-controversial CPEC that passes through the PoK.
- Citing its opposition to the CPEC, India had skipped the Belt and Road Forum in May last year.

India's qualms about BRI's impact on Indian Ocean

- India is fearful that BRI would exacerbate Sino-Indian tension in the subcontinent and the Indian Ocean region.
- India is worried about four specific corridors that constitute major components of the BRI and run across India's South Asian neighborhood.

BRI includes

- the Trans-Himalayan Economic Corridor,
- Bangladesh-China-India-Myanmar (BCIM) Economic Corridor (1990s),
- Twenty-First Century Maritime Silk Road (MSR), a combination of bilateral infrastructure projects in the Indian Ocean region, and

- the China-Pakistan Economic Corridor.

India perceives these corridors and the associated infrastructure projects are detrimental to India's strategic interests. They run close to India's continental and maritime borders and may affect its security interests and strategic environment.

India's interest

- Forty seven countries have the Indian Ocean on their shores. The Indian Ocean is the third largest body of water in the world.
- India's motto is 'whoever controls the Indian Ocean dominates Asia'.
- Indian Ocean is considered to be the key to the seven seas in the twenty-first century; the destiny of the world will be decided in these waters'.
- Indian Ocean is rich with living and non-living resources, from marine life to oil and natural gas. Its beach sands are rich in heavy minerals and offshore placer deposits. India is actively exploiting them to its economic advantage.
- It is a major sea lane providing shipping to 90 per cent of world trade. It provides a waterway for heavy traffic of petroleum and petroleum products from the oilfields of the Persian Gulf and Indonesia, and contains an estimated 40 per cent of the world's offshore oil production.

Therefore, whoever attains maritime supremacy in the Indian Ocean would be a prominent player on the international scene.

Thus, it is imperative that India bases its decision strictly on Strategic Autonomy, keeps its own interest at the pivot and take principled & pragmatic decisions by carrying out a SWOT analysis of its decisions and keeping long term benefit & global peace at priority.

Connecting the dots:

- Is India's stand against China's Belt-Road initiative justified? Critically examine the issues from the perspective of India's strategic interests.

[/01/02/2019/09](#)

Context:

- As a country born of the **two-nation theory based on religion**, and then having to suffer dismemberment and the consequent damage to the very same religious identity, it is obvious why Islamic Pakistan must have a **hostile Other in the form of a 'Hindu India'**.

- It is widely recognised that the fulcrum of the Pakistani state and establishment is an anti-India ideology and an obsession with India.
- But what is not obvious is why India, a secular nation, must have a hostile antagonist in the form of Pakistan.
- Though India's post-Independence nationalism has been also driven by an obsession with Pakistan but it is not seen in front but recent reinvigoration of nationalism in form of hyper-nationalism and a 'Hindu India' identity fueled this obsession similar like Pakistan, which is ultimately self-defeating.

Impact of hostility with Pakistan

Learning from Pakistan shows that such ideology lead to self-destruction of the country.

- Pakistan's vastly **disproportionate spending on the military** to attain military parity with India, a country that is six and half times larger in population, and eight and a half times bigger economically has been self-destructive for a poor nation.
- In 1990, Pakistan was ahead of India by three places in the Human Development Index. In 2017, Pakistan was behind India by 20 ranks, a sad reflection of its ruinous policies.
- More critically, the **Pakistani state's sponsorship of Islamist terror groups** has been nothing less than **catastrophic** because Pakistan, ironically, is also one of the worst victims of Islamist terrorism.

High military expenses, huge human and material costs

- High military expenses without war due to such hostility.
- India-Pakistan attempts to secure the **Siachen Glacier**, the inhospitable and highest battle terrain in the world. India alone lost nearly 800 soldiers (until 2016) to weather-related causes only. Besides, it spends around ₹6 crore every day in Siachen.
- **Operation Parakram** (2001-02), in which India mobilised for war with Pakistan, saw 798 soldier deaths and a cost of \$3 billion. This is without fighting a war. Add to this the human and economic costs of fighting four wars.
- Deaths of around 6,500 security personnel in Kashmir and the gargantuan and un-estimated costs of stationing nearly 5 lakh military/para-military/police personnel in Kashmir for 30 years.

Hindrance to attain rightful place of India in international community

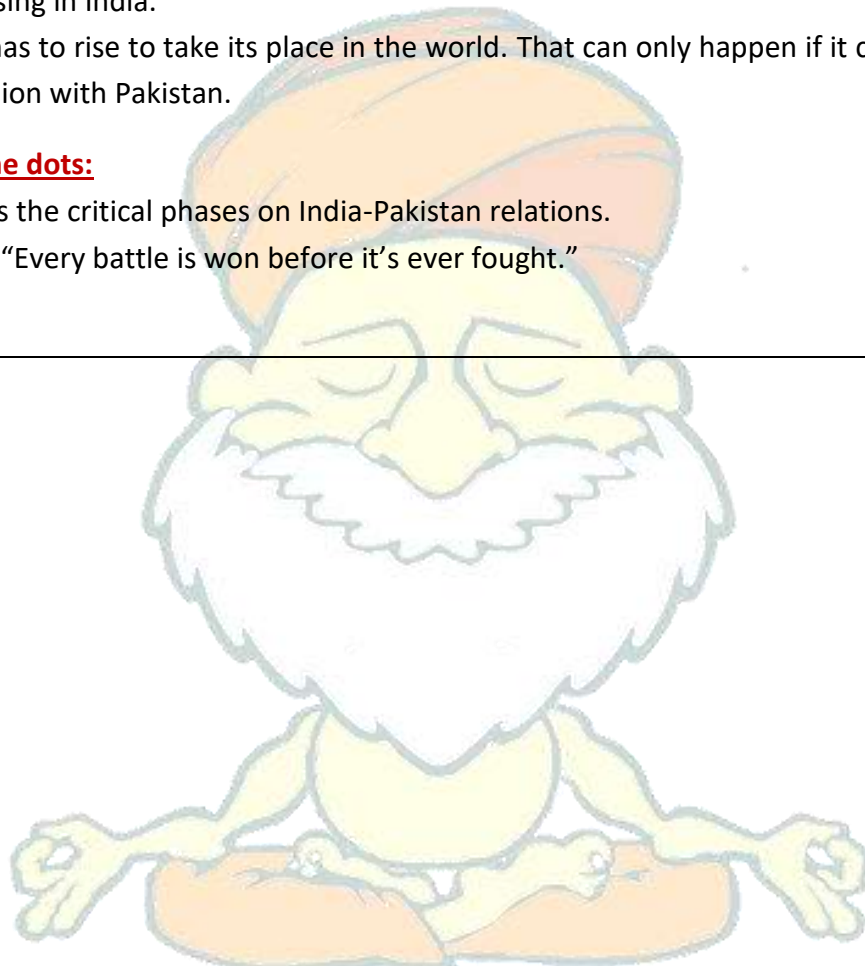
- India-Pakistan relationship is "toxic". Both the countries suffer from "minority" or "small power" complex in which one is feeling constantly "threatened" and "encircled".
- The disastrous conflict with Pakistan can be considered as one of the main reasons why India has been confined to South Asia, and prevented from becoming a global power.

The way ahead:

- Instead of hostility with Pakistan, India should learn from China's early success in **universalising health care and education, providing basic income**, and advancing human development, which as Amartya Sen has argued, is the **basis of its economic miracle**.
- The more India defines itself as the Other of Pakistan (a nation practically governed by the military) the more it will become its mirror.
- Any nation that thrives by constructing a mythical external enemy must also construct mythical internal enemies. That is why the number of people labelled 'anti-national' is increasing in India.
- India has to rise to take its place in the world. That can only happen if it can get rid of its obsession with Pakistan.

Connecting the dots:

- Discuss the critical phases on India-Pakistan relations.
- Essay: "Every battle is won before it's ever fought."



ECONOMY

Core sector growth quickens to 2.1% in Feb.

Part of: GS Prelims and Mains III – Indian Economy and issues related to it; Growth and Development

In news:

- Core sector growth accelerated in February to 2.11% from the 1.5% in January, snapping a three-month slowing trend.
- Growth had come in at 4.74% for October 2018, 3.38% for November and 2.64% for December.
- Within the Index of Eight Core Industries, the crude oil sector contracted sharply in February, by 6.16%, compared with a contraction of 4.37% in January. The natural gas sector saw growth slowing to 3.7% from 6.21% over the same period.
- After recording a high single-digit growth of 7.3% in July 2018, core sector has consistently recorded a growth of low single-digit indicating weakness in the industrial growth.
- The cement sector saw growth at 8.04% in February, lower than the 11% growth in January. The coal sector witnessed growth accelerating in February to 7.26% from 1.74% in January.
- The refinery products sector saw a contraction of 0.74% in February, as compared with a contraction of 2.58% in January. The fertilizer sector also saw growth slowing drastically in February to 2.54% from 10.5% in January.
- The steel sector's growth slowed in February to 4.87% from 5.52% in January. Growth in the electricity sector remained flat at 0.73% in February compared with 0.8% in January.

Basics:

Index of Industrial Production (IIP)

- Prepared by the Central Statistics Office
- To measure the activity happening in three industrial sectors namely Mining, Manufacturing, and Electricity.
- It is the benchmark index and serves as a proxy to gauge the growth of manufacturing in India since manufacturing alone has a weight of 77.63 per cent in the index.

Eight Core Industries

- Coal, Crude Oil, Natural Gas, Refinery Product, Steel, Cement and Electricity are known as Core Industries.
- The Eight Core Industries comprise 40.27 per cent of the weight of items included in the Index of Industrial Production (IIP).

The 8 core industries are their relative weight in IIP is as below:

1. Coal (weight: 4.38 %)
2. Crude Oil (weight: 5.22 %)
3. Natural Gas (weight: 1.71 %)
4. Refinery Products (weight: 5.94%)
5. Fertilizers (weight: 1.25%)
6. Steel (weight: 6.68%)
7. Cement (weight: 2.41%)
8. Electricity (weight: 10.32%)

2020 & 2021

Introduction:

- The Supreme Court struck down a Reserve Bank of India circular giving lender banks six months to resolve their stressed assets or move under the Insolvency Code against private entities who have defaulted on loans worth over ₹2,000 crore.
- The central bank's controversial 'February 12 circular' which tightened the framework for the resolution of stressed assets has been struck down by the Supreme Court.

RBI's February 12 circular:

- RBI's February 12 circular replaced all its earlier instructions on the subject.
- The circular introduced a new one-day default norm "As soon as there is a default in the borrower entity's account with any lender, all lenders singly or jointly shall initiate steps to cure the default.
- Banks were required to immediately start working on a resolution plan for accounts over Rs 2,000 crore, which was to be finalised within 180 days. In case of non-implementation, lenders were required to file an insolvency application.

However, the companies said the circular violated Article 14 of the Constitution.

Several companies from the power and shipping sectors had challenged the circular, arguing that the time given by the RBI was not enough to tackle bad debt.

Power producers, for instance, had argued that the RBI's 'one-size-fits-all' approach was impractical since the sector had to confront external factors that were beyond its control, and which made an early revival difficult for them. These factors included the unavailability of coal and gas, and problems arising out of the failure of state governments to honour power purchase agreements.

The court found favour with the companies' arguments that a general direction by the RBI, applying the 180-day- limit to all sectors, without going into the special problems faced by each, would "treat unequals equally".

What did the "Resolution of Stressed Assets Revised Framework" replace?

- The circular went into effect on the same day that it was issued, and all existing schemes for stressed asset resolution were withdrawn with immediate effect.
- These included the Framework for Revitalizing Distressed Assets, Corporate Debt Restructuring Scheme, Flexible Structuring of Existing Long Term Project Loans, Strategic Debt Restructuring Scheme (SDR), Change in Ownership outside SDR, and Scheme for Sustainable Structuring of Stressed Assets (S4A).
- All the above schemes allowed more lenient terms of resolution than the February 12 circular which specifically said that the resolution process must begin from day one of the default.
- The circular was ostensibly intended to stop the "evergreening" of bad loans — the practice of banks providing fresh loans to enable timely repayment by borrowers on existing loans.
- The RBI warned banks that not adhering to the timelines laid down in the circular, or attempting to evergreen stressed accounts, would attract stringent supervisory and enforcement actions.

The government had earlier asked the RBI to make sector-specific relaxations in the timeline for the implementation of the circular.

What impact will Supreme Court order have?

- The order provides immediate relief to companies that have defaulted in repayments, especially those in the power, shipping and sugar sectors.
- However, many financial sector experts argued that the verdict could delay the process of stressed assets resolution, which had of late picked up pace. Since banks will have the choice of devising resolution plans or going to the National Company Law Tribunal under the IBC, the urgency that the RBI's rules had introduced in the system could be impacted.

- There will be no impact on resolution cases that have already been completed or are under process, as they were done with the approval of the majority of the banks and not specifically because of the RBI's circular.
- However, if insolvency proceedings were begun based on the RBI's circular, then such proceedings will be deemed to be void following the Supreme Court's judgment.
- Analysts and lawyers says that it will lead to deterioration of borrower behavior and increase delays and litigation.

Rating agency on this verdict:

- Rating agency Moody's said the Supreme Court's decision is 'credit negative' for Indian banks. It said resolution of stressed assets may now be delayed.
- ICRA estimates the total debt impacted by the circular at Rs 3.8 lakh crore across 70 large borrowers, including Rs 2 lakh crore across 34 borrowers was in the power sector.
- As of March 31, 2018, 92% of this debt had been classified as non-performing, and banks have made provisions of over 25-40% on these accounts, ICRA said.

Connecting the dots:

- Which major sectors contribute the maximum to bad loans or NPAs in India? What is the way out? Analyse.
- NPAs or stressed assets have adversely affected the banking system in India. In this light, identify the factors that have led to this status and also examine the steps taken by the Government and the RBI to address the same.

India's new foreign direct investment rules for e-commerce

Context:

- India has released its draft e-commerce policy for stakeholders' comments, after tweaking its foreign direct investment (FDI) rules on e-commerce.
- At the recent World Economic Forum's Davos gathering, 76 countries – including China, the US, and of the European Union – agreed to negotiate international rules on e-commerce at the World Trade Organization (WTO).
- India, too, should join the talks and align its domestic policy with the contours of an international agreement in line with our vision of becoming a \$10 trillion economy.

Why India should join WTO talks on e-commerce?

- According to its domestic e-commerce policy, India endeavors to give an advantage to domestic platforms, but without distinguishing between small and big domestic firms.

- Further, the draft e-commerce policy doesn't disallow large domestic firms from adopting an inventory-based model for e-platforms, which is out of bounds to foreign platforms.
- The vision of the draft e-commerce policy of India includes “providing a level-playing field to all stakeholders, including the individual consumers and MSMEs and start-ups”.
- To push the interests of its small businesses at the multilateral level, it will be good for India to join the international negotiations and participate actively.
- India should join hands at the negotiating table and may even consider balancing their stand on data for gains on rules that could aid the growth and development of their small businesses.

Background: What is the issue?

The demand for a **national e-commerce policy** was triggered, inter alia, by two factors:

1. Big multinationals like Amazon.com Inc. and Walmart Inc. entering the online retail market with small retailers howling, and
2. Second, the call for multilateral rules on cross-border e-commerce.

At the heart of the problem is India's view on the two e-commerce models that exist today: **marketplace** and **inventory**.

- **India allows 100 percent foreign direct investment (FDI) in the marketplace model** of e-commerce, which it defines as a tech platform that connects buyers and sellers.
- **India has not allowed FDI in inventory-driven models** of e-commerce. The inventory model, which Walmart and Amazon use in the United States, is where the goods and services are owned by an e-commerce firm that sells directly to retail customers.

The restriction is aimed largely at **protecting India's vast unorganized retail sector** that does not have the clout to purchase at scale and offer big discounts.

It means that **Amazon and Flipkart can only operate the marketplace model** in India. Both companies have wholesale units that bulk purchase goods and sell them to vendors listed on their platform. These vendors in turn sell to retail customers.

What are the restrictions on controlling inventory?

- Existing regulations state that **e-commerce firms cannot exercise ownership over the goods sold** on their online marketplace.
- Both Amazon and Flipkart **developed complicated seller structures that helped them comply with the inventory control rule** while exercising some level of control over inventory.

- Traders and small online sellers have accused Amazon and Flipkart of **violating the spirit of the law** and of using the structures to offer deep discounts, accusations they deny.

Therefore, the new rules state that the inventory of a seller or vendor will be seen as being controlled by a marketplace if the vendor purchases more than 25 percent of its inventory from the marketplace, or any of its group firms.

The rule would not allow sellers on Flipkart and Amazon to make bulk purchases from the wholesale units of the companies.

The new regulation replaces a rule that said an e-commerce firm could not permit one vendor's retail sales to overshoot 25 percent of the overall sales of the marketplace by value in a fiscal year.

Connecting the dots:

- Indian market is not yet ready for opening up e-retail space to foreign investors. Do you agree? Comment.
- Discuss how the recent draft FDI guidelines on e-commerce impact online as well as brick and mortar retail?
- The advent of e-commerce companies and the exponential rise in their reach require effective regulation in order to not only protect consumer interests but also support their own growth. Elucidate.

RBI monetary policy:

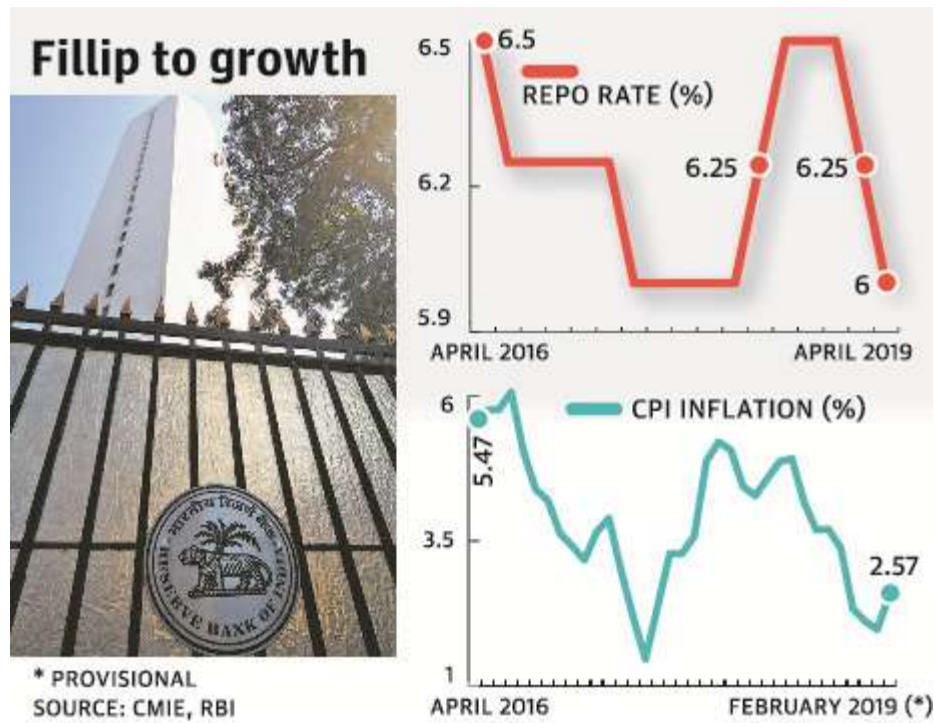
Part of: GS Prelims and Mains Paper III – Indian Economy, issues related to growth, mobilization of resources, etc.; Macro economy: Banking, Monetary Policy

In news:

- RBI's monetary policy committee (MPC) reduced the policy repo rate by 25 basis points (bps) to 6% to boost growth.
- It means that RBI aims to ease the availability of credit. Banks, however, remain non-committal about paring down their lending rates.
- The MPC cited concerns over growth as it lowered the GDP forecast to 7.2% for the current financial year from 7.4% projected in the February policy.
- RBI said the output gap remained negative and the domestic economy was facing headwinds, especially on the global front.

Do you know?

- Output gap refers to the difference between the actual output of the economy and its maximum potential.



Pic:

https://d39gegkiagduz9.cloudfront.net/TH/2019/04/05/DEL/Delhi/TH/5_01/b229237e_2850233_101_mr.jpg

RBI maintained the 'Neutral stance'

- Neutral stance means the RBI would have the flexibility to either increase or decrease the policy rates by taking into account the macroeconomic conditions.
- Under this stance, key policy rates would move in either direction.
- Usually, this policy is adopted when the inflation rate is stable.

Many had hoped that it would soften its policy stance to "accommodative", signalling future cuts to lower the cost of loans, spur investment and spending, and shield the domestic economy from a slowdown, especially as central banks in other major economies have taken a dovish stance in response to slowing global growth. However, that didn't happen.

What is Repo rate?

- Repo rate is the rate at which the central bank (RBI) lends money to commercial banks in the event of any shortfall of funds.
- Repo rate is used by monetary authorities to control inflation.
- RBI increases the repo rate during inflation and decreases it during deflation.

What happens when RBI decreases repo rate?

- In order to cure depression and lack of effective demand, central bank decreases repo rates and lends to commercial banks at a reduced rate.
- Because of reduced rates, commercial banks can acquire funds at a lower cost and in order to acquire new consumers and markets they pass their benefit of lower cost to consumers by decreasing their prime lending rates on loans and advances.
- Since, lending rates are reduced by banks, credit is cheap and this induces people to venture in new business activities and purchase of capital goods leading to increased demand for capital goods and increased employment rates.

India will be more growth-oriented in FY20

Context:

Last six to twelve months, it has been a tough year for India:

- **Markets have shown a lot of volatility** and moved sideways.
- **Growth momentum has started subsiding** (as new reforms have impacted the normal business flow partially).
- **Asset quality challenges** have continued to exacerbate.
- **Flows from foreign investors have dried up** and **overall liquidity has also been tight**.

As we enter FY20, key questions remain –

- Can India accelerate and broad-base the growth momentum?
- Can India re-establish itself as a premier investment destination for overseas investors?

In below article we see where India is heading?

Major Reforms to be key drivers of the growth

- As mentioned above, new reforms impacted normal business as lot of stakeholders had to struggle adjusting to the changes and resources were wasted in transitioning.
- Several seminal reforms were enacted in the last few years including significant structural changes like GST, IBC and RERA.
- Each of these reforms have seen a fair amount of success but also thrown up some challenges which need some work.

1. Goods and Services Tax (GST)

- GST has helped significantly enhance productivity and efficiency by removing barriers to goods movement across state lines and creating a seamless national market.

- GST has also helped bring a larger section of the society under the tax bracket.
- At the same time, challenges persist around the complex compliance requirements that GST entails even today. This is something which must be actively targeted.
- Also, despite the recent rationalisation, there is further scope to reduce the number of slabs in GST.

2. Insolvency and Bankruptcy Code (IBC)

- IBC has plugged a gaping loophole in the economy.
- The absence of a strong bankruptcy law was a glaring miss for our corporate legal framework.
- IBC has solved most of the shortcomings of the previous laws.
- Thanks to strict regime of IBC, banks are seeing promoters come up and repay loans to avoid going to NCLT.
- However, there are still some changes needed. The insolvency and bankruptcy regulatory ecosystem is concerned about the possible misuse of a provision of the law that allows lenders to withdraw insolvency proceedings against corporate debtor.
- There is a need to draw a red line after which withdrawal of insolvency proceedings should not be allowed.

3. Real Estate (Regulation and Development) Act (RERA)

- RERA was another significant reform undertaken over the last two years.
- While its impact has been seen to a lesser extent than GST and IBC, the compliance levels among developers have seen a tangible shift.
- As the industry goes into some consolidation, economists expect the RERA compliant, customer-centric developers to do well.

All in all, the above reforms from the last few years are now taking concrete shape. They are now past the initial stage where a lot of stakeholders struggled adjusting to the changes and resources were wasted in transitioning.

These reforms are expected to give required push to the economy and should be a key driver of the FY20 growth trajectory.

Tackling asset quality challenges

Asset quality challenges have been plaguing the economy for some years now.

- Most of this was an outcome of the haphazard lending followed in the post-2008 era.
- However, RBI's pro-activism in getting these recognised from 2016 onwards has helped identify a large chunk of the problem.

- With IBC in action and banks actively providing for the assets recognised, the above challenges will be limited.

As a result, bank credit is expected to start gaining traction once again as the capital can be used for growth purposes.

This will help drive money to the productive sections of the economy and drive growth.

Flows from foreign investors

- A study of FII flows over the last 20 years clearly shows that weak FII inflows/FII outflows are usually followed by bumper FII inflows as the attractive valuations become an ideal investment opportunity. (Because, FII outflows are counter-cyclical in nature.)
- FIIs are expected to gain traction only once the election process concludes.
- Economists expect a strong boost to foreign flows, particularly if a stable government takes power.

Conclusion:

- Apart from above, the interim budgetary measure announced recently should help boost rural consumption and drive growth in the economy.
- Both the government and the regulator have done well to address current concerns and drive the economy towards an expansionary economic policy.
- An expansionary monetary and expansionary fiscal policy should give a huge fillip to growth and animal spirits.

With several factors at play, all converging towards a growth booster, it is highly likely that we see a much stronger and much more growth-oriented India this year.

Connecting the dots:

- Do you think India can re-establish itself as a premier investment destination for overseas investors? Elucidate your opinion.
- What is the significance of the Insolvency and Bankruptcy Code and Real Estate (Regulation and Development) Act (RERA)? Why are they needed in India?
- What do you understand by the term “Expansionary policy”? How does it help in making India more growth-oriented?

Why India is so unhappy?

Introduction:

According to the latest World Happiness Report (produced by prominent economists and sponsored by the United Nations) –

- India's ranking, already low, slid further and stands at 140 out of 156 countries.
- Pakistan ranks much higher, at 67th.
- Finland tops the rankings, while South Sudan is at the bottom.

Do you know?

- The main measure of "happiness" is based on responses to surveys of how individuals subjectively evaluate their life circumstances on a 0-10 scale.
- Various factors that determine the happiness levels of a country include life expectancy, social support, income, freedom, trust, health and generosity, amongst others.
- India's score is 4.015.
- India's score has decreased by over one point since 2005-06, with most of this decline coming since 2011.

Why India is so unhappy compared to Pakistan?

India's performance lower than its neighbours:

- Even though India's data on GDP per capita and healthy life expectancy is better than Pakistan, India's rank in World Happiness Report is way to lower compared to Pakistan.
- Not just Pakistan, all of India's immediate neighbours are more joyful than Indians, despite many of them not being nearly as well-off economically or even socially.

Reasons:

- A reasonable explanation for the puzzle is that **India's people expect better, and they are feeling disappointed.**
- **Increasing inequality and feelings of injustice or unfairness** are also plausible contributing factors.
- In a democracy like ours, if people are unhappy about something they have the **right to protest** against it. So if the number of bandhs, hartals and protests were considered to be an indication of the citizens' dissatisfaction, ours would be off the charts. Our protests, like our culture, show great diversity. Be it a film, a law, a ban, a proposed policy, loan waiver, inflation, a crime like rape, or a so-called godman or movie stars going to jail. The list is endless.
- In short, everyone from the class 10th students protesting paper leaks and poor farmers, to the PM is on a protest. Everyone seems to be unhappy about something or the other.
- **Freedom of choice** also makes people happier. The **intervention of the state into the private matters of people** such as their food, drinks, or sexual preferences doesn't help

in enhancing happiness either. (Example, prohibition imposed on consuming beef or alcohol, Sabarimala case, Triple Talaq etc.)

India's paradoxes

- Ideally, richer countries should be happier than their poorer counterparts. If it were so then India should definitely have ranked higher than all our neighbours, as it is the fastest growing, and now the world's sixth largest economy. (India is projected to overtake the UK by 2020 to become the fifth largest economy in the world.)
- Being the sixth largest economy in terms of GDP doesn't mean that we have mastered economic growth.
- **India accounted for the largest number of people living below the international poverty line** in 2013 according to the World Bank.
- Unemployment is a serious issue. People are happy when they have secure jobs and a regular flow of income.
- We need to transform our schools and colleges from the exam factory that they become a place where students can learn to make a living.
- The workplace also needs to be transformed into a place where people can cooperate and enjoy their work.

Comparisons leading to unhappiness

- Comparing your success with others will only make you miserable. Happiness comes from within it is said.

Various factors ranging from corruption to banking fraud, the farmer crisis, a slow justice system, gender parity, bad infrastructure, non-existent or expensive healthcare, social disparities, and the endless stream of lies from those who represent us – can also be possible reasons.

Connecting the dots:

- Critically analyze why Indians are unhappy despite doubled GDP and India being the sixth largest economy.

[Libor transition opens up avenues for IT majors](#)

Part of: GS Prelims and Mains III – Economy and issues related to it

In news:

- The London Interbank Offered Rate (Libor) transition opens up a sizeable business opportunity for large consulting firms such as PwC, KPMG, EY and Deloitte and also for global IT firms, including leading players in India.
- Individual banks, financial institutions and lending houses are expected to spend anything from \$50 million to upwards of \$100 million a year for the next two years until the migration is completed by the end of 2021. Analysts say IT will be 50% of this opportunity.
- Regulators globally have asked firms to move away from Libor to other alternate, risk-free rates (RFRs). Derivatives, bonds, mortgages, loans, mutual funds, securities, underwriting, deposits, advances, pension funds and contracts, worth \$370 trillion, are currently linked to the scam-hit Libor.
- Opportunities around the migration include assessment of current exposure to Libor, design, development and implementation of new products based on new rates, creation of new valuation models, creation of fresh legal documents and policy frameworks. The transition involves a code replacement towards new benchmark rate.
- The Libor marketplace is very large and it comprises of banks and all large lending agencies, including country lending from the World Bank and Asian Development Bank.
- As far as the business opportunities are concerned, all financial products that are currently linked to Libor would be moved to an optimum benchmark. This would require remodeling, predicting tax implications, contractual changes and system infrastructure including processes and controls. The change would also involve designing new products or remodeling existing products.

Another Y2K wave

- For technology companies, Libor transition is like another Y2K wave and it involves creating new systems, processes and platforms to support the entire migration.
- However Libor conversion would provide opportunity in systems integration, compliance, and customization of packaged apps for meeting reporting needs and related consulting in the short term.
- Majority of large banks and trading houses, including Bank of America, Bank of England, Merrill Lynch, JP Morgan Chase, Morgan Stanley and Japanese banks have started working on Libor transition.
- However, Indian banks are yet to start any work towards migration as the regulator is yet to make any announcement in this regard.

Do you know?

- In 2017 the UK's Financial Conduct Authority (FCA) announced that after 2021 it would no longer persuade or compel panel banks to submit the rates required to calculate LIBOR.
- LIBOR is a benchmark interest rate at which major global lend to one another in the international interbank market for short-term loans.
- LIBOR, which stands for London Interbank Offered Rate, serves as a globally accepted key benchmark interest rate that indicates borrowing costs between banks.
- The rate is calculated and published each day by the Intercontinental Exchange (ICE).

Why is LIBOR being replaced?

- There are concerns about manipulation of LIBOR. Manipulation included both reporting low rates to make the bank look stronger than it was and reporting false rates to profit on LIBOR-based financial products.
- In June 2012, the CFTC announced that it was levying a large fine against a bank on the LIBOR panel for manipulating LIBOR along with another benchmark rate based on the results of an investigation that had begun in 2008.
- Ultimately, several large institutions that were implicated paid substantial fines, and several senior bank executives, including the CEOs of two large banks, resigned.² Additional controversy arose when it was revealed that the Federal Reserve Bank of New York had communicated its concerns about LIBOR manipulation to the Bank of England four years earlier, in 2008.
- Concerns about the potential for LIBOR manipulation were amplified by the thinness of the market on which the reference rate was based. For a variety of reasons, including post-crisis credit concerns and downgrades, copious liquidity provided by QE-swollen central bank balance sheets, and regulatory changes, banks have significantly reduced their short-term unsecured borrowing and Schrimpf and Sushko.
- In 2018, the Federal Reserve Board estimated that only six or seven transactions occurred in the one- and three-month tenors (the most used tenors) at banks on the dollar LIBOR panel, with even fewer transactions at longer tenors.

[IMF forecasts dip in global growth in 2019](#)

Part of: GS Prelims and Mains II and III – International Organization; Economy related issues; Development and Growth

In news:

- IMF has projected that global growth will be 3.3% in 2019, down from 3.6% in 2018 and 4% in 2017.
- This lower projection is due to a slower global expansion in the second half of 2018 caused by U.S.-China trade tensions, macroeconomic stress in Turkey and Argentina, tighter credit policies in China and financial tightening, apart from a normalisation of monetary policy in advanced economies.
- The IMF expects growth to pick up in the second half of the year driven by an accommodative policy stance in advanced economies, the prospects of an easing of trade tensions between the U.S. and China, and a ramped up fiscal and monetary stimulus by China to counter the trade war's effects.
- Global growth is therefore expected to return to 3.6%, but this is subject to a rebound in Argentina and Turkey and certain emerging market risks not manifesting.
- Brexit uncertainties and China's growth not being as high as expected are risks that will impact these projections.

IMF on India

- India's growth is projected to pick up, from 7.1% in 2018, to 7.3% in 2019 and 7.5% in 2020.
- Reasons – continued recovery of investment and robust consumption amid a more expansionary stance of monetary policy and some expected impetus from fiscal policy

Global growth beyond 2020

- According to IMF, global growth is expected to level out at 3.6% over the medium term, driven by a moderation in expansion in advanced countries (caused by a weak productivity growth and a slow labour force growth) and the stabilisation of emerging market expansion at 2020 levels.
- Advanced economies are expected to slow down to 1.6% growth by 2022 and remain at that rate thereafter.
- For emerging markets and developing countries, growth is expected to steady at 4.8% over the medium term and given that these groups are growing faster than advanced economies, their contribution to global growth is expected to increase from 76% to 85% over the next five years.
- China is expected to slow down to 5.5% by 2024 as it moves towards increasing private consumption and services and regulatory tightening.
- India's growth is expected to stabilise at 7.75% over the medium term, driven by structural reforms and the easing of infrastructure bottlenecks.

Suggestions:

- In terms of policy priorities, the IMF has called for a “continued implementation of structural and financial sector reforms” in order to lower public debt and aid growth.
- Specifically, it says a continued fiscal consolidation is needed to bring down public debt, strengthening goods and services tax compliance and lowering subsidies.

How critical are household savings for the economy?

Introduction:

- “Households” is a heterogeneous group and includes resident households, non-profit institutions, and unorganised and unregistered enterprises.
- The household savings rate is the difference between a household’s disposable income and expenditure.

Importance of Household Savings for the Economy

- Households savings are very important part of macro-economy and for GDP growth as household is the only segment that is the net financial surplus sector in the economy. All other segments, namely public sector, private sector and general government, are in deficit.
- 50.8% of households’ savings in FY18 were in financial assets, followed by physical assets (48.1%) and gold/silver ornaments (1.1%).
- Deposits with banks are the single largest form of households’ financial assets, followed by insurance funds, mutual funds and currency.

Therefore, any adverse movement in the household savings will have a significant bearing on banks, insurance companies and mutual/provident funds, who, in turn, are key investors in government securities.

Concern: Declining Household Savings

- India’s overall savings rate has declined to 30% from 34.6% over five years.
- The worst dip was seen in the household sector, the largest contributor to savings in the economy, dropping to 16.3% from 23.6% over the period.
- Savings are indicative of how much the people of a country are likely to invest because more the savings, more the investment.
- Households contribute more than half the total savings in the country, followed by private corporations and the public sector.
- The impact of demonetisation and GST was the most on household sector as investments from MSMEs took a hit.

If household savings continue to decline, it may pose a serious challenge to the GDP growth and macroeconomic stability.

Conclusion:

- To boost savings, there needs to be an improvement in access to finance for households across the country.
- There is a need to make households trust financial markets so that savings can move from physical to financial assets which would generate better returns.

Household savings are mostly intermediated by banking and other non-banking financial entities, which are the major source of investment funding in India. So, a further drop in household savings can impact the economy.

Connecting the dots:

- Household savings are important for the economy. Can you suggest certain policy provisions which can be designed to achieve that end? Discuss.
- Why having a healthy household savings rate is essential for a developing economy. Where does India stand on this front? Examine.

Manufacturing crashes to a 20-month low

Part of: GS Prelims and Mains III – Indian Economy and issues related to it; Growth and Development

In news:

- **Industrial growth slowed** in February to 0.1% owing to an across-the-board **slowdown**, while consumer inflation quickened in March.
- Growth in the Index of Industrial Production slowed in February.
- Within the Index, mining and quarrying saw growth slowing.
- Manufacturing saw a contraction of 0.31% in February from a 1.05% growth in January.

Clouds on the horizon: IMF forecast on global growth and India's GDP growth

Introduction:

At recent International Monetary Fund (IMF) and World Bank meeting,

- Finance Ministers and central bank Governors by and large **played down fears about a slowing global economy**.

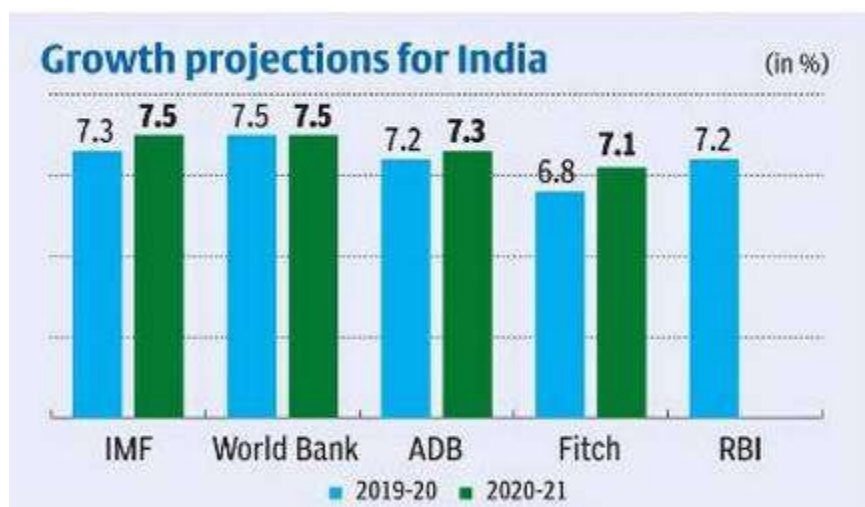
- Pause in the U.S.'s interest rate policy in February, ease in the country's trade tensions with China, and receding risk of a hard Brexit have brought some respite.
- However, IMF has consistently **emphasised a cautious stance** on the current growth trajectory for some months.

Key points:

- IMF has projected that global growth will be 3.3% in 2019, down from 3.6% in 2018 and 4% in 2017.
- This lower projection is due to a slower global expansion in the second half of 2018 caused by U.S.-China trade tensions, macroeconomic stress in Turkey and Argentina, growing uncertainty over Britain's exit from the European Union, tighter credit policies in China and financial tightening, apart from a normalisation of monetary policy in advanced economies.
- World has witnessed deteriorating trade climate in the last two years.
- The pace of exports and imports was 4.6% in 2017, the strongest since the rebound after the 2007-08 financial crisis. But the 2018 figures were a modest 3% and could fall much further this year, says the WTO.
- Beyond 2020, the report said global growth would be sustained at about 3.6% because of the increase in the relative size of economies such as China and India, which are projected to have robust growth.

IMF on India

- India GDP growth seen at 7.3% in 2019-20 and 7.5% in 2020-21, 20 basis points lower than earlier IMF estimates.
- Continued economic reforms, with efforts to reduce public debt, is essential to Indian economy's growth, says IMF.
- The IMF report emphasized enhancing governance of public sector banks and reforms to hiring and dismissal regulations that would incentivize job creation and absorb the country's large demographic dividend.
- Also efforts should also be enhanced on land reform to facilitate and expedite infrastructure development.
- This should be supported by strengthening Goods and Services Tax compliance and further reducing subsidies.
- IMF commended the government for taking steps to strengthen financial sector balance sheets through accelerated resolution of non-performing assets (NPAs) under a simplified bankruptcy framework.



<https://www.thehindubusinessline.com/incoming/xep0/article26785348.ece/alternates/FRE E 435/Growth-chart>

Connecting the dots:

- Enumerate the list of various reports and their importance released by
 1. IMF
 2. World Bank
 3. World Economic Forum
- Critically examine the reasons for slowdown in the global economy with special reference to US and China.

Jobs in India: The challenge of creating more employment

Context:

- Job creation has become the big challenge for policymakers.
- The lacklustre performance of Indian manufacturing has prevented the absorption of labour force displaced from agriculture.
- Although some have found employment in services such as travel, tourism and hospitality, much of these are stopgap arrangements.
- Labour-intensive manufacturing could have been the most fitting option to absorb the mass labour force. But this did not happen.

Why job-creation in manufacturing sector has failed to take off?

- Rigidities in labour laws preventing easy hire and fire of workers
- Entry and exit barriers for firms

- High capital requirement of labour-intensive sector

The way ahead:

- The idea that labour-intensive industries will work without appropriate capital is misguided. Therefore, it becomes fundamental to reassess the capital proportion of labour-intensive sectors so that appropriate finance policies can be designed for their revival and promotion.
- Infusing appropriate capital into labour-intensive sectors gains primacy for their success in employment creation.
- A coordinated effort involving industry participation in finalising skill development curriculum, 'on the job' training as part of skill development and making learning & development a priority in general will go a long way in ensuring that our demographic dividend can truly be realised.

Do you know?

- Government of India plans to increase the share of manufacturing sector in gross domestic product (GDP) from 16% to 25% by 2022 thereby creating 100 million new jobs.

Conclusion:

With the right policies, the manufacturing sector can help bring about economic resurgence as it has the highest multiplier effect as compared to any other sector of our economy. Thus, the development of an emerging economy significantly depends on the performance and structure of its manufacturing sector.

Connecting the dots:

- Do you think the manufacturing sector has enough potential to create jobs for the burgeoning labour force in India? Critically comment.
- In India, 12 million young people enter the labour force each year, and millions transfer out of low productivity agricultural jobs. To ensure that such individuals get gainful employment is a mammoth challenge. Discuss the measures to tackle this challenge.
- Examine the role of manufacturing sector in employment generation in India.

<https://www.iasbaba.com>

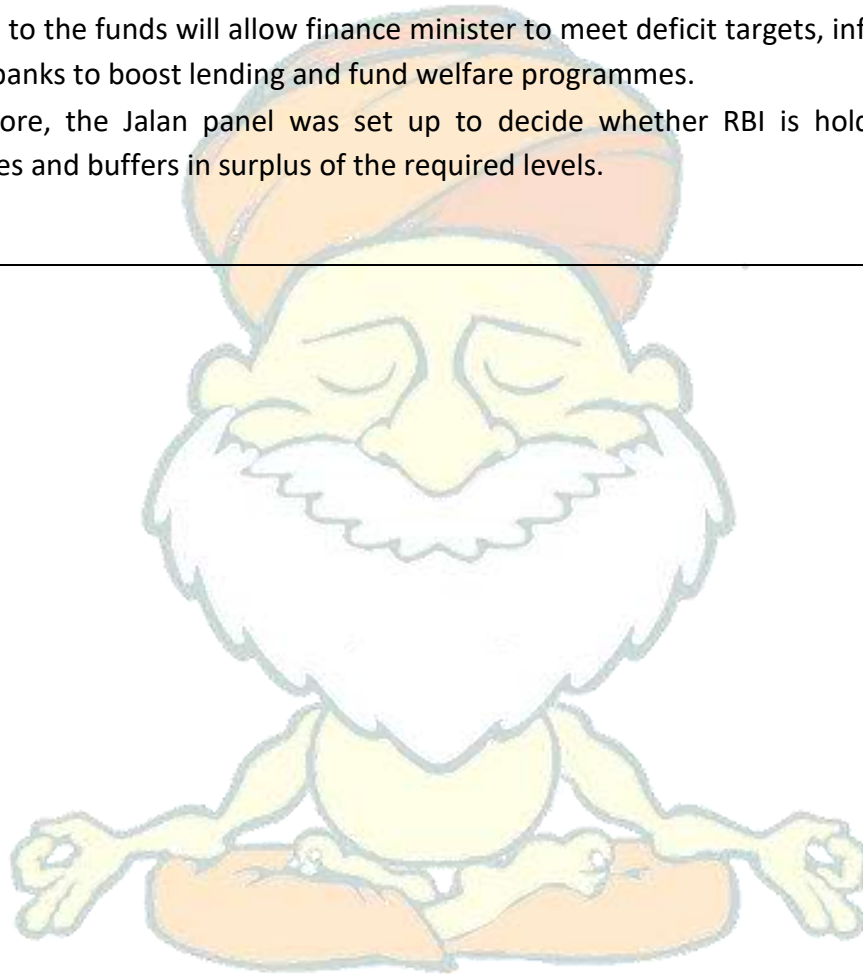
Part of: GS Prelims and Mains III – Indian Economy and issues related to it; RBI

In news:

- Bimal Jalan panel was formed to address the issue of RBI reserves, one of the sticking points between the central bank and the government.
- The expert panel to suggest how the central bank should handle its reserves and whether it can transfer its surplus to the government.
- Jalan panel to submit its report soon.

Issue:

- The government has been insisting that the central bank hand over its surplus reserves amid a shortfall in revenue collections.
- Access to the funds will allow finance minister to meet deficit targets, infuse capital into weak banks to boost lending and fund welfare programmes.
- Therefore, the Jalan panel was set up to decide whether RBI is holding provisions, reserves and buffers in surplus of the required levels.



AGRICULTURE

Agriculture needs a shift in focus

Context: Agriculture in India

- Agricultural development in post-independence India started as a **response to food shortages**. **Green revolution** was designed to meet this challenge. **Serious efforts** were taken to increase production and productivity.
- However, even after India became a net exporter of foodgrains, the mindset continued and **food security remained central to agricultural planning**.
- Later, major policy initiatives were introduced, for instance, expansion of the PDS, price controls, export bans and the use of Essential Commodities Act.
- Any adverse impact of the weather on agriculture production triggered immediate responses from the government.

However, centrality of food security in policy planning took away the freedom and a substantial portion of the income due to the farmer.

While some freedoms were taken away by law, others were influenced by a complex regime of financial incentives.

Surpluses have become the recent worry. (For example, Sugar)

The current agriculture export policy is severely limiting. It still has an underlying domestic price control bias in it.

- Government aims to double farmers' income by 2022.
- Policy focus needs to shift from food security and pro-consumer bias to a pro-farmer bias.
- The time has come to make farmers' income and prosperity the central theme of agricultural planning for the future. And this requires a paradigm shift in thinking and planning.

Measures need to be taken for paradigm shift in Agriculture:

- **Designing the agricultural policy** to focus on the **best returns a farmer** can get from his land.
- **Reforming the market** and **removing almost all restrictions**: EC Act, APMC Act, movement across states, most of the export restrictions, etc. There is need to **make e-**

NAM and the village markets deliver for the farmers. If there is an occasional shortage, we can resort to 'calibrated' imports.

- Shift from a strategy of production-chasing demand and work on a **decentralised model where farmers can produce to the market**, not only in terms of aggregate demand, but also in terms of the various segments, time and geographies.
- Creating reliable information systems on market demands.
- **Restructuring of ICAR:** Changing the main objective of ICAR to focus on 'best returns for farmers'. ICAR has done well to increase productivity and get India out of food insecurity. However, Agri-education and Krishi Vigyan Kendras eat up most of ICAR's budget, leaving little for futuristic research. R&D for a new India needs to be focussed on the future. This might involve a major restructuring of ICAR and creating space for private R&D.
- In order to tackle challenges posed by weather and climate variability, efforts should focus on **micro-climate-based strategies and crop diversification**.
- The subsidy regime needs to undergo major structural changes. Investments for sustainable agriculture have to take precedence over natural resource depleting subsidies.

Conclusion:

Less of government institutions and more of farmer-led institutions will be the key.

While India's capabilities of forecasting weather- and climate-related events have improved significantly over time, the challenge is to get more reliable forecasts at the micro level on time. Private sector has developed capabilities for doing this on the ground and from the sky. What seems to hold them back is appropriate revenue models. This needs to be fixed.

New technologies can have a disruptive influence in the agri-sector. While fintech and food-tech are the frontrunners, agri-tech may play a larger role in the future. Their potential needs to be understood and space created for their effective engagement with farmers.

Connecting the dots:

- Discuss the challenges being faced by the agricultural sector in the area of marketing of agricultural produce. Can the eNAM project address these challenges? Examine.
- Do you think various agricultural extension schemes make a difference for Indian farmers? Substantiate with the help of suitable examples.

ENVIRONMENT/POLLUTION

Earth Hour and World Wide Fund for Nature

Part of: GS Prelims and Mains III – Environment and Climate Change; Role of international organizations

In news:

- Famous monuments across the world went dark on March 31st night to observe the World Wide Fund for Nature's Earth Hour to spark global awareness and action on nature and the environment.
- Since 2007, Earth Hour has been a movement to bring awareness to climate change, while promoting action to preserve the climate and environment
- **Earth Hour 2019** with its campaign **#connect2Earth** aims to create awareness regarding the importance of saving nature as our lives depend on its health.
- Participation will mark Earth Hour by switching off unnecessary lights for the hour to symbolise a commitment to change beyond the hour.
- Starting as a symbolic lights out event in Sydney in 2007, Earth Hour is now the world's largest grassroots movement for the environment, inspiring millions of people to take action for our planet and nature

About World Wide Fund for Nature:

- It is international non-governmental organization working in the field of the wilderness preservation and reduction of human impact on the environment
- It was formerly named World Wildlife Fund
- It is world's largest conservation organization with over five million supporters worldwide, working in more than 100 countries, supporting around 1,300 conservation and environmental projects.
- It was founded in 1961 and is headquartered in Gland Switzerland
- WWF aims to stop degradation of planet's natural environment and build future in which humans live in harmony with nature.
- Currently, its work is organized around these six areas food, climate, freshwater, wildlife, forests, and oceans.
- It publishes Living Planet Report every two years since 1998, based on Living Planet Index and ecological footprint calculation.

State of Global Air 2019

Part of: GS Prelims and Mains II and III – Government schemes and programmes; Air pollution; Health issues

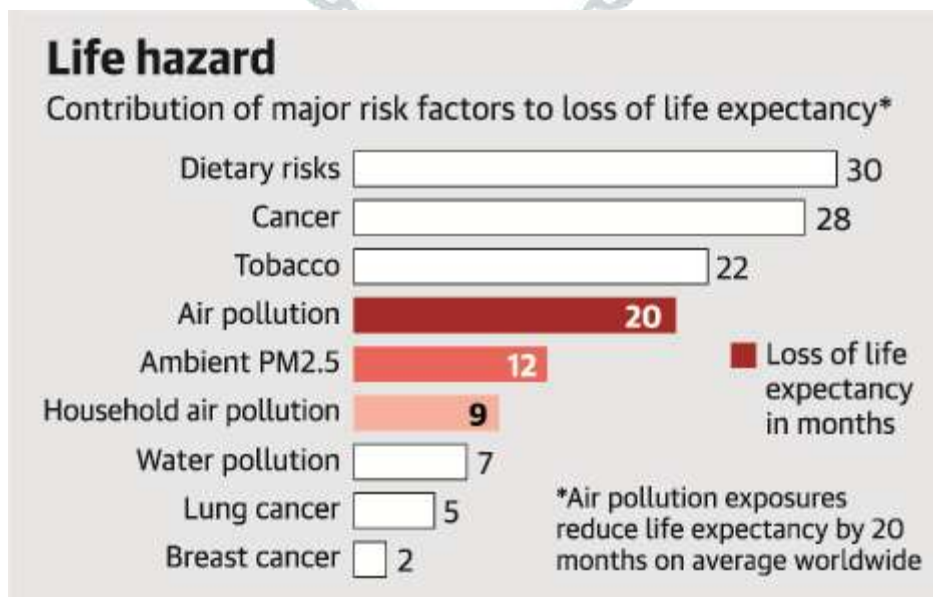
In news:

According to a global study, State of Global Air 2019, published by Health Effects Institute (HEI)

- The current high level of air pollution has shortened the average lifespan of a South Asian child by 30 months. (while globally the reduction stands at 20 months)
- Exposure to outdoor and indoor air pollution contributed to over 1.2 million deaths in India in 2017.
- Worldwide, air pollution was responsible for more deaths than many better-known risk factors such as malnutrition, alcohol abuse and physical inactivity.

Do you know?

- In India, air pollution is the third highest cause of death among all health risks, ranking just above smoking.
- Each year, more people globally die from air pollution-related diseases than from road traffic injuries or malaria.
- The study found that China and India together were responsible for over half of the total global attributable deaths. (in 2017)
- South Asian countries — Bangladesh, India, Nepal and Pakistan — led the world as the most polluted region, accounting for over 1.5 million air-pollution related deaths.



On indoor pollution –

- The report highlighted that nearly half of the world's population were exposed to household air pollution in 2017.
- Globally, there has been progress: the proportion of people cooking with solid fuels has declined as economies develop.
- But in India, 60% of the population still used solid fuels; in Bangladesh that number rose to 79%, underscoring the importance of achieving success in government initiatives to address the problem.

Steps taken by India to address pollution sources:

- Pradhan Mantri Ujjwala Yojana Household LPG programme
- Accelerated Bharat Stage VI clean vehicle standards
- new National Clean Air Programme

About National Clean Air Programme

- National Clean Air Programme (NCAP) is the latest initiative taken by the government of India to create strategies for reduction in air pollution levels at both regional and urban scale.
- NCAP aims to reduce particulate matter (PM) pollution by 20-30% in at least 102 cities by 2024.
- It is a five-year action plan with a tentative target of 20-30% reduction in concentrations of PM10 and PM2.5 by 2024, with 2017 as the base year.
- It is a ₹300-crore programme.

Need for a waste management policy**Context:**

Following are the key points from the editorial which are important for Mains answer-writing:

Concept of “Hyper-consumption”

- 21st century is witnessing hyper-consumption (with developing countries catching up rapidly)
- Humans are generating monumental amounts of waste (Example – disposable plastic bags and micro-plastics; cheaply made goods which are deliberately built to become outdated, and cheaply made manufactured goods – have lead to a "throw away" mentality.)

- Unprecedented consumer appetite is undermining the natural systems, it has devastating toll on the Earth's water supplies, natural resources, and ecosystems.

One can add Globalization perspective to this hyper-consumption concept:

- Globalization is a driving factor in making goods and services previously out of reach in developing countries much more available.
- Items that at one point in time were considered luxuries—televisions, cell phones, computers, air conditioning—are now viewed as necessities.

(Therefore, we can say Globalization lead to hyper-consumption and affect resources.)

Poor waste management and other concerns:

- In India, less than 60% of waste is collected from households and only 15% of urban waste is processed.
- Billions of tonnes of garbage, including microplastics, never make it to landfills or incinerators and end up in the oceans.
- This **garbage chokes marine life and disturbs zooplankton**, which are **vital to the elimination of carbon dioxide** from the atmosphere.
- **Landfills** are seedbeds of methane and other greenhouse gases, which **contribute to global warming**. These toxic chemicals **poison the soil** and their leached run-off makes its way into the oceans.
- Even though waste incinerators generate energy, they also cause health issues such as cancer.
- In India, nearly 60% of the household waste is **wet organic waste**, with low calorific value. This makes options such as waste-to-energy incinerators inefficient.
- Segregation of waste into organic, recyclable and hazardous categories is not enforced at source.
- **Issue of logistical contractors** – They dump more garbage in landfills as their compensation is proportional to the tonnage of waste. They are also prone to illegally dump waste at unauthorised sites to reduce transportation costs.
- Organic farming and composting are not economically attractive to the Indian farmer, as chemical pesticides are heavily subsidised, and the compost is not efficiently marketed.

The way ahead:

- Need to **design incinerators that are suited to Indian conditions**.
- Need to **design efficient process of material recycling and composting**. (For instance, efficient composting can be possible through an optimal combination of microbes and temperature to produce a nutrient-dense soil conditioner.)

- Need for **mandatory segregation of waste** into organic, recyclable and hazardous categories.
- **Waste management should not be offered free of cost to residents.** Only if residents pay will they realise the importance of segregation and recycling.

Therefore, India needs a comprehensive waste management policy that stresses the need for **decentralised garbage disposal practices**. This will also incentivise private players to participate.

Connecting the dots:

- If plastic waste has to be done away with, the initiation has to come from consumers. Elucidate.
- How are lacunas in Solid waste management responsible for underground water pollution? What are ill effects of underground water pollution?
- Waste generation is a severe fallout of urbanization in India. What solutions would you recommend for effective waste management? Discuss.

Solar e-waste

Part of: GS Prelims and Mains III – Environment and Ecology; Pollution

In news:

According to a study,

- By 2050, India will likely stare at a pile of a new category of electronic waste, namely solar e-waste.
- Currently, India's e-waste rules have no laws mandating solar cell manufacturers to recycle or dispose waste from this sector.
- India's PV (photovoltaic) waste volume is estimated to grow to 200,000 tonnes by 2030 and around 1.8 million tonnes by 2050.
- There is need for clarity on solar waste management in India.

Power point

India faces a major solar e-waste threat as it plans to tap the sun in a big way using photovoltaic (PV) cells to generate electricity



What constitute solar e-waste?

- Photovoltaic cells that have reached their life cycle and haven't been recycled
- They contain potentially hazardous chromium, silicon tetrachloride, cadmium, selenium, and sulfur hexafluoride

What is the threat perception?

- Globally, limited facilities exist to recycle solar cells
- India's PV waste volume is estimated to grow to 200,000 tonnes by 2030
- The PV volume may rise to as much as 1.8 million tonnes by 2050

https://d39gegkjaqduz9.cloudfront.net/TH/2019/04/12/DEL/Delhi/TH/5_07/64aaef31_2865131_101_mr.jpg

Do you know?

- India is among the leading markets for solar cells in the world.
- The current government has commitment to install 100 GW of solar power by 2022.
- So far, India has installed solar cells for about 28 GW and this is largely from imported solar PV cells.
- Despite the e-waste regulation being in place for over seven years, only less than 4% of estimated e-waste is recycled in the organised sector as per the latest estimates from the Central Pollution Control Board.

Jawahar Lal Nehru National Solar Mission

- India's solar power capacity target under the Jawaharlal Nehru National Solar Mission (JNNSM) has been increased to 1,00,000 MW or 100 GW by 2022.
- The target will principally comprise of 40 GW Rooftop and 60 GW through Large and Medium Scale Grid Connected Solar Power Projects. With this ambitious target, India will become one of the largest Green Energy producers in the world, surpassing several developed countries.
- The total investment in setting up 100 GW will be around Rs. 6,00,000 cr.

What are solar cells made of?

- Solar cell modules are made by processing sand to make silicon, casting silicon ingots, using wafers to create cells and then assembling them to make modules.
- India's domestic manufacturers are largely involved in assembling cells and modules.

- These modules are 80% glass and aluminium, and non-hazardous. Other materials used, including polymers, metals, metallic compounds and alloys, and are classified as potentially hazardous.

Major concern:

- India is poorly positioned to handle PV waste as it doesn't yet have policy guidelines on the same...a lack of a policy framework is coupled with the fact that even basic recycling facilities for laminated glass and e-waste are unavailable.

Oil consuming bacteria found below ocean

Part of: GS Prelims and Mains III – Environment and Biodiversity; pollution

In news:

- Scientists have discovered a unique oil eating bacteria in the Mariana Trench, the deepest part of the earth's oceans.
- The findings may pave way for sustainable ways to clean up oils spills.

Water Scarcity

Introduction:

Recently, Central Ground Water Board (CGWB) has projected that more than 60 large and small **cities in India are on the verge of water scarcity.**

According to the NITI Aayog report published last year –

- Many Indian cities to face water supply crisis soon.
- Delhi and 20 other large cities are going to run out of water by 2020.

The reason for this imminent crisis is an **over-reliance on groundwater extraction**, for most Indian cities are simply unable to meet their water demand with existing supply.

This rampant extraction will likely lead to zero groundwater levels in Delhi, Bangalore and Hyderabad by 2020.

Major Concerns:

Excess groundwater extraction

- Excess groundwater extraction has already led to a 61% decline in groundwater level in wells in India between 2007 and 2017.
- The depth of this crisis will only grow severe, if we do not take immediate action.

Do you know?

- Today, nearly three-fourths of Indian households do not have access to drinking water supply at home.
- Nearly 70% of water is contaminated and, as a result, India is placed 120th amongst 122 countries in the water quality index.

Poor agriculture practices

- Poor agriculture practices can be blamed for the most part for depleting groundwater reserves.
- As of today, use of water for irrigation accounts for 80% of the total available water.
- Water-intensive crops like rice and sugar cane are widely grown in many northern states, often in blatant disregard to the available water supply.
- The dominance of paddy-wheat crop rotation in Punjab is a case in point—it led to a rapid decline of water table.

Free or cheap electricity

- As per a recent study, on average, a 10% reduction in electricity subsidy generated a 6.7% increase in groundwater extraction.
- In order to make this move go down well with farmers who are used to free electricity, governments can incentivise power saving per unit with cash compensation for farmers.

The way ahead:

To avert or postpone this crisis, we need to act.

- The government must disincentivise paddy and sugar cane cultivation in areas where soil and water supply conditions are not conducive for these crops.
- States with sinking groundwater need to appropriate those cropping patterns that suit their agro-climatic zones.
- Switching to less water-intensive crops will enhance their irrigation water efficiency.
- Policymakers at both the Centre and states must encourage adoption of precision farming technologies, such as laser-guided land levelling, which can cut water use by as much as 30%.
- At the same time, drip or micro irrigation ought to be incentivised amongst farmers in severely water-deficient states, like Punjab, Haryana, Uttar Pradesh, Maharashtra, Telangana and Tamil Nadu.

- Another key focus point can be command area development (CAD). Now a part of the Pradhan Mantri Krishi Sinchayee Yojana, the CAD initiative centres on “more crop per drop” to increase water-use efficiency in irrigation.
- Promoting rainwater harvesting and conducting systematic analysis of groundwater conservation methods.

Connecting the dots:

- Many parts of the country are facing severe water crisis and drought conditions. There are many traditional water harvesting and conservation practices in various parts of India which can be employed locally to fight the ongoing crisis. Can you identify few such practices? Also mention the states where they are more prevalent.
- Why has water become a stressed resource in many parts of the world? Analyse.

Ganga has higher proportion of antibacterial agents: study

In news:

According to a study commissioned by the Union Water Resources Ministry –

- Ganga river water contains a significantly higher proportion of organisms with antibacterial properties (called bacteriophages)
- Bacteriophages are a kind of virus that kill bacteria.
- In the river Ganga, the bacteriophages were detected to be approximately 3 times more in proportion.

Towards a lower GHG future

Context

According to a World Bank report –

- Climate change could cost India 2.8 per cent of GDP, and depress living standards of nearly half of its population by 2050, as average annual temperatures are expected to rise by 1-2 per cent over three decades.

A number of factors are causing climate change and the efforts to address them have been manifold.

Among a number of factors causing climate change, **large-scale use of environmentally damaging refrigerants** (especially **Hydrofluorocarbons**) is one of the key areas identified, with a direct impact on the depletion of the ozone layer and subsequently on global warming.

Hydrofluorocarbons (HFCs)

- HFCs have many everyday applications. These include refrigerants to cool cars, appliances and buildings, foam-blowing agents that create cushioning and insulating foam, solvents used in manufacturing to clean and sanitise, and certain specialty propellants used in products like aerosols.
- When **HFCs** are released into the atmosphere, they **trap GHGs with significant global-warming-potential (GWP)** and take years, sometimes decades, to break down in the atmosphere—thus contributing to the overall warming of the planet.
- Replacing high GWP HFCs with low-GWP HFO alternatives could help avoid up to 0.5°C of warming by the end of this century.

Kigali Amendment

- The **Kigali Amendment**, an **amendment to the 1987 Montreal Protocol**, aims to phase out high-global-warming-potential hydrofluorocarbons (HFCs), a family of potent greenhouse gases (GHG), by late 2040s.
- India was part of a historic **global climate deal** that was reached in **Kigali, Rwanda**, at the 28th Meeting of the Parties (MoP28) to the **Montreal Protocol**, on substances that deplete the ozone layer.
- Under this amendment, 197 countries, including India, agreed to a timeline to reduce the use of HFCs by 80-85% of their baselines over the next several decades.

The Kigali Amendment provides a significant opportunity to live up to the promise of better environment.

It highlights the need to develop new technologies and transition to the use of more environmentally preferable alternatives.

Important value additions:

A global climate deal was reached in Kigali, Rwanda at the Twenty-Eighth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer (MOP28).

The Kigali Agreement amends the 1987 Montreal Protocol that aims to phase out Hydro fluorocarbons (HFCs), a family of potent greenhouse gases by the late 2040s.

- It is a legally binding agreement between the signatory parties with non-compliance measures.
- It will come into effect from 1st January 2019 provided it is ratified by at least 20-member parties by then.
- It has shown a considerable flexibility in approach while setting phase-down targets for different economies accommodating their developmental aspirations, different socio-economic compulsions, and scientific & technological capabilities.

It has divided the signatory parties into three groups-

- The first group consists of rich and developed economies like USA, UK and EU countries who will start to phase down HFCs by 2019 and reduce it to 15% of 2012 levels by 2036.
- The second group consists of emerging economies like China, Brazil as well as some African countries that will start phase down by 2024 and reduce it to 20% of 2021 levels by 2045.
- The third group consists of developing economies and some of the hottest climatic countries like India, Pakistan, Iran, and Saudi Arabia who will start phasing down HFCs by 2028 and reduce it to 15% of 2024-2026 levels till 2047.

It also has a provision for a multilateral fund for developing countries for adaptation and mitigation.

The Technology and Energy Assessment Panel (TEAP) will take a periodic review of the alternative technologies and products for their energy efficiency and safety standards.

India's position:

- India is the world's fourth-largest emitter of CO₂.
- According to a report by the International Energy Agency (IEA), the **share of space cooling in peak electricity load is projected to rise** sharply in India, from 10% today to 45% in 2050.
- Government has recognised the importance of lowering the country's GHG emissions as part of an international effort to limit global warming.
- Govt and NITI Aayog are working towards an India Cooling Action Plan, meant to meet the country's growing cooling needs in a climate-friendly manner. One of the key focus areas in the Action Plan is in-room air conditioners (ACs).

Conclusion:

Successful implementation of the Kigali amendment will require a high level of national cooperation from our government, along with industry, research institutes and regulators coming together in sustaining efforts.

A cleaner and healthier environment, along with improvements in quality of life, can all support a world of increasing action on climate change.

India has been a key partner in the quest for reducing emissions and should continue to take the lead in efforts to protect the planet from climate change.

Connecting the dots:

- Discuss how India can succinctly respond to address global warming and its impact on climate change?
- [What is Kigali Amendment? Why is it a significant step against climate change? Examine.](#)

Global Deal for Nature

Part of: GS Prelims and Mains II and III – Role of international organizations; Environment and Climate change

In news:

- A paper published in Science outlines a new “Global Deal for Nature,” officially launching an effort to establish science-based conservation targets covering all of planet Earth, including terrestrial, freshwater, and marine ecosystems.
- The Global Deal for Nature proposes a target of 30 percent of the planet to be fully protected under the UN Convention on Biological Diversity by 2030. But because much more of Earth’s natural ecosystems need to be preserved or restored in order to avert the worst impacts of runaway global warming, another 20 percent of the planet would be protected under the GDN as Climate Stabilization Areas (CSAs).
- Conservation scientists, environmental NGOs, and indigenous groups are urging governments to adopt the GDN as a companion commitment alongside the Paris Climate Agreement approved by nearly 200 countries in 2015.

Global Deal for Nature

- The Global Deal for Nature (GDN) is a time-bound, science-driven plan to save the diversity and abundance of life on Earth.
- “Pairing the GDN and the Paris Climate Agreement would avoid catastrophic climate change, conserve species, and secure essential ecosystem services.
- The GDN campaign is being driven by **One Earth**, an initiative of the Leonardo DiCaprio Foundation that aims to marshal support from international institutions, governments, and citizens of planet Earth to support ambitious conservation goals.

- One Earth has launched an online petition drive at globaldealfornature.org along with RESOLVE and indigenous groups to build popular support for the GDN.

Nations are doing less to lower 1.5 degree celsius

About Earth Day

- Each year, **April 22** is celebrated as **Earth Day**. Worldwide, various events are held to demonstrate support for environmental protection. First celebrated in 1970, Earth Day now includes events in more than 193 countries, which are coordinated globally by the Earth Day Network.

Do you know?

- The **theme** of this year's Earth Day is '**protecting the planet's species diversity**'.
- The theme is important one considering nearly **half of 177 mammal species surveyed** in a study saw their distribution **fall by more than 80%** between 1900 and 2015.
- Scientists strongly believe that the planet may be in the **midst of the sixth mass extinction**, and unlike other times in the past, this could be **largely anthropogenic**.

Decline of wildlife population due to human impact: A major concern

As per WWF's Living Planet Index and other studies –

- 37% of the wildlife population lost in the last 40 years can be attributed to exploitation by humans
- 31% of the wildlife population lost due to habitat degradation, 13% to complete habitat loss and 7% to climate change
- Current extinction is 1,000 times higher than what would have been if there were no people
- Nearly a 1,000 species are lost every year due to anthropogenic reasons, less than one species a year was lost annually 200,000 years ago, before modern humans evolved

Developed countries versus developing:

- At the rate of average global consumption today, we need 1.5 planet Earths to sustain human life, while at the level of consumption in the US, we would need four planets.
- The worst offenders in the consumption & climate change problem, meanwhile, obstinately refuse to change course.
- While rich nations have been stepping up conservation efforts, this is at the expense of the developing world. Because, the developing world now undertakes production to

cater for not only domestic needs, but also for exports, with an ever-growing ecological footprint.

- Between 1990 and 2008, a third of all the products of indiscriminate deforestation, viz. timber, beef and soya, were exported from developing nations to the EU.
- While China, Japan, and the US continue to over-exploit marine resources, West Asian nations, Kuwait, Qatar and UAE have the world's worst per capita ecological footprint.
- 17 of the 21 nations that beat the world average in terms of ecological damage caused, are rich nations.
- The problem is exacerbated by the non-action on the climate change front.

Conclusion:

- According to 'Climate Action Tracker', which analyses individual countries' performance on meeting a lower than 1.5 degrees Celsius warming future, US and Russia's efforts are 'critically insufficient'.
- While Canada and China are making "highly insufficient" efforts, the EU's performance is "insufficient". Indeed, only India, Ethiopia and the Philippines are making efforts compatible with a 2 degrees Celsius rise.
- Earth Day, unfortunately, is little other than tokenism if nations switch off their destructive ways just for a day every year.
- Without real change, the world is not even on course to reach the 2 degree Celsius target.

Connecting the dots:

- Discuss the factors responsible for long term climate change. What evidences do we have that support current global warming. Explain.
- Discuss how the World can succinctly respond to address global warming and its impact on climate change?

<http://www.iasbaba.com>

Part of: GS Prelims and Mains III – Environment and conservation; Role of International Organization or NGO/CSOs

In news:

According to a study and data from Global Forest Watch –

- The world lost 12 million hectares of tropical tree cover last year
- It was the fourth highest annual decline since records began in 2001
- Indigenous communities are considered to be the most vulnerable to losing their homes

- It warned that the planet's health was at stake

Do you know?

- Global Forest Watch (GFW) is an open-source web application to monitor global forests in near real-time.
- GFW is an initiative of the World Resources Institute (WRI), with partners including Google, USAID, the University of Maryland (UMD) and many other academic, non-profit, public, and private organizations.
- Global Forest Watch originally began in 1997 as an initiative to establish a global forest monitoring network, convened by the World Resources Institute and partners.

Why the world needs to deal with climate change, now?

Context:

The below article focuses on –

- All types of disastrous impacts of climate change or global warming on all forms of life on planet Earth.
- What environmental calamities are currently happening and what are very likely to happen in the future if 'climate change' is not tackled in right earnest with all urgency?

Concerns:

- We are aware that nothing is being taken seriously by the world political leaders and particularly rich nations (esp. US President Donald Trump), even though it is their **rampant overconsumption, pollution and food wastage** over more than 150 years (since the advent of the **Industrial Revolution**) that has greatly contributed to climate change.
- The International Energy Agency (IEA) recently reported that **energy-related carbon dioxide emissions** in 2018 rose by 1.7% to 33.1 billion tonnes from the previous year—the fastest since 2013.

We had earlier covered (in our previous DNAs') about the latest UN report 'Global Environment Outlook 6 (GEO 6)'

- According to GEO 6, the current Nationally Determined Contributions (NDCs) under Paris Agreement (2015) are just a 'third' of carbon emissions mitigation required to keep the average global temperature rise below 2 degree Celsius over pre-industrial levels.
- It means even if NDCs are fulfilled, the temperature will still shoot up to 2.7-3 degrees and may even go beyond 3 degrees with the US withdrawing from the agreement.

- The report emphasises adverse health impacts for all people in the world (1,000 crore by 2050) due to environmental degradation of atmosphere, land, oceans and biodiversity, which would be of irreversible nature.

Status of India

- India may fail to achieve Sustainable Development Goals (SDGs) despite its many national action plans to achieve them.
- About 60 crore people in India depend on perennial rivers, which are in jeopardy due to glaciers receding and the ground water resources too being adversely affected.
- If the world fails to keep the temperature rise under 2 degrees Celsius, rivers of the world (such as Yellow, Ganges, Yangtze, Yamuna and Mekong) would shrink. There would be more uncontrollable droughts, floods, intense landslides and avalanches.
- India is likely to see the greatest extremes because of its vulnerability and crores of Indians would have to move.
- The vast areas of Indo-Gangetic plains will become non-liveable by the middle and the end of this century.
- A rise beyond 1.5 degrees would mean heat waves, heavy rainfall, water shortage, reduced farm output, coral bleaching and sea levels rising.
- Coastal nations and agricultural economies like India, already facing climate extremes, would bear the greatest burnt.

Linkage between climate change and social tensions

- Another aspect of severely adverse impacts of climate change – it will lead to conflicts among civilian population the world over.
- World Meteorological Organisation in its recent annual report has particularly focused on this issue of linkage between climate change and social tensions creating imbalances and instability in many parts of the world in the future.
- This is because climate change adversely affects agriculture, fishing, etc, and thus livelihood; coastal areas get submerged due to rise in sea levels and water scarcity is created.
- All this induces migration to other parts of the region or urban areas, leading to riots over limited resources.
- Rebel activities and Maoist movements may gain momentum because of climate-related impact on livelihood pushing up migration of civilians to cities, adding to strife.

Conclusion:

- To conclude, rich nations must sufficiently enhance their existing NDCs. They have the financial power to do so.

- India and China should combine efforts and play strong leadership role by bringing all nations on a common platform at COP 26 in 2020, which would be a critical moment for our planet.
- This is the only way to save humanity.

Connecting the dots:

- Critically analyze why the world needs to deal with climate change in right earnest with all urgency.
- Critically evaluate the emerging trends in global climate change negotiations. Is the world heading in the right direction in its fight against climate change? Critically examine.

Part of:

Part of: GS Prelims and Mains III – Environment and conservation; Pollution

In news:

- Indian Ocean is the world's biggest dumping ground for plastic waste, but where the trash ultimately ends up has remained a mystery, scientists say.
- According to researchers, unique characteristics of the southern Indian Ocean pushes floating plastics towards the western side of the ocean, where it leaks past South Africa into the South Atlantic Ocean.
- Because of the Asian monsoon system, the southeast trade winds in the southern Indian Ocean are stronger than the trade winds in the Pacific and Atlantic Oceans.
- In the northern Indian Ocean, the simulations showed that there may be an accumulation in the Bay of Bengal. It is also most likely that floating plastics will ultimately end up on beaches, transported by the reversing monsoon winds and currents, researchers said.

Do you know?

- Studies show that atmospheric and oceanic attributes of the Indian Ocean are different to other ocean basins and that there may not be a concentrated garbage patch.

1 million species risk extinction due to humans: draft UN report

Part of: GS Prelims and Mains III – Environment and conservation; Role of International Organization or NGO/CSOs

In news:

According to a draft UN report –

- Up to one million species face extinction due to human influence.
- It warns about how humanity has undermined the natural resources upon which its very survival depends.
- The accelerating loss of clean air, drinkable water, forests, pollinating insects, protein-rich fish and storm-blocking mangroves poses no less of a threat than climate change.
- The report warns of “an imminent rapid acceleration in the global rate of species extinction”.
- The direct causes of species loss, in order of importance, are shrinking habitat and land-use change, hunting for food or illicit trade in wildlife body parts, climate change and pollution, the report finds.

Do you know?

- April 22 is celebrated as Earth Day
- The theme of this year’s Earth Day is ‘protecting the planet’s species diversity’.
- The theme is important one considering nearly half of 177 mammal species surveyed in a study saw their distribution fall by more than 80% between 1900 and 2015.
- Scientists strongly believe that the planet may be in the midst of the sixth mass extinction, and unlike other times in the past, this could be largely anthropogenic.

[Tannery industries shut to prevent their effluents from contaminating the Ganga](#)

Part of: GS Prelims and Mains III – Environment and ecology; Pollution

In news:

- **Kanpur contributes the highest pollution load** among all of the cities of Uttar Pradesh, which itself accounts for 75% of the pollution load in the Ganga.
- Consequently, **Kanpur has garnered about ₹1,000 crore of funds** — more than any other city — from the **₹20,000 crore-plus Namami Gange Programme**, the government’s flagship programme to clean the river.
- NGT and CPCB had pointed out that chromium content from tanneries lead to contamination of river Ganga.

About Namami Gange Programme

- The government launched the Namami Gange Programme, an integrated conservation mission with a **budget of Rs. 20,000 crore** to accomplish the objectives of effective abatement of pollution, conservation and rejuvenation of the Ganga.

- The project **covers eight states** and seeks to fully connect all 1,632 Gram Panchayats along the Ganga to a sanitation system **by 2022**.
- It is a flagship programme of Government of India with a renewed impetus to decrease river pollution and conserve the revered river 'Ganga'.

Committee constituted to oversee clean air programme

Part of: GS Prelims and Mains II and III - Environment and ecology; Pollution; Government schemes and programmes; Governance

In news:

- The Union Environment Ministry has constituted a committee, chaired by the Secretary, Union Environment Ministry, to implement the National Clean Air Programme (NCAP).

National Clean Air Programme (NCAP)

- NCAP unveiled in January is envisaged as a scheme to provide the States and the Centre with a framework to combat air pollution.
- NCAP aims to reduce particulate matter (PM) pollution by 20%-30% in at least 102 cities by 2024.
- The NCAP is envisioned as a five-year action plan with 2019 as the first year. There would be a review every five years.

Do you know?

- The World Health Organisation's (WHO) database on air pollution over the years has listed Tier I and Tier II Indian cities as some of the most polluted places in the world.
- In 2018, 14 of the world's 15 most polluted cities were in India.

ANIMALS/NATIONAL PARKS IN NEWS

Spider research yet to pick up pace in India

Part of: GS Prelims and Mains III – Environment and Biodiversity; Conservation of animals

In news:

- Recently a new species of jumping spiders (name: Jerzego sunillimaye) was discovered in Aarey Colony, Mumbai.
- Arachnologists and wildlife experts said that - Spider research yet to pick up pace in India and called for a greater focus on studying spiders in India.
- While the last major research was conducted between the 1990s and 2000s by Dr. Manju Siliwal, a senior arachnologist.

Do you know?

- **Arachnology** is the scientific study of spiders and related animals such as scorpions, pseudoscorpions, and harvestmen, collectively called arachnids. Those who study spiders and other arachnids are **arachnologists**.
- While there are 4,800 species of spiders in the world, India alone accounts for 1,800 spider species.

About Arachnids

- Common arachnids are spiders, scorpions, ticks and mites.
- Arachnids do not have antennae.
- Arachnids have 2 body parts and 4 pairs of legs.

Coral Bleaching

In news:

According to Australian scientists –

- The world's southernmost coral reef has been hit by bleaching.
- Rising sea temperatures from climate change were affecting even the most isolated ecosystems.
- The corals off **Lord Howe Island** — some 600 km offshore from Sydney — were affected by elevated temperatures.
- It's just another indicator that climate change is affecting everywhere around the world.

Do you know?

- Severe bleaching had damaged the Great Barrier Reef in 2016 and 2017.
- Bleaching occurs when abnormal environmental conditions, such as warmer sea temperatures, cause corals to expel tiny photosynthetic algae, draining them of their colour.

Animal in news: Yangtze giant softshell turtle

In news:

- The only known female member of one of the world's rarest turtle species has died at a zoo in southern China.
- The animal was one of four Yangtze giant softshell turtles known to be remaining in the world.
- The Suzhou zoo, where the female turtle lived, also houses a male Yangtze giant softshell turtle.
- The other two live in Vietnam.



https://d39gegkjaqduz9.cloudfront.net/TH/2019/04/15/DEL/Delhi/TH/5_18/38194107_2872537_1_mr.jpg

Wildlife Sactuary in news: Nandhaur Wildlife Sanctuary

Part of: GS Prelims and Mains III – Environment and Biodiversity; Protected Areas

Why in news?

- Tiger reserve status for Nandhaur sought.
- With the number of tigers steadily on the rise at Nandhaur Wildlife Sanctuary in Uttarakhand, the authorities feel upgrading it to a tiger reserve is necessary for the conservation of tigers at the facility.
- Nandhaur Wildlife Sanctuary is situated close to the Nandhaur river in Kumaon region of the State and spread over an area of 269.5 square km.
- The number of tigers at the sanctuary when it came into being in 2012 was nine which rose to 27 in 2018. The number is set to cross 32 this year.
- The official said the steady rise in tiger population at the sanctuary over the years and the growing trend indicate that the sanctuary with the limited resources at its disposal may not be able to efficiently handle its responsibilities for long.

Do you know?

- Though the Wildlife Institute of India and the Forest Department are working hard with financial help from the Zoological Society of London to maintain the sanctuary as a safe habitat for tigers, the task may get difficult in the long run, the situation becomes rather delicate from the point of view of tiger conservation as the sanctuary at present does not come formally under the ambit of the National Tiger Conservation Authority.
- The State government can play a role in its elevation as a tiger reserve so that it gets central government funds and the expertise of national level zoological scientists to conserve the growing population of tigers at the sanctuary.

[Antarctic penguins suffer huge breeding failure](#)

Part of: GS Prelims and Mains III – Environment and animal conservation; Biodiversity

In news:

- The second largest **Emperor penguin** colony (Halley Bay colony in the Weddell Sea, Antarctica) in the world has suffered a “catastrophic” breeding failure.
- According to research, nearly all chicks born over three years died as their icy Antarctic habitat shrinks.

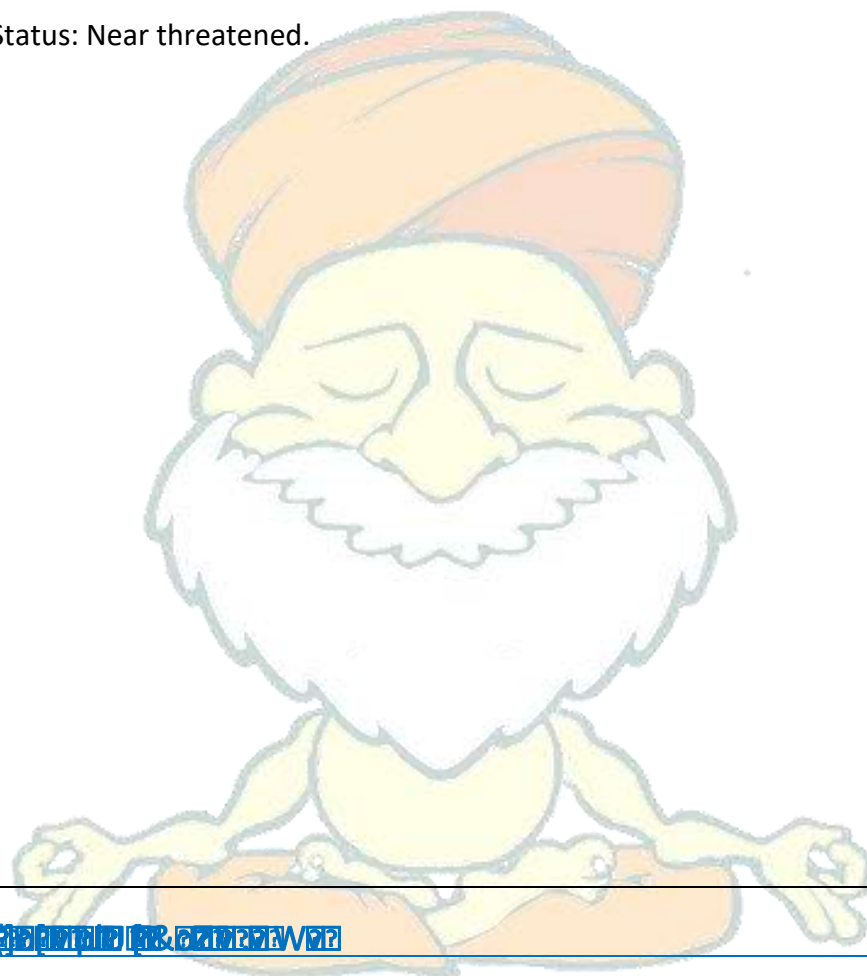
Do you know?

- Halley Bay has long been home to one of the largest emperor penguin colonies in Antarctica, second only to **Coulman Island in the Ross Sea**.

- Over the past 60 years that researchers have been observing the Halley Bay colony, between 14,300 and 23,000 pairs have flocked to the site's sea ice to breed.

About Emperor Penguin

- It is the tallest and heaviest of all living penguin species.
- Feathers of the head and back are black and sharply delineated from the white belly, pale-yellow breast and bright-yellow ear patches.
- Like all penguins it is flightless with wings stiffened and flattened into flippers for a marine habitat.
- IUCN Status: Near threatened.



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[Heron](#)

[Sighting of news species on the Andaman island chain increased](#)

In news:

Horsfield's Bronze Cuckoo

- Horsfield's Bronze Cuckoo (*Chalcites basalis*) is a bird, native of Australia and New Guinea.

- It is known for its repeated, loud and piercing whistle.
- It was sighted in a tsunami ravaged coastal forest in the Great Nicobar Island of the Andaman and Nicobar island chain.
- The sighting was the first recorded instance of the bird in India.

Zappey's Flycatcher

- It is a song bird that breeds in China and spends the winters in the Malay peninsula, Sumatra and Java.
- It was spotted six times in different areas of Andaman and Nicobar Islands between December 2017 and March 2018 — at least thrice in pairs.

Javan Pond Heron

- It is usually found in Thailand and Cambodia.
- It is larger than Horsfield's Bronze Cuckoo and Zappey's Flycatcher

Do you know?

- Sighting of news species on the island chain has gone up since the 2004 Indonesian tsunami, say researchers of the ZSI.
- The three new records from India from the Andaman and Nicobar Island have been discussed in detail in a recent publication of journal Birding ASIA.
- Andaman and Nicobar Islands, with just about 0.25 % the country's landmass, is home to about 350 species of exotic birds.

Animal in news: Olive Ridley hatchlings make their way into sea

In news:

- Note – We have covered many articles on Olive Ridley turtles (Refer - <https://iasbaba.com/2018/06/iasbabas-daily-current-affairs-prelims-mains-focus-19th-june-2018/> and <https://iasbaba.com/2019/01/daily-current-affairs-ias-upsc-prelims-and-mains-exam-27th-december-2018/>)
- The Olive ridley turtles are the smallest and most abundant of all sea turtles found in the world, inhabiting warm waters of the Pacific, Atlantic and Indian oceans.
- These turtles, along with their cousin the Kemp's ridley turtle, are best known for their unique mass nesting called Arribada, where thousands of females come together on the same beach to lay eggs.
- They are carnivores, and feed mainly on jellyfish, shrimp, snails, crabs, molluscs and a variety of fish and their eggs.

- These turtles spend their entire lives in the ocean, and migrate thousands of kilometers between feeding and mating grounds in the course of a year.
- Interestingly, females return to the very same beach from where they first hatched, to lay their eggs. During this phenomenal nesting, up to 600,000 and more females emerge from the waters, over a period of five to seven days, to lay eggs. They lay their eggs in conical nests about one and a half feet deep which they laboriously dig with their hind flippers.
- The coast of Orissa in India is the largest mass nesting site for the Olive-ridley, followed by the coasts of Mexico and Costa Rica.
- After about 45-65 days, the eggs begin to hatch, and these beaches are swamped with crawling Olive-ridley turtle babies, making their first trek towards the vast ocean. During this trek they are exposed to predators like jackals, birds, hyenas, fiddler crabs, and feral dogs lurking around, waiting to feed on them.
- It is estimated that approximately 1 hatchling survives to reach adulthood for every 1000 hatchlings that enter the sea waters.
- This may also be the reason why arribadas happen and a single female can lay 80 to 120 eggs and sometimes even twice in a season; to increase the hatchlings survival rate.

Protected area in news: Horsley Hills

In news:

- Failure of rain and fast depletion of water sources in forests surrounding Horsley Hills, spread over Andhra Pradesh and Karnataka, have affected wildlife.
- To protect wild animals from the scorching heat and to quench their thirst, A.P. Forest Department has initiated steps on a war-footing to set up drinking water pits and salt licks in the forests.

Do you know?

- Horsley Hills has a rich presence of the antelope species, including sambhar and black-buck, in addition to wild boar, rabbits, bears, wild dogs, leopards, peacocks and a variety of birds and reptile species.

INFRASTRUCTURE/ENERGY

How to achieve 24x7 power for all?

Context:

- Almost every willing household in India now has a legitimate electricity connection.
- **Pradhan Mantri Sahaj Bijli Har Ghar Yojana**, or **Saubhagya** - the household electrification scheme - has been implemented at an unprecedented pace.
- However, the efforts under Saubhagya have come upon decades of hard work preceding it.

Background:

- **Electricity Act, in 2003** and **Rajiv Gandhi Grameen Vidyutikaran Yojana**, in 2005 – Enactment and introduction of these schemes expanded electrification infrastructure to most rural areas.
- But the rollout of the Saubhagya scheme, in 2017, gave the required impetus to electrify each willing household in the country.

However, despite such massive efforts, the battle against electricity poverty is far from won. The erection of electricity poles and an extension of wires do not necessarily mean uninterrupted power flow to households.

According to **Access to Clean Cooking Energy and Electricity Survey of States (ACCESS)** report –

- While the median hours of supply increased from 12 hours in 2015 to 16 hours a day in 2018, it is still far from the goal of 24x7.
- Similarly, while instances of low voltage and voltage surges have reduced in the last three years, about a quarter of rural households still report low voltage issues for at least five days in a month.

About ACCESS Report:

- It is released by the Council on Energy, Environment and Water (CEEW)
- It highlights the gap between a connection and reliable power supply.

How to achieve 24x7 power for all?

Following are some of the suggestions:

Real-Time Monitoring of Supply at the End-User Level

- We achieve what we measure. While the government is bringing all feeders in the country online, we currently have no provision to monitor supply as experienced by households.
- Only such granular monitoring can help track the evolving reality of electricity supply on the ground and guide discoms to act in areas with sub-optimal performance.
- Eventually, smart meters (that the government plans to roll out) should help enable such monitoring.
- However, in the interim, we could rely on interactive voice response systems (IVRS) and SMS-based reporting by end-users.

High-Quality Supply:

- Discoms need to focus on improving the quality of supply as well as maintenance services.
- Adequate demand estimation and respective power procurement will go a long way in reducing load shedding.
- Many states reported at least two days of 24-hour-long unpredictable blackouts in a month. Such incidents are indicative of poor maintenance, as opposed to intentional load-shedding.
- Discoms need to identify novel cost-effective approaches to maintain infrastructure in these far-flung areas.

Better Customer Service and Innovative Solution for Greater Revenue Realisation:

- The improvement in supply should be complemented with a significant improvement in customer service, which includes billing, metering and collection.
- Around 27% of the electrified rural households in the six States were not paying anything for their electricity.
- Despite the subsidies, constant loss of revenue would make it unviable for discoms to continue servicing these households in the long run.
- Low consumer density along with difficult accessibility mean that conventional approaches involving meter readers and payment collection centres will be unviable for many rural areas.

Other Innovative Approaches

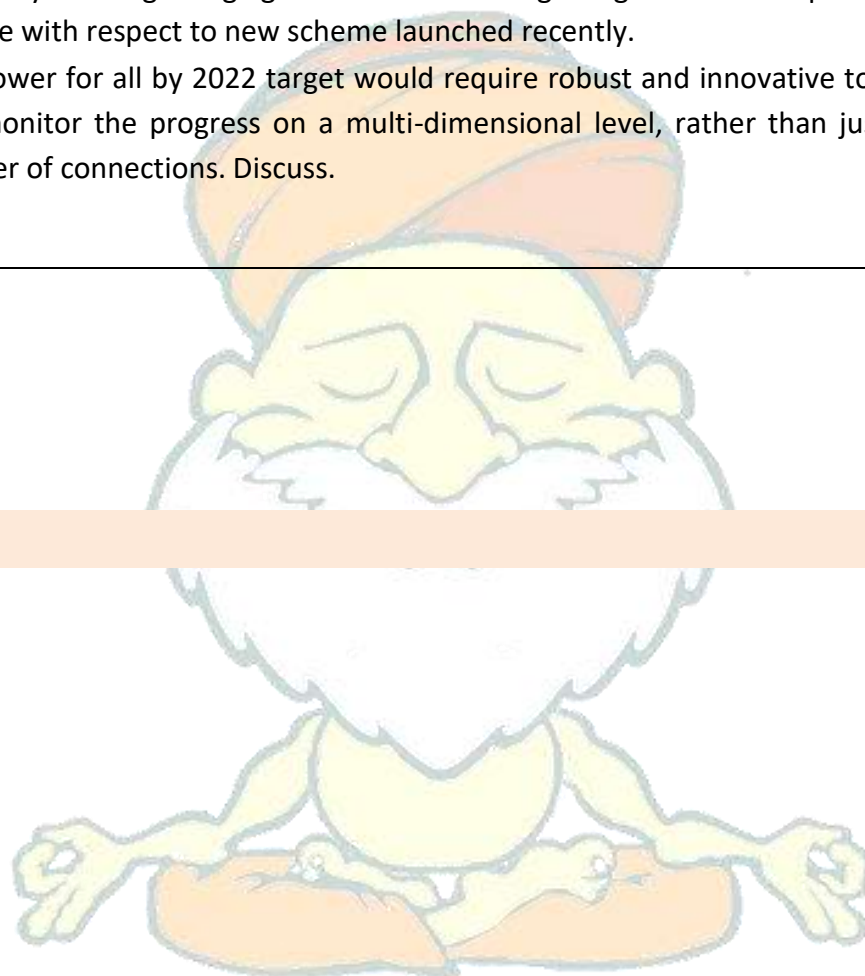
- We need radically innovative approaches such as the proposed prepaid smart meters and last-mile rural franchisees to improve customer service and revenue collection.
- Rural renewable energy enterprises could especially be interesting contenders for such franchisees, considering the social capital they already possess in parts of rural India.

Conclusion:

- Electricity is the driver for India's development. As we focus on granular monitoring, high-quality supply, better customer service and greater revenue realisation at the household level, we also need to prioritise electricity access for livelihoods and community services such as education and health care.
- Only such a comprehensive effort will ensure that rural India reaps the socio-economic benefits of electricity.

Connecting the dots:

- Electricity is the 'guiding light' towards attaining the goal of 'developed India'. Critically analyse with respect to new scheme launched recently.
- The Power for all by 2022 target would require robust and innovative tools to measure and monitor the progress on a multi-dimensional level, rather than just counting the number of connections. Discuss.



SCIENCE AND TECHNOLOGY

Seeking the next frontier: anti-satellite (ASAT) test (Mission Shakti)

Context:

In previous DNA, we read about –

- India's recent success of an anti-satellite (ASAT) test (Mission Shakti). It succeeded neutralizing a target satellite in a Low Earth Orbit (LEO).
- India became the fourth country (after the U.S., Russia/USSR and China) to acquire this capability.
- We also read that India's test has not violated any international norm as there is no international treaty prohibiting the testing or the development of ASATs.
- Moreover, between 250-270 objects of space debris that were created following the test did not pose any threat due to debris created by it and they will expected to dissipate in 45 days and it is also confirmed by US that the debris did not pose a threat to the International Space Station, which orbits at an altitude of around 350 km.

Major benefits of ASAT:

- ASAT helps to safeguard against the developments in offensive cyber capabilities. It provides strategic capability to disrupt communication links between the satellite and ground control by damaging the transponders or the power source.
- ASAT capability is normally a part of a Ballistic Missile Defence (BMD) programme. While a BMD targets an incoming ballistic missile, an ASAT interceptor targets a hostile satellite.

Do you know?

- Both the U.S. and USSR began to develop ASAT systems as a part and parcel of their anti-ballistic missile programmes.
- During the 1980s, both countries concluded their kinetic kill interceptor testing.
- Later, they began to focus on co-orbital anti-satellite systems and directed energy (laser) systems which could neutralise a satellite without fragmenting it and generating space debris.
- After the 2007 test, China too has carried out subsequent ASAT development along these lines.
- France and Israel are believed to possess the capability, though they did not officially claim it.

Issues of debris in a crowded space:

- Ever since the Sputnik was launched in 1957, more than 8,000 satellites/manmade orbiting objects have been launched. Out of which, around 5000 remain in orbit; more than half are non-functional.
- Currently, more than 50 countries own/operate the nearly 2,000 functional satellites in orbit. Of these 2,000 satellites, over 300 are dedicated military satellites.
- There are over 20,000 objects of debris which are the size of golf balls while those of smaller size run into hundreds of thousands, totalling nearly 6,000 tonnes.
- Growing amounts of space debris pose a real risk to satellites and spacecraft.
- One of the reasons that the international community protested strongly about the 2007 Chinese test was that it added nearly 3,000 pieces of debris as the test was done at a higher altitude (800 km), from where it would take decades to dissipate.

The debris created by the Indian test, which was undertaken at a low altitude, is expected to dissipate much faster within 45 days.

Issues with current International Regulation of space use

1967 Outer Space Treaty and 1979 Moon Treaty

The above treaties laid the foundations of the legal regime for space beginning with the –

- rule of law,
- refraining from appropriating territory,
- non-placement of any weapons of mass destruction in space, and
- prohibition of military activities on the moon and other celestial bodies.

However, the above treaties were negotiated when the technology was still in a nascent stage. Satellite registration was introduced in the 1970s though compliance has been patchy.

Need for effective regulation of space

- There is a need for strong regulation as some countries are aiming for Militarization of Space.
- U.S., Russia and China — have already set up ‘Space Commands’.
- Space should be preserved “as the common heritage of mankind”.
- The U.S. has been adamantly opposed to negotiating any legally binding instrument to prevent ‘militarisation of space’, questioning the very meaning of the term, given that space as a medium is increasingly used for military applications.

Do you know?

- In 2008, Russia and China had proposed a draft to kick off negotiations on the **Treaty on the Prevention of the Placement of Weapons in Outer Space** and of the **Threat or Use of Force Against Outer Space Objects**. However, it was rejected by the West.

- The European Union began to develop an **international code of conduct** based on transparency and confidence-building measures.
- The UN General Assembly has called for a **declaration of political commitment by all countries** that they shall not be the first to place weapons in space.
- But this initiative too has floundered as norm building cannot take place in a political vacuum.

Conclusion:

At present, the U.S. is the dominant presence in space, which reflects its technological lead as well its dependence on space-based assets. It therefore perceives any negotiations as a constraint on its technological lead.

While countries have developed and tested ASATs, they are not known to have stockpiled ASAT weapons.

Effective use of an ASAT also requires space situational awareness capability, which works best if it is a cooperative effort. India's successful ASAT test is therefore a technology marker.

Further development of interceptor technology and long-range tracking radars is necessary for a robust Ballistic Missile Defence (BMD) and the DRDO also needs to move on to newer technologies to enhance its ASAT capability in the coming years.

Connecting the dots:

- India's space program needs techno-military orientation. Do you agree? Critically examine.
- Examine the need for effective regulation for prohibition of military activities in the space.
- Critically analyze the implications of Militarization of Space.

Indian space debris may have doubled after Mission Shakti

Part of: GS Prelims and Mains III - Science and Technology; Space Missions

In news:

- The **amount of Indian space debris may have almost doubled** in the aftermath of the **Mission Shakti** anti-satellite strike.
- But this is still significantly less than the existing space debris generated by China, Russia and the U.S.

Do you know?

- NASA criticised India for the test, describing it as a “terrible, terrible” thing that had endangered the International Space Station (ISS) and led to the creation of nearly 400 pieces of orbital debris.
- According to data from SPACE-TRACK.org, a public access repository maintained by the U.S. defence wing that tracks space activity, **only 80 pieces of “space debris” attributable to India in orbit.**
- However, this doesn’t include debris from MICROSAT-R, the DRDO satellite that was pulverized by India’s anti-satellite missile.
- Prior to the March 27 test, for India’s 80 pieces, there were 4,091 pieces of debris by the U.S., 4,025 by Russia and China’s 4,038, according to SPACE-TRACK.
- According to the European Space Agency (ESA), there are about 34,000 debris objects >10 cm, 900 000 objects from 1 cm-10 cm and 128 million objects from 1 mm to 1 cm, orbiting the earth.

Dead wood

To India’s 80, there were 4,091 pieces of debris left behind by the U.S., 4,025 by Russia and 3,524 by China

Country	Debris (in orbit)	Debris (out of orbit)
China	3,524	1,353
Russia	4,025	15,207
U.K.	1	15
U.S.	4,091	6,325
India	80	343
Japan	55	300
France	334	733

Source: SPACE-TRACK. org

https://d39gegkjaqduz9.cloudfront.net/TH/2019/04/03/CNI/Chennai/TH/5_07/b4d5b793_2843348_101_mr.jpg

Orbital debris are tracked by a variety of ground-based radar and space stations. The speeds at which these objects between 1mm to 10 cm across hurtle through space travel makes them extremely dangerous, various studies have showed.

For instance, a collision with a 10 cm object would entail a catastrophic fragmentation of a typical satellite, a 1 cm object will most likely disable a spacecraft and penetrate the ISS' protective shields, and a 1 mm object could destroy subsystems on a satellite.

[Anti-Satellite test a game-changer?](#)

Introduction:

- On March 27, in an operation called '**Mission Shakti**', the DRDO demonstrated India's ability in offensive defence capability, using a missile to destroy a satellite in Low Earth Orbit.
- India became the fourth nation, after US, China and Russia, to attain the capability to interdict and intercept a satellite in outer space after the successful Anti-Satellite (ASAT) missile test.

The main significance of the test is that India has tested and successfully demonstrated its capability to interdict and intercept a satellite in outer space based on complete indigenous technology.

Why is India's anti-satellite test a game-changer?

1. **Security issues:** To safeguard its own space assets from damage and destruction caused by other country/countries, especially China.
2. **Preserve the outer space:** India endorses that outer-space should be used exclusively for peaceful purposes. It recognized that it is important to preserve the outer space in a big way.
3. **To avoid the ban on Anti-satellite tests in future:** India did not want to repeat the experience of what happened in the nuclear domain. It didn't want a Treaty on the Non-Proliferation of Nuclear Weapons or NPT-like mechanism to come about in the space domain that would actually lead to a ban on India's future ASAT tests.
The UN General Assembly is also trying to bring about an international legally binding document on the prevention of an arms race in outer space that would include the prevention of placement of weapons in outer space among other things.
4. **To promote deterrence:** The established space players who have demonstrated the ASAT capability have not adopted deterrence as part of their space policy.
5. During the time of war, **ASATs can be used to intercept and jam communication or military satellites of enemy countries** and stop them from communicating with their soldiers. It can also be used to access critical information about troop movements or incoming missiles.

Conclusion:

Now that India has demonstrated this capability, India needs to play an even more active role in the global governance of outer space.

India should declare no-first-use of the ASAT weaponry as we have done for the nuclear weapons, and adopt a strong domestic doctrine on weaponisation of space just as we have a declared doctrine for nuclear weapons.

Connecting the dots:

- Discuss what importance Mission Shakti holds for India.
- Examine the need for effective regulation for prohibition of military activities in the space.
- Critically analyze the implications of Militarization of Space.

India gets surveillance satellite

Part of: GS Prelims and Mains III – Science and Technology; Space Missions

In news:

- India's Polar Satellite Launch Vehicle (PSLV-C45) launched EMISAT and 28 international customer satellites from Satish Dhawan Space Centre (SDSC) SHAR in Sriharikota.
- It is the 47th mission of the Indian Polar Satellite Launch Vehicle (PSLV) program.
- This flight marked the first mission of PSLV-QL, a new variant of PSLV with four strap-on motors.

Do you know?

- The Polar Satellite Launch Vehicle (PSLV)-C45 was launched with a payload of 29 satellites, including EMISAT for electronic intelligence, along with 28 customer satellites from other countries.
- EMISAT: EMISAT is a satellite built around ISRO's Mini Satellite-2 bus weighing about 436 kg. The satellite is intended for electromagnetic spectrum measurement.
- The 28 international customer satellites, together weighing about 220 kg, are from four countries, namely, Lithuania (2), Spain (1), Switzerland (1) and USA (24). These foreign satellites were launched as part of commercial arrangements.
- So far, PSLV has launched 46 national satellites, 10 satellites built by students from Indian Universities and 297 international customer satellites, including the satellites launched today.

- In its next mission, PSLV-C46 will launch RISAT-2B in May 2019.




PHOTO: S.R. RAGHUNATHAN

Pride of place

PSLV-C45, carrying EMISAT and 28 international satellites, marked the first mission of PSLV-QL, a new variant of PSLV with four strap-on motors

EMISAT: It is a satellite built around ISRO's Mini Satellite-2 bus. It is intended for electromagnetic spectrum measurement

436 kg

Lift-off weight

748 km

Altitude

800 W

Power

NEXT MISSION

PSLV-C46 will launch RISAT-2B in May 2019

PAYLOADS

The payloads carried by PSLV-C45 are Automatic Identification System from ISRO, Automatic Packet Repeating System from AMSAT, India, and Advanced Retarding Potential Analyzer for ionospheric studies from the Indian Institute of Space Science and Technology

CUSTOMER SATELLITES		
Country	Name	No. of satellites
Lithuania	BlueWalker1	1
	M6P	1
Spain	Aistechsats-3	1
Switzerland	Astrocass-2	1
U.S.	Flock-4A	20
	LEMUR	4

https://d39gegkjaqduz9.cloudfront.net/TH/2019/04/02/CNI/Chennai/TH/5_07/3e03f004_2841070_101_mr.jpg

What makes PSLV-C45 special?

Part of: GS Prelims and Mains III – Science and Technology; Space Missions

In news:

- The Indian Space Research Organisation (ISRO) launched the PSLV-C45 rocket that carried one Indian and 28 international satellites into space.
- It was the first time ISRO launched a rocket that injected satellites in three different orbits.
- The fourth and last stage of the rocket will function as a satellite itself for some time, instead of being rendered junk after ejecting its payloads.
- The fourth stage is what remains of the rocket after most of it is discarded — in three stages — during the flight to reduce weight, after running out of the propellant they carry.
- The rocket carried four strap-on motors.

Do you know?

- Strap-ons are booster rockets attached externally to the main rocket, and provide additional thrust, or energy, by firing themselves midway during the flight. In earlier flights, ISRO has used two or six strap-on motors.
- The four extra-large strap-ons used this time reduced the overall weight while still delivering the power equivalent to six motors.
- ISRO holds the world record for carrying the number of satellites on a single launch vehicle — 104 on PSLV C-37 in February 2017.

- However, so far, these satellites have been ejected in two different orbits at the most. Three orbits, therefore, is a first.

Significance of the achievement

- Reaching three different orbits gives ISRO a new technological edge.
- It demonstrated its capability to reuse the fourth-stage engines multiple times, and also showed that the guidance and navigation systems aboard the launch vehicle could be used for much longer times than in earlier missions.
- In practical terms, it will help ISRO pack its future rockets with multiple satellites even if they require to be placed in very diverse but precise orbits. Currently, this could be done only in multiple missions.

Significance of using the fourth stage as a satellite

- The rocket, or the launch vehicle, is only a carrier. Once it places its passenger, or satellite, to its designated orbit in space, it becomes practically useless, adding to the space debris.
- For the last few years, ISRO had been planning to give some life to the rocket at least to the uppermost part, or the last stage which remains with the satellite till the ejection.
- The lower parts of the rocket are in any case discarded in the earlier stages and become junk.
- There is no way to put them to any use. The uppermost stage, however, can be used, at least temporarily. Previously, they would end up in some orbit to wander aimlessly and endlessly.

What purpose will it serve?


- The fourth stage is carrying three kinds of equipment to carry out some measurements and experiments, and a solar panel to provide power to these equipments and enable communication with ground stations.
- One kind of instrument can be used to capture messages transmitted from ships, another can be used by amateur radio operators use for tracking and monitoring position data, and the third can study the structure and composition of the ionosphere.

How long will it function?

- The fourth stage will not have the usual life of a satellite. It can remain alive only for a few weeks or a few months, since it is not equipped with a lot of other things that enable a satellite to exist for longer duration in outer space, like a radiation shield.
- However, this is still good enough time to carry out shorter duration experiments and data collection, like the three on-board instruments are meant to do.

In news:

- ## Do you know?

- ## Sky monitors
- A list of satellites which the ISRO is expected to launch in 2019-20
- | Satellite | Planned launch |
|----------------------|----------------|
| RISAT-2B | May 2019 |
| Cartosat-3 | June 2019 |
| RISAT-2BR1 | July 2019 |
| GISAT-1 (new series) | September 2019 |
| RISAT-2BR2 | October 2019 |
| GISAT-2 | November 2019 |
| RISAT-1A | November 2019 |
| GSAT-32 | February 2020 |
- 

Introduction:

- Recently, ISRO launched the **country's first electronic surveillance satellite, EMISAT**.
- Along with it, as many as 28 small satellites of international customers were also put in space as secondary riders.
- With EMISAT, India just forayed into the realm of **space-based electronic intelligence (ELINT)**.
- ELINT will add teeth to situational awareness of the Armed Forces as it will provide location and information of hostile radars placed at the borders.
- According to defence scientists, one satellite for ELINT will not suffice and the country may need to have at least three more working in tandem. And this could be the beginning of a new set of space-based military surveillance.

Do you know?

- An estimated 150 military satellites may be hovering all over Earth right now.
- These satellites can locate where radars are; figure out what signals they send out in order to enable right actions; eavesdrop on radar communication; and much more.

Power in space

- In the space era, "the forces need many things based in space, such as for electronic intelligence, signal intelligence, communication intelligence, and image intelligence."
- Today, everything is in space, which adds the fourth dimension to the forces.
- A well-equipped satellite perched high up is an asset that can generate vast information vital for the country's defence against attacks from outside.
- India is assiduously putting in place a space military architecture. Over the next few months, as many as eight satellites are expected to be launched, strengthening the defence dimension.
- Therefore, the government should articulate much more clearly the doctrinal aspects of the space programme, as well as the deterrence sought to be achieved by it.

Need for clarity or clear doctrine of the space programme

- New Delhi aspires to take a bigger lead in forging a global and legally binding instrument to prevent militarisation of space.
- It expects to play a role in the future in the drafting of international law on prevention of an arms race in space.
- Therefore, India must communicate its peaceful intentions just as it showcases its capabilities.
- A clear doctrine of its space programme would contribute to a better understanding among countries and reduce the chances of wrong inferences being drawn in crisis situations.

- Since, there is no global regulatory regime to address the growing militarisation in space (regulatory vacuum), India has legitimate reasons to develop deterrence for the security of its space-based assets.

Connecting the dots:

- Can space weapons play big role in India's grand strategy? Will India come out with an official white paper on space weapons?
- [Space is considered to be the fourth frontier. Any effort to weaponise it would pose serious security threats to the world as whole. Do you agree? Examine India's preparedness to tackle such threats.](#)

Mars base simulator unveiled in Gobi desert

Part of: GS Prelims and Mains III – Science and Technology; Space Missions

In news:

- Mars base simulator was unveiled in the middle of China's Gobi desert.
- "Mars Base 1" was opened with the aim of exposing teens — and soon tourists — to what life could be like on the planet.
- The facility's unveiling comes as China is making progress in its efforts to catch up to the United States and become a space power, with ambitions of sending humans to the moon someday.
- The company behind the project, C-Space, plans to open the base — currently an educational facility — to tourists in the next year, complete with a themed hotel and restaurant to attract space geeks.

Do you know?

- As budding astronauts explore "Mars" on Earth, China is planning to send a probe to the real red planet next year. Beijing is pouring billions into its military-run space programme, with hopes of having a crewed space station by 2022.
- Earlier this year, it made the first ever soft landing on the far side of the moon, deploying a rover on the surface.

Enzyme to curb bacteria cell growth discovered

Part of: GS Prelims and Mains III - Science and Technology; Achievements

In News:

- Scientists at the **Centre for Cellular & Molecular Biology (CCMB)** have discovered a new enzyme which helps in breaking cell walls of bacteria and hence offers a potential for a new drug delivery route to arrest the anti-bacterial resistance through existing antibiotic drugs.
- In order to understand the anti-bacterial resistance to currently available antibiotics, it is crucial to know how cells grow in bacteria.
- Scientists all over the world are trying to understand this phenomenon and has been working on how e. coli bacteria cells function, divide and grow to understand diseases like cholera, leprosy and tuberculosis for the past decade.

First photograph of a black hole

Part of: GS Prelims and Mains III - Science and Technology; Space missions

In news:

- According to an announcement by researchers at the National Science Foundation, they have captured an image of the **super-massive black hole** and its shadow at the center of a galaxy known as **M87**.
- This is the first direct visual evidence that black holes exist, the researchers said.



From theory to fact

Scientists on Wednesday revealed the first image ever made of a black hole after assembling data gathered by a network of radio telescopes around the world. The image was released by astronomers of the Event Horizon Telescope



■ The term “black hole” was coined in the mid-1960s by American physicist **John Archibald Wheeler**, and refers to a point in space where matter is so compressed as to create a gravity field from which even light cannot escape. The more the mass,

the bigger the hole. They were theorised by physicist **Albert Einstein** in 1915 to explain the laws of gravity and their relation to other natural forces


■ The first image is of a black hole in a galaxy called **Messier 87**, in the

constellation Virgo, that is about 53 million light years from Earth. One light year is 5.9 trillion miles, or 9.5 trillion km. This black hole is about 6 billion times the mass of our sun


■ Astronomers created the picture by assembling data gathered by **eight radio telescopes** around the world. The data was gathered by the Event Horizon Telescope **two years ago**, but it took so long to complete the image because it was a massive undertaking, involving about 200 scientists, supercomputers and hundreds of terabytes of data delivered worldwide by plane

■ The team looked at two supermassive

black holes, the M87 and the one at the centre of our **own Milky Way galaxy**. The one in our galaxy is closer but much smaller, so they both look the same size in the sky. But the more distant one was easier to take pictures of because it rotates more slowly

 **This is a huge day in astrophysics. We're seeing the unseeable**

—FRANCE CURDOVA, director of U.S. National Science Foundation

 **Black holes are like the walls of a prison. Once you cross it, you will never be able to get out and you will never be able to communicate.**

—AVI LOEB, director of the Black Hole Initiative at Harvard University

https://d39gegkjaqduz9.cloudfront.net/TH/2019/04/11/CNI/Chennai/TH/5_01/2d86984c_c1c039e9_10_1_mr.jpg

Key points:

- In the image, a central dark region is encapsulated by a ring of light that looks brighter on one side.
- The massive galaxy, called **Messier 87 or M87**, is near the **Virgo galaxy** cluster 55 million light-years from Earth.
- The super-massive black hole has a mass that is 6.5 billion times that of our sun.

How it was captured?

- The **Event Horizon Telescope Collaboration, called EHT**, is a global network of telescopes that captured the first-ever photograph of a black hole.
- The project is named for the event horizon, the proposed boundary around a black hole that represents the point of no return where no light or radiation can escape.
- In order to capture an image of a black hole, scientists combined the power of eight radio telescopes around the world using **Very-Long-Baseline-Interferometry**, according to the European Southern Observatory, which is part of the EHT.
- This effectively creates a virtual telescope around the same size as the Earth itself.

Name of the eight radio telescopes:

The telescopes involved in creating the global array included:

- ALMA, APEX, the IRAM 30-meter telescope, the James Clerk Maxwell Telescope, the Large Millimeter Telescope Alfonso Serrano, the Sub-millimeter Array, the Sub-millimeter Telescope and the South Pole Telescope.
- The telescope array collected 5,000 trillion bytes of data over two weeks, which was processed through supercomputers so that the scientists could retrieve the images.

Do you know?

What are black holes?

- A black hole is a place in space where gravity pulls so much that even light cannot get out. The gravity is so strong because matter has been squeezed into a tiny space. This can happen when a star is dying.
- Because no light can get out, people can't see black holes. They are invisible. Space telescopes with special tools can help find black holes. The special tools can see how stars that are very close to black holes act differently than other stars.

Size of Black hole:

- **Smallest Black holes** - Scientists think the smallest black holes are as small as just one atom. These black holes are very tiny but have the mass of a large mountain.
- **Stellar** - Its mass can be up to 20 times more than the mass of the sun. There may be many, many stellar mass black holes in Earth's galaxy. Earth's galaxy is called the Milky Way.
- **Supermassive** - The largest black holes are called "supermassive." These black holes have masses that are more than 1 million suns together. Scientists have found proof that every large galaxy contains a supermassive black hole at its center. The supermassive black hole at the center of the Milky Way galaxy is called Sagittarius A. It has a mass equal to about 4 million suns and would fit inside a very large ball that could hold a few million Earths.

Albert Einstein's theory

- The visual confirmation of black holes acts as confirmation of Albert Einstein's theory of general relativity. In the theory, Einstein predicted that dense, compact regions of space would have such intense gravity that nothing could escape them. But if heated materials in the form of plasma surround the black hole and emit light, the event horizon could be visible.
- M87's black hole has an enormous mass, which gave researchers reason to believe it may be the largest viewable black hole from Earth. Relative to other objects, supermassive black holes are actually small. This is why they couldn't be observed before. Black hole size is directly related to mass. The larger the black hole, the larger

the shadow. And black holes may seem invisible, but the way they interact with the material around them is the giveaway.

CSIR plans genome sequencing to map population diversity

Part of: GS Prelims and Mains III – Science and Technology

In news:

- In an **indigenous genetic mapping effort**, nearly 1,000 rural youth from the length and breadth of India will have their **genomes sequenced** by the Council of Scientific and Industrial Research (CSIR).
- The project aims at educating a generation of students on the “usefulness” of genomics.
- Globally, many countries have undertaken genome sequencing of a sample of their citizens to determine unique genetic traits, susceptibility (and resilience) to disease. This is the first time that such a large sample of Indians will be recruited for a detailed study.

Important Value Additions:

What is Genome Sequencing?

- Genome sequencing is figuring out the order of DNA nucleotides, or bases, in a genome—the order of As, Cs, Gs, and Ts that make up an organism’s DNA. The human genome is made up of over 3 billion of these genetic letters.



https://thesequencingcenter.com/wp-content/uploads/2017/12/seqprocess_blog.jpg

Applications of genome sequencing:

- **Forensics:** Used in criminal identification since every individual has different genome sequence.

- It helps to understand and comprehend the internal structure of genes in the DNA.
- It helps to understand which sequence codes for what kind of proteins.
- Medicine: The knowledge of sequence can tell you if you have any disease acquired or hereditary.
- The knowledge of sequence can be used to prepare proteins.
- The knowledge of sequencing will help to cure many diseases. [which are currently not being solved]
- Agriculture: Mapping of genome of micro-organism have enabled researches to make it useful for food crops and plants.

Do you know?

- Genome sequencing project is considered to be a boon for mankind. Human Genome Project, a first of its kind was taken up by multi-institutes and took 13 years from 1990 to 2003 to produce a blueprint of the sequence of genes and spaces between genes that make up typical human genome.
- The human genome sequence of an Indian was mapped during 2009, putting the country in the league of then five others — United States, Britain, Canada, China and South Korea — who had demonstrated similar capabilities. This means the 3.1 billion base pairs describing every function of the body of an Indian are now available for further study and as an important diagnostic tool for predictive healthcare.
- Devoting over two years on the background work, a team of young scientists from the Indian Institute of Genomics and Integrative Biology (IGIB) in New Delhi mapped the genome sequence of a man in his fifties from Jharkhand.
- The world's first human genome sequence was completed in 2003 by the International Human Genome Project with scientists from the US, UK, France, Germany, Japan and China. Resource constraints hindered India's participation in that project.

Human Genome Project (HGP)

- The Human Genome Project (HGP) was a large, international and multi-institutional effort that took 13 years [1990-2003] and \$2.7 billion to produce a blueprint of the sequence of genes and spaces between genes that make up a typical human genome.

Human Genome Project – Write (HGP – Write)

- Fast forward to 2016 and another project, called the Human Genome Project–write (HGPwrite), now underway to synthesise a human genome from scratch.
- The original HGP was a “read” in that it used chemicals and instruments to decipher the genome for the first time. The new project, its proponents say, is to write or build an artificial human genome with sophisticated bioengineering tools.

- A group of scientists from United States recently proposed an ambitious project named as Human Genome Project-Write (HGP-Write) to create a genetic blueprint or synthetic human genome.
- The project envisions on the same scale as the Human Genome Project-Read (HGP-Read) which had sequenced human genome in 2003.
- HGP-Write seeks to reduce the cost of engineering DNA segments synthetically in the laboratory.
- The potential benefits of HGP-write to India include providing new solutions to diseases like malaria, dengue and chikungunya.
- The tools, techniques and technologies that are going to be developed through HGP-write will be universally applicable to all organisms, especially at an earlier stage for organisms with smaller genomes (for example, viruses), towards building individual genes and genomes efficiently and in an inexpensive manner.
- It also aims at improving the ability to chemically manufacture DNA, with one of the goals being to synthetically create an entire human genome.

China draws up tighter rules on human gene and embryo trials

In news:

- China to consider tougher rules on research involving human genes and embryos.
- It is the first such move since a **Chinese scientist (He Jiankui)** sparked controversy last year by announcing he had made the world's first "gene-edited" babies.

Do you know?

- He Jiankui attracted condemnation from the global scientific community when he said he had used a technology known as **CRISPR-Cas9** to alter the embryonic genes of twin girls born in November.

About CRISPR-Cas9

- **CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats)** is a naturally occurring defence mechanism in bacteria.
- CRISPR-Cas9 was adapted from this naturally occurring genome editing system.
- The bacteria capture snippets of DNA from invading viruses and use them to create DNA segments known as CRISPR arrays.
- The CRISPR arrays allow the bacteria to "remember" the viruses (or closely related ones).

- If the viruses attack again, the bacteria produce RNA segments from the CRISPR arrays to target the viruses' DNA. The bacteria then use Cas9 or a similar enzyme to cut the DNA apart, which disables the virus.
- The CRISPR-Cas9 system works similarly in the lab. Researchers create a small piece of RNA with a short "guide" sequence that attaches (binds) to a specific target sequence of DNA in a genome. The RNA also binds to the Cas9 enzyme. As in bacteria, the modified RNA is used to recognize the DNA sequence, and the Cas9 enzyme cuts the DNA at the targeted location.
- Once the DNA is cut, researchers use the cell's own DNA repair machinery to add or delete pieces of genetic material, or to make changes to the DNA by replacing an existing segment with a customized DNA sequence.

Magic milk: fighting infections with a clue from the echidna

Part of: GS Mains II and III and Prelims – Health issue; Animal in news; Science and Technology

In news:

- Scientists at the Council of Scientific & Industrial Research – Centre for Cellular and Molecular Biology (CSIR-CCMB) here have isolated an anti-microbial protein found in the milk of an egg-laying mammal.
- The protein promises to serve as an alternative to antibiotics used on livestock.
- Echidnas, also known as spiny anteaters, are unique egg-laying mammals found only in Australia and New Guinea.
- Their young hatch from eggs at a very early stage of development and depend completely on mother's milk. But the mammary glands of the echidnas are devoid of nipples, forcing the young ones to lick milk from the mother's body surface and potentially making them vulnerable to micro-organisms.
- However, nature protects its own. The milk of the echidna has a protein that can puncture the cell membranes of multiple bacterial species, thus destroying the source of infection. It can then be used to fight infections.



https://d39gegkjaqduz9.cloudfront.net/TH/2019/04/25/DEL/Delhi/TH/5_18/cae181a8_2894254_1_mr.jpg

- The scientist pointed out that there is a rise of superbugs due to the indiscriminate use of antibiotics by the animal husbandry industry to raise livestock.
- The superbugs can cause mastitis, an infection of the mammary gland, in dairy animals.
- The team has been able to show that the protein from echidna milk is effective against mastitis-causing bacteria.

CCMB working on cell-based meat

Part of: GS Prelims and Mains III – Environment and conservation; Science and Technology; Food security

In news:

- The country's first project to research on cell-based meat, also called clean meat, would be taken up at the **Centre for Cellular and Molecular Biology (CCMB)**.
- **Department of Biotechnology (DBT)** decided to give ₹4.5 crore for the two-year work as the initial grant.
- The **National Research Centre on Meat** would partner with the CCMB in the pioneering work to develop cultured meat, which is said to be equivalent to conventional animal meat in terms of taste and feel, with the only difference being in the method of production.

- **Clean meat** would be **produced through cellular agriculture** with cells **sourced from animals and cultivated into meat**. Hence, it promises to revolutionise the food system by providing protein without harming the environment.
- The **Atal Incubation Centre of the CCMB** is working towards promoting clean meat sector. It aims to feed 10 billion people by 2050 by creating a platform for tasty, affordable protein.

Do you know?

- Cell-based meat companies across the world are receiving significant government support, with the governments of Netherlands, Japan and Israel among others investing in clean meat companies.
- Additionally, the regulatory authorities of countries like the US are deliberating on the path to market these products. These efforts reflect the potential of the clean meat sector to provide future generations with sustainable nutrition.

Bt brinjal being grown in Haryana: activists

Part of: GS Prelims and Mains III – Environment and conservation; Science and Technology; Food security

In news:

- Genetically modified (GM) brinjal is being illegally grown in the Fatehabad district of Haryana, according to anti-GM activists.
- They demanded that Central and State regulatory agencies immediately take action to stop the cultivation, investigate the spread of the illegal variety and destroy all such crops, seeds and saplings as dangerous biohazards entering the food chain.

Do you know?

- Brinjal has been genetically modified by inserting a protein gene from the soil bacterium **Bacillus thuringiensis** to give protection against certain pests.
- Bt Brinjal, which was developed in India by Maharashtra-based seed company Mahyco, was on the verge of becoming India's first GM food crop, when the Genetic Engineering Appraisal Committee cleared it for commercialisation in 2009, before doubts about the long-term impact on consumer health and plant biodiversity led the then Environment Minister to slap an indefinite moratorium on the crop.

[China announces plan to build moon station in 10 years](#)

Part of: GS Prelims – International affairs; Science and Technology; Space missions

In news:

- China plans to send a manned mission to the moon and to build a research station there within the next decade.
- China aims to achieve space superpower status and took a major step towards that goal when it became the first nation to land a rover on the far side of the moon in January.
- It now plans to build a scientific research station on the moon's south pole within the next 10 years.
- Beijing plans to launch a Mars probe by 2020 and confirmed that a fourth lunar probe, the Chang'e-5, will be launched by the end of the year.

[Genes of climate-resistant chickpea varieties identified](#)

Part of: GS Prelims and Mains III – Science and Technology

In news:

- An international team led by the Hyderabad-based **International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** has identified in chickpea four important genes for heat tolerance and three important genes for drought tolerance.
- With rising temperatures and increasing climatic fluctuations due to climate change, the identification of these genes will help in developing newer chickpea varieties that can tolerate temperatures up to 38°C.
- Also, the identification of other genes with useful traits will help in increasing the yield and providing better resistance to pests and diseases.

Do you know?

- The study was based on complete genome sequencing of 429 chickpea lines from 45 countries.
- More than 90% of chickpea cultivation area is in South Asia, including India.
- Globally, more than 70% yield is lost due to drought and increasing temperatures.
- Chickpea is a cool season crop, so in general any further increase in temperature is expected to further reduce the yield.
- The study has found that chickpea originated in the Mediterranean/south-west Asia and migrated to south Asia.

- It reached India about two centuries ago, apparently through Afghanistan. In parallel, it migrated from the Mediterranean to east Africa and central Asia.
- The study provides insights into chickpea's genetic diversity and domestication too.



DEFENCE/INTERNAL SECURITY/SECURITY

Army gets Dhanush artillery guns

Part of: GS Prelims and Mains III – Defence and Security issues

In news:

- The Ordnance Factory Board (OFB) over the first batch of six Dhanush artillery guns to the Army.
- **Dhanush is the indigenously upgraded version** of the **Swedish Bofors gun** procured in the 1980s.
- Dhanush is a 155 mm, 45-calibre towed artillery gun with a range of 36 km and has demonstrated a range of 38 km with specialised ammunition.
- It is an upgrade of the existing 155m, 39 calibre Bofors FH 77 gun. It is compatible with all North Atlantic Treaty Organisation (NATO) 155 mm ammunition system.

Do you know?

- The gun is fitted with inertial navigation system with global positioning system- (GPS) based gun recording and auto-laying, an enhanced tactical computer for onboard ballistic computations, an onboard muzzle velocity recording, an automated gun sighting system equipped with camera, thermal imaging and laser range finder.
- All 114 guns are expected to be delivered within four years.
- The OFB has already undertaken capacity augmentation to manufacture over 400 barrels and 250 ordnances for large calibre weapon systems.

Maoist-prone Odisha districts put on alert

Part of: GS Mains III – Security issues; Internal Security; Extremism

In news:

- Collectors, superintendents of police (SP) and candidates contesting elections in Maoist-prone Odisha districts have been alerted, in the wake of the Maoist landmine blast in Dantewada district that killed five persons, including a MLA.
- Malkangiri, Koraput, Rayagada, Nabarangpur, Kalahandi, Nuapada and Gajapati districts have Maoist presence and border Maoist-prone regions of Chhattisgarh and Andhra Pradesh.
- The Border Security Force has been entrusted with election security duty in Odisha for the first time.

[Report reveals growing risk to cloud platform](#)

Part of: GS Prelims and Mains III – Security issues; Cyber Security

In news:

According to a report '**Exposed: Cyberattacks on Cloud Honeypots**' conducted by global cyber-security major Sophos –

- Cybercriminals attempted attacks on a cloud server honeypot more than 6,78,000 times in a month, which was second to Ohio in the U.S. that recorded more than 9,50,000 login attempts, among a total of 10 honeypots placed globally.
- The honeypots were set up in 10 of the most popular Amazon Web Services (AWS) data centres in the world, including California, Frankfurt, Ireland, London, Ohio, Paris, Sao Paulo, Singapore and Sydney over a 30-day-period from mid-January to mid-February.

Do you know?

- A honeypot is a system intended to mimic likely targets of cyber-attackers for security researchers to monitor cybercriminal behaviour.
- The result demonstrates how cybercriminals are automatically scanning for weak open cloud buckets.
- Cloud servers were subjected to 13 attempted attacks per minute, per honeypot, on an average.
- With businesses across the globe increasingly adopting cloud technology, the report revealed the extent to which businesses migrating to hybrid and all-cloud platforms are at risk.

[Plea to remove dual control of Assam Rifles](#)

Part of: GS Prelims and Mains II and III – Governance issues; Defence or Security issues

In news:

- The Delhi High Court has sought response from Cabinet Secretary, Government of India, on a petition seeking directions to bring the Assam Rifles out of the dual control of the Union Home Ministry and the Defence Ministry (MoD).

Do you know?

- The Assam Rifles (AR) is a Central Para Military Force (CPMF) along with two other forces — Special Frontier Force and Coast Guard.
- However, only the Assam Rifles functions under the administrative control of the Union Home Ministry.

Udhampur-Baramulla highway ban and its impacts

Context:

- Recently the Jammu & Kashmir Home Department issued the ban on civilian traffic for two days a week on the 271-km stretch of National Highway 44 between Udhampur in Jammu and Baramulla in Kashmir, which came into force on April 7.
- The ban, which is to last till May 31, is supposedly to enable the orderly conduct of the Lok Sabha elections in Jammu and Kashmir, in the light of the tragic February 14 suicide attack on a CRPF convoy on NH 44 at Pulwama, that killed 40 personnel.
- On Sundays and Wednesdays, between 4 a.m. and 5 p.m., only pre-determined categories of civilian traffic will be allowed on the highway with clearance from the authorities.
- For the rest of the time, the highway will be given over to the movement of troops. As a measure to prevent another Pulwama-type attack.
- However the ban is draconian in nature and ill advised.

Why the ban is draconian in nature and ill advised?

1. Because of the criticality of the Highway:

- **NH 44 is the lifeline of the State**, it is vital to move goods (including perishable agricultural produce), and along it lie many educational and medical institutions.
- The national highway is not just the only road link that connects Kashmir to the outside world but also the key highway that connects Srinagar with the southern and northern districts of the Valley.
- Therefore a ban means a virtual lockdown of the Valley for two days every week.
- In many cases, avoiding the stretch would greatly multiply the time and distance between two points.

2. Against the principle of Good Governance and Rights of Citizens:

- Though, the government is at pains to emphasise that exceptions are in place for those in medical emergencies, lawyers, doctors, tourists, government employees, students, and so on.

- But such a system of permits and bans militates against the freedom of movement at the heart of a democratic society.
- To be sure, even before the ban, civilian traffic has not moved on the highway unfettered by checks. Such is the security challenge in J&K.
- But to officially segregate civilian traffic is to put people's lives at the mercy of a calendar, and to invite confusion about the organising principles of Indian troop deployment.
- The restrictions violate Articles 14, 19 and 21 of the Constitution.

Will further alienate Kashmiris:

- The ban also positions the administration against the people, as has become clear from the political and legal challenges to the traffic restrictions.
- In a State that is already under President's Rule, it has pushed the political class and the administration farther apart.
- Overall it further increased the feeling of alienation of Kashmiris with the mainstream India.

Way Ahead:

- It is important to double up security protocol while achieving Good Governance.
- The Pulwama attack was a wake-up call about the security drills in place to prevent terrorist strikes. It demanded an appraisal, so that the lives of soldiers and civilians alike can be secured.
- However, to throw civilians out of gear — as they were on the first day of the highway ban, on April 7 — defies logic.

The effect of any response to the Pulwama attack ought not to be an increased alienation that places troops and local people in an us-versus-them timetable. It must, instead, be a doubling up of the security protocol to make life more secure and hassle-free for civilians and soldiers alike.

C-295 plane deal in final stages

Part of: GS Prelims and Mains III – Defence; Science and Tech

In news: Major IAF deals pending approval

- **C-295 transport aircraft:** Negotiations for the C-295 deal have been completed. However, the deal needs clearance from the Defence Acquisition Council (DAC) as there

In news:

- India successfully test-fired its first indigenously designed and developed long-range sub-sonic cruise missile 'Nirbhay' from a test range in Odisha.
- It is capable of loitering and cruising at 0.7 Mach at altitude as low as 100 metres, covered the designated target range in 42 minutes and 23 seconds.
- The flight test achieved all the mission objectives, right from lift off till the final splash, boosting the confidence of all the scientists associated with the trial, sources said, adding it has an engine with rocket booster and turbofan/jet.
- The last successful trial of the missile was conducted on November 7, 2017.

International Fleet Review

In news:

- Indian Navy has sent two ships to take part in the **International Fleet Review** to be held in **Qingdao, China**.
- The ships are **stealth destroyer INS Kolkata** and **fleet tanker INS Shakti**.

Do you know?

- Pakistan's Navy is not taking part in the event.
- The Indian Navy had last held an International Fleet Review in February 2016, in which 50 navies of different countries took part with nearly 100 warships.

Army invokes emergency powers for missile deal

Part of: GS Prelims III – Defence; Security

In news:

- The Army is in the process of procuring **Spike-LR Anti-Tank Missiles from Israel** and **Igla-S Very Short Range Air Defence Systems (VSHORAD) from Russia** through a set of new financial powers for emergency procurements sanctioned by the Defence Ministry earlier this month.
- Under the latest emergency financial powers, armed forces have been given a free hand to procure equipment worth up to ₹300 crore on a priority basis.

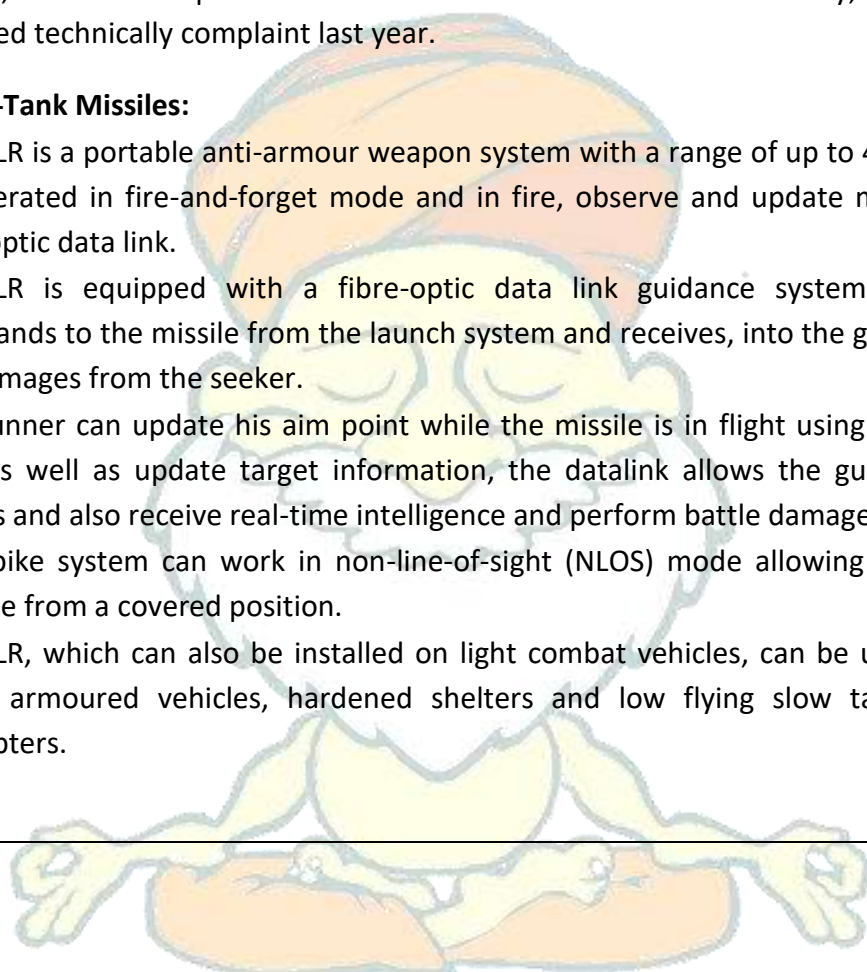
- The Request for Proposal (RFP) for the two deals have been issued and negotiations are ongoing. Entirely new systems not in use can also be procured under the new powers.
- Under the emergency route, the Army is looking to procure about 12 launchers and around 250 missiles for each system.

VSHORAD deal

- The deal for VSHORAD, to replace the legacy Igla systems in service, began in 2010 and has since seen several trials and re-trials with three contenders in the fray — MBDA of France, Rosoboronexport of Russia and SAAB of Sweden. Eventually, all three were declared technically complaint last year.

Spike-LR Anti-Tank Missiles:

- Spike-LR is a portable anti-armour weapon system with a range of up to 4km, which can be operated in fire-and-forget mode and in fire, observe and update mode using the fibre-optic data link.
- Spike-LR is equipped with a fibre-optic data link guidance system, which sends commands to the missile from the launch system and receives, into the gunner's field of view, images from the seeker.
- The gunner can update his aim point while the missile is in flight using the fibre-optic link. As well as update target information, the datalink allows the gunner to switch targets and also receive real-time intelligence and perform battle damage assessment.
- The Spike system can work in non-line-of-sight (NLOS) mode allowing the gunner to operate from a covered position.
- Spike-LR, which can also be installed on light combat vehicles, can be used to engage tanks, armoured vehicles, hardened shelters and low flying slow targets such as helicopters.



ETHICS

India's twisted moral compass

Context:

- The Indian community in other countries is admired for its success. Our civilizational achievements underscore our capabilities. Yet, India lags far behind the developed world on various parameters of success.
- We are a nation where we have so many corrupt politicians and intelligent people defending them; where our business organizations commonly follow immoral practices and a society with twisted moral compass.

Based on ancient texts that form part of the basis of Indian civilization, moral clarity ought to be our strength.

- The discourse between Arjuna and Krishna (in the ***Gita***) emphasizes doing one's duty—dharma—even if it means going to war against one's family.
- In ***Ramayana***, Ram has many dharmas—that of a king, husband and son—with a clear hierarchy among them.
- The dharma of a king takes priority for a king over his dharma as a husband and father. The emphasis on dharma aims to **encourage principle-centric behaviour**.
- Vibhishana followed dharma and chose the side of good over evil. He even betrayed his brother.

However, today, in the hierarchy of moral values, we consider loyalty towards family, friends and society as the most important—something **not entirely consistent with the teachings in our ancient texts**.

What are the major factors that have led to reshuffling of hierarchy of values (between ancient times and now)?

- Among many factors, one major factor for the above change can be attributed to “loyalty” towards the community and caste given highest value, over all others.
- For any society, survival is paramount. For survival, loyalty towards the community becomes critical.
- Over time, because of numerous invasions by external forces, loyalty must have been recognized and rewarded, which must have resulted in the consolidation of **loyalty as the highest value, over all others**. Only after loyalty is accounted for would other values kick in.

The caste system could be one example.

- Though we don't live under an existential threat any longer, **our culture seems to have internalized our misplaced priorities.**
- We see intelligent people defending the indefensible simply because the culprit happens to be their leader or from their community. For them, the good of the country comes after loyalty obligations are satisfied.
- Ideally, we should first root for the country and then support appropriate individuals.
- In the business world too, one should analyse a company's strategy with ethical conduct as a consideration. Loyalty to the firm should come later.

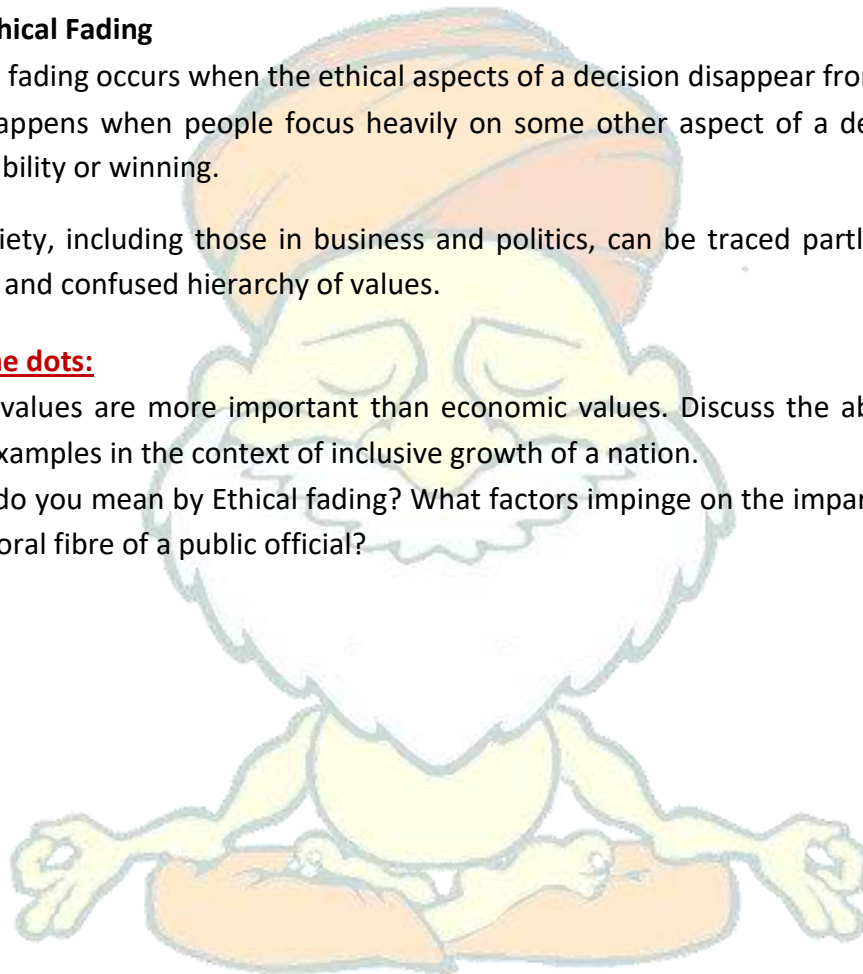
Concept of Ethical Fading

- Ethical fading occurs when the ethical aspects of a decision disappear from view.
- This happens when people focus heavily on some other aspect of a decision, such as profitability or winning.

Ills in our society, including those in business and politics, can be traced partly to this above ethical aspect and confused hierarchy of values.

Connecting the dots:

- Social values are more important than economic values. Discuss the above statement with examples in the context of inclusive growth of a nation.
- What do you mean by Ethical fading? What factors impinge on the impartial functioning and moral fibre of a public official?



PERSON IN NEWS

Person in news	Description
1. Vikram Patel	<p>Why in news?</p> <ul style="list-style-type: none"> Vikram Patel, a psychiatrist and professor of global health at Harvard Medical School, has won the prestigious John Dirks Canada Gairdner Global Health Award. Mr. Patel has led research generating knowledge on the burden and determinants of mental health problems in low and middle-income countries and pioneered approaches that use community resources for the prevention and treatment of mental health problems in India with global impact, a press release said. Laureates receive a \$100,000 cash honorarium and will be formally presented with their awards on October 24, 2019 at the annual Canada Gairdner Awards Gala in Toronto.
2. UAE's top honour for PM Modi	<p>In news:</p> <ul style="list-style-type: none"> UAE President Khalifa bin Zayed Al Nahyan has awarded Prime Minister Narendra Modi the country's highest civilian award, 'the Order of Zayed'. Previous recipients of the Order of Zayed include Russian President Putin, Chinese President Xi Jinping, British Queen Elizabeth II, and former Pakistan President Musharraf. <p>Do you know?</p> <p>On the similar lines, PM Modi has been honoured with various awards and accolades since the time of taking the hold of premiership of the country in 2014.</p> <ul style="list-style-type: none"> PM Narendra Modi was conferred (on January 14, 2019) with the first-ever Philip Kotler Presidential Award. (https://thewire.in/business/modi-wins-first-ever-philip-kotler-presidential-award-but-what-is-it-exactly) The Seoul Peace Prize Committee on October 24, 2018 conferred the 2018 Seoul Peace Prize on Prime Minister Narendra Modi, for his contribution to international cooperation and fostering global economic growth. Prime Minister Narendra Modi was on September 26, 2018

	<p>awarded with the prestigious UN Champions of the Earth Award 2018, the highest environmental honour of the United Nations.</p> <ul style="list-style-type: none"> • Prime Minister Narendra Modi was on February 10, 2018 conferred with the 'Grand Collar of the State of Palestine' by Palestinian President Mahmoud Abbas, recognising his contributions in promoting relations between India and Palestine. • Prime Minister Narendra Modi was on June 4, 2016 conferred with the Amir Amanullah Khan Award, the highest civilian honour of Afghanistan. • Prime Minister Narendra Modi was on April 3, 2016 conferred with the Saudi Arabia's highest civilian honour 'King Abdulaziz Sash' by King Salman bin Abdulaziz at the Royal Court of Saudi Arabia.
3. WikiLeaks founder Julian Assange	<p>Why in news?</p> <ul style="list-style-type: none"> • WikiLeaks founder Julian Assange was arrested in London, after Ecuador abruptly revoked his seven-year asylum. • He is wanted for his involvement in one of the biggest-ever leaks of classified information.
4. PM Modi to get Russia's highest civilian award	<p>In news:</p> <ul style="list-style-type: none"> • Russia announced that President Vladimir Putin will confer its highest civilian award, the 'Order of the Holy Apostle Andrew the First', on Prime Minister Narendra Modi for his work on bilateral ties. • The order was presented to the Prime Minister of India for his distinguished contribution to the development of a privileged strategic partnership between Russia and India and friendly ties between the Russian and Indian peoples.
5. Yusuf Hamied	<p>Why in news?</p> <ul style="list-style-type: none"> • Scientist and businessman (Cipla chairman) Yusuf Hamied is among a host of Indian-origin experts honoured in the 2019 list of new fellows of the U.K.'s Royal Society. (top U.K. honour) • The Royal Society is an independent scientific academy of the U.K. and the Commonwealth, dedicated to promoting excellence in science. • Among the Indian-origin scientists elected as fellows this year are microbiologist Gurdyal Besra, mathematicians Manjul Bhargava

	and Akshay Venkatesh and health experts Gagandeep Kang and Anant Parekh.
6. Alfred Brownell	<p>Why in news?</p> <ul style="list-style-type: none"> • Alfred Brownell, an environmental lawyer and activist, is among six activists to be honoured ecology prize. • Mr. Brownell blamed the devastation on the palm oil company Golden Veroleum Liberia. • Mr. Brownell Environmental Prize for exposing alleged abuse by the company and helping to prevent it from converting about 50 km² of forest that is home to elephants, pygmy hippopotamuses and chimpanzees. • Mr. Brownell won the Goldman prize along with five others for grassroots environmental activism. <p>About Goldman prize</p> <ul style="list-style-type: none"> • The prize was created in 1989 by philanthropists Richard and Rhoda Goldman. • Winners are selected from nominations made by environmental organisations and others. • The prize carries a \$200,000 award. <p>The other winners are:</p> <ul style="list-style-type: none"> • Linda Garcia of Vancouver, Washington, who rallied local communities to successfully prevent the construction of North America's largest oil terminal. • Ana Colovic Lesoska of North Macedonia, whose seven-year campaign helped stop hydroelectric projects from being built in the country's largest national park. • Bayarjargal Agvaantseren of Mongolia, who led the fight to create the Tost Tosonbumba Nature Reserve. • Jacqueline Evans of the Cook Islands, whose work led to the conservation and sustainable management of all of the Cook Islands' ocean territory and creation of 15 marine protected areas. • Alberto Curamil of Chile, a jailed indigenous activist who had protested several hydroelectric projects in the country.

MISCELLANEOUS

In News	Description
1. BSNL gets licence for WiFi on flights	<p>In news:</p> <ul style="list-style-type: none"> State-owned telecom service provider BSNL has received licence from the Department of Telecommunications to provide Internet and mobile services on flights. BSNL and its satellite partner, Inmarsat, will be able to offer in-flight connectivity to airlines later this year. The DoT had notified its rules in December allowing airlines flying within and transiting through India to provide Internet and voice services on mobile phones along with an Indian telecom operator or licensee. According to the rules, passengers can make phone calls or use Internet when a flight is at a minimum height of 3,000 m in Indian airspace to avoid interference with terrestrial mobile networks. <p>Do you know?</p> <ul style="list-style-type: none"> South Korea first to roll out 5G services, beating U.S. and China.
2. AI robots may assist soldiers in the future	<ul style="list-style-type: none"> Scientists in the U.S. are developing artificial intelligence (AI) systems that could help robots assist soldiers in the battlefield in future.
3. Literary works in news:	<ul style="list-style-type: none"> Abul Fazl : : Ain-e Akbari Jahangir : : Tuzk-e-Jahangiri <p>Ain-i-Akbari or the "Administration of Akbar", is a 16th-century detailed document recording the administration of the Mughal Empire under Emperor Akbar, written by his court historian, Abu'l Fazl.</p> <p>Do you know?</p> <ul style="list-style-type: none"> Abu'l Fazal, author of the Akbarnama, was one of the Nine Jewels of Akbar's royal court and the brother of Faizi, the poet laureate of emperor Akbar. <p>Tuzuk-e-Jahangiri or Tuzuk-i-Jahangiri is the autobiography of Mughal Emperor Nur-ud-din Muhammad Jahangir. It is also referred to as</p>

	Jahangirnama.
4. India becomes YouTube's largest and fastest growing market	With substantial growth in India's internet coverage and data growth, the country has become YouTube's largest and fastest growing market with 265 million Indians watching the video-sharing website every month.
5. Sudan President Bashir ousted by armed forces	In news: <ul style="list-style-type: none"> President Omar al-Bashir, who ruled Sudan for 30 years, was overthrown and arrested by the armed forces. Sudan Defence Minister declared state of emergency, saying country will be under military rule for 2 years.
6. World's largest plane makes first test flight	<ul style="list-style-type: none"> The world's largest aeroplane — with two fuselages and six Boeing 747 engines — made its first test flight on 14th April, 2019 in California. The mega jet, called Stratolaunch, carried out its maiden voyage over the Mojave desert. It is designed to carry into space, and drop, a rocket that would in turn ignite to deploy satellites. It is supposed to provide a more flexible way to deploy satellites than vertical takeoff rockets because this way all that is needed is a long runway for takeoff. <p>Do you know?</p> <ul style="list-style-type: none"> Stratolaunch was financed by Paul Allen, a co-founder of Microsoft as a way to get into the market for launching small satellites. But Allen died in October of last year.
7. Medicine labels in regional language	In news: <ul style="list-style-type: none"> In order to counter fake, sub-standard and expired drugs, the Union Health Ministry plans to label medicines in Hindi and regional language. Drug names and expiry date will be in Hindi/regional language.
8. 205 rail projects report cost overrun of ₹2.21 lakh crore	<p>According to a latest flash report of the Statistics and Programme Implementation Ministry (MOSPI) –</p> <ul style="list-style-type: none"> Indian Railways accounts for nearly three-fifths of 344 Central sector projects that are facing huge cost overruns due to delay in implementation for various reasons. Around 205 rail projects report cost overrun of ₹2.21 lakh crore.

	<ul style="list-style-type: none"> After the Railways, the power sector reported the second highest incidence of overall cost overrun. <p>Do you know?</p> <ul style="list-style-type: none"> The MOSPI monitors Central sector projects involving an expenditure of ₹150 crore and above.
9. Maruti to dump 'dirty' diesel models from 2020	<p>In news:</p> <ul style="list-style-type: none"> Maruti Suzuki, which is the largest car maker in the country, plans to stop manufacturing diesel-powered vehicles from the next financial year. It cited uncertainty over demand for such vehicles due to "significant" increase in price once the new BS VI emission norms kick in. There have been efforts to ban diesel vehicles older than 10 years and environmental activists say that diesel is a more polluting fuel.
10. Karnataka's Ishad mango is becoming rare	<p>In news:</p> <ul style="list-style-type: none"> Karnataka's local mango variety called Ishad, the pulp of which has been extracted for over a century for making value-added products, is facing the threat of becoming rare in its homeland, Ankola. Reason for this - competition from hybrid varieties. The production of pulp dropped from 20,000 tins a year a decade ago to between 10,000 to 12,000 tins now, owing to shortage of mangoes, as the trees are becoming rare. The mango has two variants — Kari Ishad, which has thin skin, more pulp and is sweeter, and Bili Ishad, which has thick skin and has less pulp and sweetness.

(TEST YOUR KNOWLEDGE)

Model questions: (Answers are provided at the end)

Q.1) Which of the following statements correctly explains the term 'Arachnology'?

- a) It is a study of inscriptions on pillars, rocks and buildings
- b) It is the study of geometric designs
- c) It is the study of mythology and relating it with history
- d) It is the study of spiders and related animals

Q.2) Which of the following is NOT the example of Arachnids?

- a) Crab
- b) Spider
- c) Scorpio
- d) Ticks

Q.3) Consider the following statements with reference to Bioprospecting:

1. Bioprospecting is one of the examples of Bioremediation.
2. It is the process of using organisms to neutralize or remove contamination from waste.
3. It deals with the exploration of biological material for commercially valuable genetic and biochemical properties.

Which of the statements given above is/are correct?

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

Q.4) Pancheshwar Multipurpose Project (PMP) is located on –

- a) River Mahakali
- b) River Alaknanda
- c) River Bhagirathi
- d) River Mandakini

Q.5) Consider the following statements about space debris

1. Collisions among debris can lead to Kessler syndrome.
2. Till date there is no inter-governmental mechanism to deal with the space debris problem.

Which of the statements given above is/are correct?

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

Q.6) Which of the below given statement is not true about International Space Station (ISS)?

- a) It is in low Earth orbit
- b) It can often be seen with the naked eye from Earth
- c) It serves as a microgravity and space environment research laboratory
- d) It consists of 5 countries namely, Canada, Japan, the Russian Federation, the United States, and China

Q.7) Brane Crafts is

- a) A commercial high-resolution optical imaging Earth observation satellite system operating from space
- b) An American expendable launch system
- c) A series of geostationary communications satellites owned by European Space Agency
- d) An ultra-thin spacecraft that can remove space debris

Q.8) Consider the following statements with reference to Ballistic Missile Defence (BMD) program:

- 1. It is a two-tiered system consisting of land and sea based interceptor missiles.
- 2. It includes Prithvi Air Defence (PAD) missile for low altitude interception, and the Advanced Air Defence (AAD) Missile for higher altitude interception.

Which of the statements given above is/are correct?

- a) Only 1
- b) Only 2
- c) 1 and 2
- d) None

Q.9) LEMOA, GSOMIA, COMCASA and BECA are often in news. It deals with –

- a) Four foundational agreements that helps the U.S. to intensify its defence cooperation with a partner nation.
- b) Super Computers developed by NASA.

- c) Trade Agreements that help India and Italy to augment collaboration in areas of mutual benefit.
- d) 4 approaches suggested for India-China ties.

Q.10) Consider the following statements

- 1. India and the US recently signed Communications Compatibility and Security Agreement (COMCASA)
- 2. U.S. Pacific Command (PACOM) was recently renamed Indo-Pacific Command (INDOPACOM)

Which of the above statement[s] is/are correct?

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

Q.11) Consider the statements regarding 'Coral bleaching'

- 1. It is the loss of zooxanthellae through either expulsion or loss of algal pigmentation.
- 2. It happens due to increase in ocean temperature only
- 3. All the corals undergoing bleaching are dead corals

Select the correct code

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

Q.12) Coral bleaching can occur due to which of the following reasons?

- 1. Elevated sea temperatures

2. High sediment loading in the ocean
3. Increased solar irradiance
4. Ocean acidification

Select the correct answer using the codes below.

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

Q.13) Consider the below statements:

1. The World Happiness Report is an annual publication of the United Nations Sustainable Development Solutions Network.
2. As of March 2019, Finland tops the rankings, while South Sudan is at the bottom.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Q.14) Who among the following Mughal emperors did not write their own biographies?

1. Babur
2. Akbar
3. Humayun
4. Jahangir

Select the correct answer

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

Q.15) Consider the following with reference to Literature of Mughal period and identify the correct statement:

- a) Shah Jahan translated Bhagavad Gita and Upanishads into Persian language
- b) Tuzuk-I-Jahangiri was a biography written by Shah Jahan
- c) Akbar Nama and Ain-I-Akbari were written by Abul Faizi
- d) None of the above

Q.16) Consider the following statement:

1. Tuzuk-i- Jahangiri is an autobiography of Jahangir.
2. Iqbalnama-i- Jahangir was written by Abdul Qadir Badayoun.

Which of the given statement/s is/are correct?

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None of the above

Q.17) Thilafushi island was in news. It is situated in –

- a) Mauritius
- b) Maldives
- c) Fiji
- d) Ecuador

Q.18) Mission Shakti is associated with –

- a) India and Sri Lanka
- b) India and Maldives
- c) India and US
- d) None of the above

Q.19) Consider the following statements with reference to The National Institutional Ranking Framework (NIRF)

1. It is a methodology to rank institutions of higher education across India.
2. The ranking is prepared by NITI Aayog.

Which of the statements given above is/are correct?

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

Q.20) Consider the following statements with regard to India and IMF:

1. India is the founder member of the IMF and also among the top 10 members of IMF
2. India was among the first five nations having the highest quota with IMF and due to this status India was allotted a permanent place in Executive Board of Directors.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Q.21) Which of the following agencies releases "Global Economic Prospect report"?

- a) World Bank
- b) World Economic forum
- c) IMF

d) OECD

Q.22) Which of the following Central Armed Police Force has the motto, "Duty Unto Death"?

- a) CISF
- b) CRPF
- c) ITBP
- d) BSF

Q.23) Section 498A of IPC has been in the news for quite some time for its increasing misuse. It deals with which of the following cases?

- a) Domestic violence
- b) Sedition
- c) Anti-National Activity
- d) Martial Law

Q.24) Which of the following statements is/are correct?

1. The crowd gathered in Jallianwala Bagh in support of non-cooperation movement.
2. Rabindranath Tagore renounced his knighthood in protest against Jallianwala Bagh incident.

Select the correct code

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None of the above

Q.25) Mahatma Gandhi began a Fast unto death in Yerwada jail to protest against

- a) Separate electorate to Muslims
- b) Jallianwala Bagh Massacre
- c) Communal riots in Calcutta

- d) Communal Award by Ramsay McDonald

Q.26) Consider the following events:

1. Kheda Satyagraha
2. Champaran Satyagraha
3. Jallianwala Bagh Massacre
4. Non Cooperation

Their correct chronological sequence is

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

Q.27) With relation to Space, 'Redshift theory' explains which phenomenon

- a) Expansion of the Universe
- b) Formation of black hole
- c) Death of a star
- d) Presence of Sun like star

Q.28) A black hole is a place in space where gravity pulls so much that even light cannot get out. The gravity is so strong because matter has been squeezed into a tiny space. This can happen when a star is dying. Is it possible for the sun (a star) to become a black hole?

- a) Yes it is possible but reason is not known
- b) No it is not possible because the Sun is too small in mass
- c) No it is not possible because the Sun is too large in mass
- d) There is no relation between star and black hole

Q.29) Consider the following about Black Hole

1. A black hole is a place in space where gravity pulls so much that even light cannot get out.
2. Black Holes can be seen through naked eyes

Which of the given statement/s is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Q.30) Which of the following space observatories observed the eclipse of a black hole for the first time, in April 2007?

- a) Kepler
- b) Hubble space telescope
- c) Chandra x-ray observatory
- d) Spitzer Space Telescope

Q.31) Dabhol power project which was in news recently is located in -

- a) Gujarat
- b) Maharashtra
- c) Bihar
- d) Jharkand

Q.32) India's National Solar Mission is covered under National Action Plan Climate Change. Which of the following statements are correct regarding India's National Solar Mission?

1. The target is to achieve 100 GW solar power capacity till 2022.
2. The target comprises of rooftop projects as well as through large and medium scale Grid connected Solar Power Projects.

3. Under National Solar Mission, Indian Railways plans to commission 1000MW solar power plants across its networks.

Select the code from below:

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.33) Solar power is the conversion of sunlight into electricity, either directly using photovoltaics (PV), or indirectly using concentrated solar power (CSP). Consider the following statements regarding Solar Power Technology:

- 1. Concentrated Solar power use infrared radiations to heat the water and rotate turbines with the generated steam.
- 2. Concentrated Solar Power systems generally use a huge convex lens to concentrate energy at its focus.

Which of the above statements are correct?

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

Q.34) Consider the following statements regarding 'Electoral Bonds':

- 1. A citizen of India or a body incorporated in India will be eligible to purchase the bond
- 2. It will not carry the name of the payee

3. They can be used for making donations only to the political parties

Which of the above statements are correct?

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.35) Which among the following helps to clean up oil spill in open sea or ocean?

- 1. Chemical dispersants
- 2. Biodegradation
- 3. Bioremediation
- 4. Bacteria

Choose the appropriate answer:

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

Q.36) The term 'oil zapper' is concerned with

- a) Remediation of oily sludge and oil spills
- b) Under-sea oil exploration
- c) Genetically engineered high biofuel yielding maize variety
- d) Technology to control the accidentally caused flames from oil wells

Q.37) Consider the following statements:

- 1. The Challenger Deep in the Mariana Trench is the deepest known point in Earth's oceans.

2. Deep ocean trenches occur most along subduction zones.
3. Mariana Trench resulted from the Philippine Plate subducting under the Pacific Plate.

Which of the statements given above is/are correct?

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

Q.38) Consider the following about Yangtze giant softshell turtles:

1. They are extremely rare species of softshell turtle found only in China.
2. It is listed as critically endangered in the IUCN Red List.

Which of the statements given above is/are correct?

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

Q.39) Consider the following statements and identify the incorrect one –

- a) World Health Day is celebrated every year on 7th April, under the sponsorship of the World Health Organization (WHO).
- b) 2019 WHD Theme: Universal Health Coverage: : everyone, everywhere
- c) UN SDG has set a target that all countries must achieve UHC by 2030.
- d) None of the above

Q.40) Most Favoured Nation (MFN) clause under WTO regime is based on the principle of

- a) Non discrimination between the member nations
- b) Differential treatment between the locals and foreigners
- c) Uniform tariffs across commodities
- d) Top status in its strategic dealings

Q.41) A massive project to sequence, catalog and analyze the genomes of all eukaryotic species on the planet. The project is

- a) Human Genome Project
- b) Human Genome Project-write
- c) Earth BioGenome project
- d) Eukaryotic-Genome Project

Q.42) Consider the following statements with regard to Human Genome Project (HGP):

1. Goal of the project was complete mapping and understanding of all the genes of human beings.
2. The potential benefits of HGP include providing new solutions to diseases like malaria, dengue and chikungunya.
3. A group of scientists from India recently proposed an ambitious project named as Human Genome Project-Write (HGP-Write) to create a genetic blueprint or synthetic human genome.

Which of the statements given above is/are correct?

- a) 1 only

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

Q.43) Consider the below statement with regard to human genome sequencing:

1. India is among the league of countries who have demonstrated the capability of mapping all the genes of a human.
2. The world's first human genome sequence was completed in 2003 by the International Human Genome Project, in which Indian scientists had also participated.

Which of the statements given above is/are correct?

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

Q.44) Consider the following regarding Universal Adult Franchise

1. The elections to the House of the People and to the Legislative Assembly of every State follows adult suffrage
2. Our Constitution which provides for Universal adult suffrage was drafted by a Constituent Assembly that was composed of members elected by restricted franchise
3. The Motilal Nehru report of 1928 advocated unlimited adult franchise and equal rights for women

Which of the given statements is/are correct?

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

Q.45) Article 326 of the Indian Constitution is associated with

- a) Bar to interference by courts in certain disputes
- b) Universal Adult Suffrage
- c) Discretionary power of President
- d) Original jurisdiction of Supreme Court

Q.46) Which of the following statements is/are incorrect regarding Kigali agreement?

1. It aims to phase out Chloro fluorocarbons (CFC) by the late 2040s.
2. It is non-binding agreement similar to Paris agreement.
3. It has provisions for penalties for non-compliance.
4. Under it developed countries will provide funding support globally.

Choose the appropriate code

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

Q.47) Consider the following statements about 'Kigali amendment to the Montreal Protocol'

1. It is legally binding

2. According to the amendment, India will start to phase down Hydrofluorocarbons (HFCs) by 2019 and reduce it to 15% of 2012 levels by 2036

Select the correct statements

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

Q.48) Consider the following statements with reference to the CRISPR

- 1. It is a naturally occurring defence mechanism in bacteria.
- 2. CRISPR-Cas9 technique can be used to cut DNA at specific location.

Which of the statements given above is/are correct?

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

Q.49) Consider the following statements about CRISPR-CAS9

- 1. It is a genome editing technique that can edit DNA at precise locations.
- 2. It does not modify genes permanently and they can revert back to their original state.

Which of the statements above is/are correct?

- a) Only 1
- b) Only 2
- c) 1 and 2
- d) None

Q.50) The theme of Earth Day 2019 is –

- a) “End Plastic Pollution”
- b) “Protecting the planet’s species diversity”
- c) “Beat Plastic Pollution”
- d) "Nature for Water" – exploring nature-based solutions to the water challenges we face in the 21st century.

Q.51) Which of the following with reference to process of removal of Supreme Court judges are correct?

- 1. The process for removal of other Supreme Court judges and Chief Justice of India is different.
- 2. A judge can only be removed on the grounds of proved misbehavior or incapacity.
- 3. The motion for removal must be supported by a special majority of each House of Parliament.

Select the correct answer using code below

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

Q.52) The “Heavenly Palace” which is expected to go into orbit in 2022 is associated with which country?

- a) United States of America
- b) India
- c) Russia
- d) China

Q.53) ‘London Interbank Offer Rate (LIBOR)’ is computed for which of the following currencies?

1. Euro (EUR)
2. Japanese yen (JPY)
3. Pound sterling (GBP)
4. Canadian dollar (CAD)
5. Swedish krona (SEK)
6. Swiss franc (CHF)

Select the correct code:

- a) 1, 2 and 3 Only
- b) 1, 2, 3 and 6 Only
- c) 3, 5 and 6 Only
- d) All of the above

Q.54) Monotremes are a subdivision of mammal. The unique feature of Monotremes is

- a) They don't have hair on their skin.
- b) They lay eggs instead of giving birth.
- c) They don't have sweat glands.
- d) They fertilise the egg outside the female's body.

Q.55) Echidnas are robust creatures and found in various environments. Which of the following statements are correct regarding Echidnas?

1. They usually have much lower body temperatures than other mammals
2. Their back feet point backwards which help them to dig burrows.
3. They lay eggs but keep their young ones in the mother's pouch.

Select the code from below:

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.56) Consider the following statements about Echidna

1. They have spines like a porcupine
2. They are Marsupials
3. They are only found in Central India

Select the incorrect statements

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.57) Which of the following can be found as pollutants in the drinking water in some parts of India?

1. Arsenic
2. Fluoride
3. Formaldehyde
4. Sorbitol
5. Uranium

Select the correct answer using the codes given below:

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

Q.58) A genetically engineered form of brinjal, known as the Bt-brinjal, has been developed. The objective of this is (2011)

- a) To make it pest-resistant
- b) To improve its taste and nutritive qualities
- c) To make it drought-resistant
- d) To make its shelf-life longer

Q.59) Other than resistance to pests, what are the prospects for which genetically

engineered plants have been created? (2012)

1. To enable them to withstand drought
2. To increase the nutritive value of the produce
3. To enable them to grow and do photosynthesis in spaceships and space stations
4. To increase their shelf life.

Select the correct answer using the codes given below:

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

Q.60) Genetic Engineering Appraisal Committee (GEAC) is the apex regulator of genetically modified seed. GEAC is established under the Ministry of

- a) Environment, Forest and Climate Change
- b) Science and Technology
- c) Agriculture & Farmers Welfare
- d) Trade and Commerce

Q.61) Transgenic plants are the ones

- a) Generated by introducing foreign DNA into a cell and regenerating a plant from that cell.
- b) Produced after protoplast fusion in artificial medium
- c) Grown in artificial medium after hybridization in the field
- d) Produced by a somatic embryo in artificial medium

Q.62) Consider the following statements about Sexual Harassment at Workplace Act, 2013

1. The Act uses a definition of sexual harassment which was laid down by the Supreme Court of India in Vishaka v. State of Rajasthan (1997).
2. It is compulsory for any organisation with 10 or more employees to set up an internal complaints committee for addressing complaints of sexual harassment.
3. It covers all women, across formal and informal employment, including clients, customers, domestic workers, contractual employees, volunteers, probationers, trainees, and interns.

Select the correct statements

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.63) Himas or Khasi kingdom was in news recently. They are associated with which of the following state?

- a) Meghalaya
- b) Assam
- c) Arunachal Pradesh
- d) Tripura

Q.64) Which among the following is considered to be the second largest Emperor penguin colony in the world?

- a) Weddell Bay colony
- b) Halley Bay colony

- c) Coulman Island colony
- d) Davis Bay colony

Q.65) Which among the following is the first State in the country where the WHO will collaborate for elimination of malaria?

- a) Bihar
- b) Uttar Pradesh
- c) Punjab
- d) West Bengal

Q.66) National Vector Borne Disease Control Programme (NVBDCP) is an umbrella programme for prevention and control of vector borne diseases. Vector borne diseases that are being targeted are:

1. Malaria
2. Dengue
3. Lymphatic Filariasis
4. Kala-azar

Which of the above options is/are correct?

- a) 1, 2 and 3 only
- b) 2, 3 and 4 only
- c) 1, 3 and 4 only
- d) All the above

Q.67) World Malaria Report is released by

- a) WHO
- b) Global Fund to Fight AIDS, Tuberculosis and Malaria
- c) Roll Back Malaria Partnership
- d) None of the above

Q.68) Consider the following pairs

Disease : : Pathogens

1. Tuberculosis : : Virus
2. Malaria : : Protozoa
3. Chicken pox : : Bacteria

Which of the pairs given above is/are correct?

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

Q.69) The new vaccine RTS,S is associated with -

- a) Malaria
- b) Tuberculosis
- c) HIV
- d) Dengue

Q.70) Health Ministries, NGOs and private sector representatives from 120 countries have signed the Moscow declaration of WHO. The target of declaration is

- a) To eradicate polio from the world till 2030
- b) To eradicate vector borne infections
- c) To eradicate Tuberculosis by 2030
- d) To end deaths by hunger in the world by 2030

Q.71) Consider the following statements about 'VAJRA' Scheme

1. It is an outreach programme, conceived to hook children early on to science and research.
2. Science and Engineering Research Board (SERB), a statutory body of the Department of Science and Technology will implement the Scheme

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2

d) Neither 1 nor 2

Q.72) Consider the following pairs

Passes : : Connects

1. Banihal : : Jammu and Srinagar
2. Zoji La : : Srinagar and Leh
3. Shipki La : : Himachal Pradesh and Tibet
4. Mana pass : : Uttarakhand and Tibet

Which of the above pairs is/are correctly matched?

- a) 1 only
- b) 2 only
- c) 1 and 3 only
- d) All the above

Q.73) A tunnel is being made near Zojila Pass in Jammu and Kashmir. Consider the following statements regarding the tunnel:

1. It will provide all weather connectivity between Srinagar, Leh and Kargil.
2. It will be Asia's longest bi-directional tunnel.
3. It will be executed by Ministry of road transport and Highway.

Which of the above statements are correct?

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.74) Consider the following statements regarding the passes of India:

1. Jalep La (Pass) is at the tri-junction of India-China-Bhutan.

2. The Palghat gap is located at the southern end of the Nilgiri hills in South India
3. Zoji La (Pass) is in the Zaskar range

Which of the following statements(s) is/are correct?

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

Q.75) Which of the following are preconditions for the formation of a tropical cyclone?

1. A low pressure center
2. High temperature
3. Presence of moisture
4. Absence of Coriolis force

Select the code from the following:

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

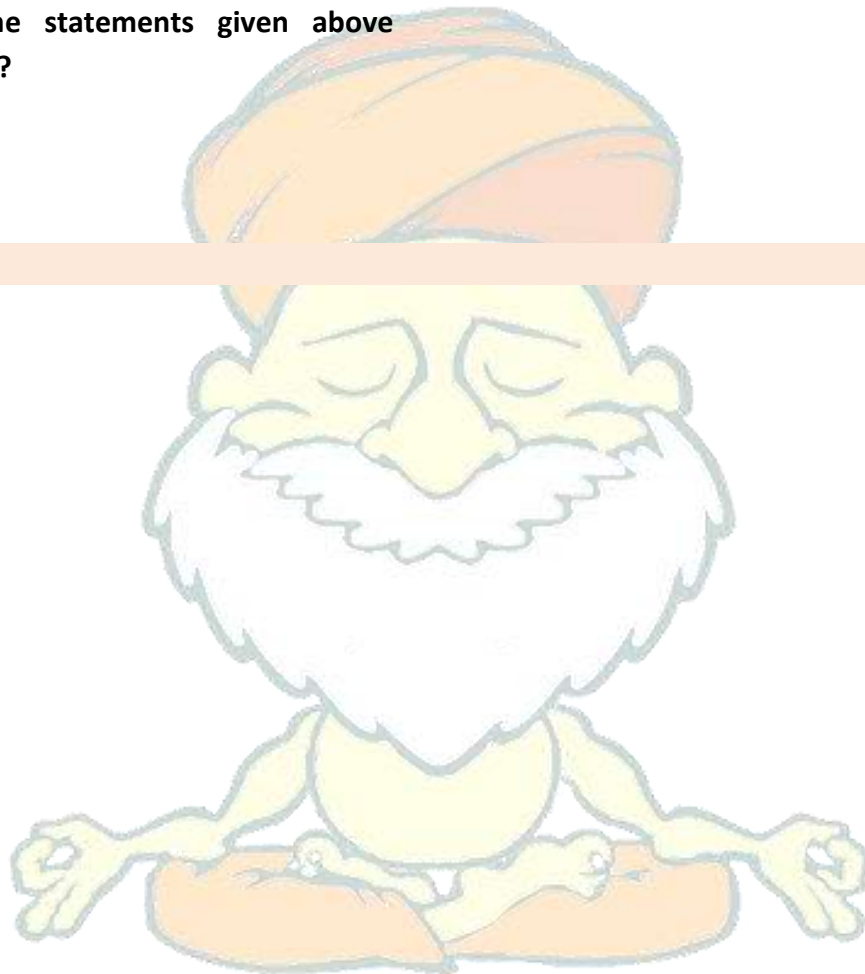
Q.76) The reason why tropical cyclones are not formed over the equator is:

- a) Lack of large water bodies around the equatorial region
- b) Absence of Coriolis force near the equator
- c) Due to availability of sun's rays throughout the year
- d) Shifting of ITCZ to the north during summer

Q.77) With reference to the religious history of India, consider the following statements : (UPSC 2016)

1. The concept of Bodhisattva is central to Hinayana sect of Buddhism.
 2. Bodhisattva is a compassionate one on his way to enlightenment.
 3. Bodhisattva delays achieving his own salvation to help all sentient beings on their path to it.
- a) 1 only
 - b) 2 and 3 only
 - c) 2 only
 - d) 1, 2 and 3

Which of the statements given above is/are correct?



2019 APRIL MONTH CURRENT AFFAIRS MCQs SOLUTIONS

1 D	21 A	41 C	61 A
2 B	22 D	42 B	62 D
3 A	23 A	43 A	63 A
4 A	24 B	44 D	64 B
5 D	25 D	45 B	65 C
6 D	26 A	46 A	66 D
7 A	27 A	47 A	67 A
8 A	28 B	48 C	68 B
9 A	29 A	49 A	69 A
10 C	30 C	50 B	70 C
11 C	31 B	51 B	71 B
12 D	32 D	52 D	72 D
13 C	33 A	53 B	73 D
14 D	34 D	54 B	74 D
15 D	35 D	55 D	75 A
16 A	36 A	56 B	76 B
17 B	37 D	57 C	77 B
18 D	38 B	58 A	
19 A	39 D	59 C	
20 C	40 A	60 A	

