



A Shankar IAS Academy Initiative

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MAY 2019

G.S PAPER I

1. GEOGRAPHY

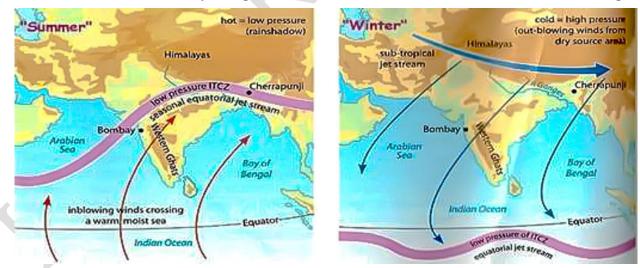
1.1 Cyclone Fani - An Unusual Storm

What is the issue?

- A powerful cyclonic storm named Fani is headed towards the Odisha coast.
- As a cyclone in Bay of Bengal in April-May season, of this nature, is unusual, it is essential to understand the causes.

How do tropical cyclones form?

- Cyclones are formed over slightly warm ocean waters.
- It depends on the temperature of the top layer of the sea, up to a depth of about 60 metres.
- This has to be at least 28°C to support the formation of a cyclone.
- This explains why the April-May and October-December periods are conducive for cyclones.
- Secondly, the low level of air above the waters needs to have an 'anticlockwise' rotation in the northern hemisphere and vice versa.
- During these periods, there lies the Inter-Tropical Convergence Zone (ITCZ) (a low pressure zone) in the Bay of Bengal region, which shifts with seasons.
- The southern boundary of the zone experiences winds from west to east and the northern boundary from east to west.
- The ITCZ and the resultant wind pattern induce the anticlockwise rotation of air.
- Once formed, cyclones in this area usually move northwest.
- As it travels over the sea, the cyclone gathers more moist air from the warm sea, and adds to its strength.



How prevalent are tropical cyclones in India?

- Cyclones are a normal event in the eastern coast of India.
- On an average, five to six significant cyclonic storms emerge in the Bay of Bengal region every year.
- The prime seasons for tropical cyclones are
 - i. the months of April and May, just before the start of the summer monsoon
 - ii. October to December, immediately after the end of the summer monsoon



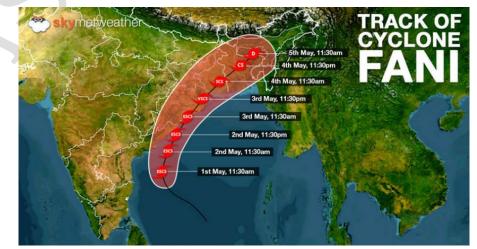
- Cyclones emerging in April-May are usually much weaker than those during October-December.
- Most of the cyclones in April-May move northeast to hit Bangladesh, Myanmar or other countries in the Southeast Asian region.
- There have been only 14 instances of a "severe cyclone" forming in the Bay of Bengal region in April since 1891.

Why are Oct-Dec cyclones more strong?

- A thumb rule for cyclones is that the more time they spend over the seas, the stronger they become.
- [E.g. Hurricanes around the US, which originate in the vast open Pacific Ocean
- They are usually much stronger than the tropical cyclones in the Bay of Bengal, a relatively narrow and enclosed region.]
- In India, cyclones in October-December are usually remnants of cyclonic systems that emerge in the Pacific Ocean.
- They manage to come to the Bay of Bengal, considerably weakened after crossing the Southeast Asian landmass near the South China Sea.
- However, these systems already have some energy, and gather momentum as they traverse over the Bay of Bengal.
- Notably, April-May is not the season for typhoons in the west Pacific Ocean.
- Most of the typhoons, in northern hemisphere, form between June and November.
- So cyclones in April-May originate in situ in the Bay of Bengal itself.
- This is barely a few hundred kilometres from the Indian landmass, and hence the cyclones are relatively weaker.

How and why is Fani different?

- Tropical cyclones in the Bay of Bengal are graded according to maximum wind speeds at their centre as follows:
 - 1. depressions 30 to 60 km per hour (kph)
 - 2. cyclonic storms 61 to 88 kph
 - 3. severe cyclonic storms 89 to 117 kph
 - 4. very severe cyclonic storms 118 to 166 kph
 - 5. extremely severe cyclonic storms 167 to 221 kph
 - 6. super cyclones 222 kph or higher
- Fani is now categorised as an "extremely severe cyclone".
- It is expected to generate storms with wind speeds as high as 200 km per hour.





- It has the potential to cause widespread damage in Odisha and neighbouring states.
- Given the above discussed reasons, a cyclone of this nature is unusual for April-May cyclones in India.
- Fani is different mainly on account of its place of origin, and the route it has taken.
- **Origin** The in situ cyclonic systems in the Bay of Bengal usually originate around latitude 10° N (in line with Chennai).
- But Fani originated quite close to the Equator, around latitude 2° N, well below the Sri Lankan landmass.
- The forecast landfall on the Odisha coast is at a latitude of almost 20°N.
- As it has originated very close to the Equator, it has taken a long route to reach the landmass.
- Resultantly, it has traversed a long way on the sea, and thus gained more strength.
- **Route** Fani was initially headed north-westwards, towards the Tamil Nadu coast.
- But it changed its course midway and moved northeast away from the coastline to reach Odisha.
- The recurve it has taken gave it more time over the sea and has ensured that it has gathered unusual strength.

G.S PAPER II

2. POLITY

2.1 L-G Role in Puducherry Administration

Why in news?

The Madras High Court ruled that the Lieutenant Governor of Puducherry should not interfere in the day-to-day administration of the Union Territory.

What is the recent tussle?

- The ruling comes as a serious setback to the incumbent Lieutenant Governor (L-G) of Puducherry, Kiran Bedi.
- She has been locked in a prolonged dispute, over the extent of her powers, with Chief Minister V. Narayanasamy.
- The CM has been reporting that the LG was disregarding the elected regime and seeking to run the Union Territory on her own.

What is the High Court's ruling?

- The constant interference from the L-G would amount to running a "parallel government," when an elected government was in place.
- The Administrator is bound by the 'aid and advice' clause in matters over which the Assembly is competent to enact laws.
- The government secretaries are bound to take instructions from and report to the Council of Ministers, headed by the Chief Minister.
- The secretaries are not empowered to issue orders on their own or upon the instructions of the Administrator (L-G).
- The Court also disapproved of the alleged practice of government officials being part of social media groups.
- Through these, the L-G was issuing instructions to them for redress of public grievances.
- The court reminded that they were bound to use only authorised medium of communication for purposes of administration.
- The L-G's power to refer any matter to the President to resolve differences should not mean "every matter".



- The High Court has reminded the Centre and the Administrator that they should be true to the concept of democratic principles.
- This is essential to uphold the constitutional scheme based on democracy and republicanism.
- The HC's ruling is inspired by the Supreme Court's earlier appeal to constitutional morality and trust among high dignitaries.

What was SC's earlier ruling in this regard?

- An earlier SC judgement came in relation to the conflict between the elected regime in the National Capital Territory (NCT) of Delhi and its Lt.Governor. Click <u>here</u> to know more.
- It ruled that the L-G has to act on the 'aid and advice' of the Council of Ministers.
- It has to refer to the President for a decision on any matter where there is a difference with the Ministry.
- But, clearly, the Lt.Governor has no independent decision-making powers.

What is the HC's rationale now?

- The apex court has clearly held that there is a distinction between the National Capital Territory of Delhi and Puducherry.
- The Puducherry legislature was created through a parliamentary law, <u>based on</u> an enabling provision in Article 239A of the Constitution.
- On the other hand, the NCT legislature has been created by the Constitution itself under Article 239AA.
- At the same time, the NCT Assembly is limited in the extent of its legislative powers.
- It is barred from dealing with the subjects of public order, police and land.
- There are no such restrictions imposed explicitly in the case of Puducherry under Article 239A.
- The Article symbolises the supremacy of the Legislature above the Administrator in case of the Union Territory of Puducherry.
- Given the Business Rules and other statutory provisions, Puducherry deserves a greater credence to the concept of a representative government.
- With this explanation, the Court has set aside two clarifications issued by the Centre in 2017.
- They had stated that the L-G enjoyed more power than the Governor of a State and could act without aid and advice.

2.2 Concerns over Judicial Appointments

What is the issue?

The government and the Supreme Court collegium seem to consistently disagree on recommendations for judicial appointments.

What is the recent happening?

- The latest development concerns Jharkhand High Court Chief Justice Aniruddha Bose and Gauhati High Court Chief Justice A.S. Bopanna.
- Both of them were recommended for elevation to the Supreme Court.
- But the government had sought a reconsideration of the two names.
- The collegium has now repeated its recommendations.
- It has emphasised that there is nothing adverse against the two judges in terms of their "conduct, competence and integrity".
- It has also asserted that there was no reason to agree with the government.
- Under the present procedure, the government is now bound to accept the recommendation.

What is the concern?



- Routinely, some recommendations for High Court appointments, as well as elevation to the Supreme Court, have met with disapproval from the government.
- In such instances, it requires reiteration by the collegium for the names to be cleared.
- This is not always a cause for concern if it is a sign of some serious consultation on the suitability of those recommended.
- However, it becomes a concern when government's objections suggest an indirect motive to delay the appointment of particular nominees.
- In all, the advisability of retaining the collegium system of appointments is a major issue.
- In terms of process, the huge number of vacancies in the various High Courts and lower courts is another concern.
- As on May 1, 2019 the total number of vacancies in all the High Courts is 396.
- Now, the Supreme Court is keen to fill up the current vacancies.
- It has also recommended two more judges.
- If all these four recommendations go through, the court will have its full complement of 31 judges.

What is the way forward?

- Filling up of the vacancies is a continuous and collaborative process involving the executive and the judiciary.
- The process depends on the relative speed with which the collegium initiates proposals and makes recommendations after internal deliberations.
- The time the government takes to process the names is another determinant factor.
- So there cannot practically be a fixed time frame for this process.
- However, it is time to think of a permanent, independent body to institutionalise the process.
- The proposal for a constitutionally empowered council to make judicial appointments ought to be revived, with adequate safeguards for judiciary's independence.
- In all, it is high time for a systemic and processual overhaul in regards with judicial appointments.

2.3 SC Order on Karnataka Reservation

Why in news?

The order by a two-Judge bench of the Supreme Court upheld a Karnataka statute, allowing for reservations in promotion.

What is the Karnataka statute about?

- The Karnataka law preserves the consequential seniority of Scheduled Caste/Scheduled Tribe candidates promoted on the basis of reservation.
- [Consequential seniority refers to promotions made purely on reservation basis despite another person waiting for promotion being senior.]
- A similar 2002 law was struck down on the ground that there was no data, as required by the judgment in Nagaraj (2006).
- So the Karnataka government appointed a committee to collect data, to validate
 - i. the backwardness of SC/ST communities
 - ii. the inadequacy of their representation in the services
 - iii. the overall impact of reservation on the efficiency of the administration
- [These are, notably, the parameters laid down in the 2006 Nagaraj verdict as constitutional limitations on the power to extend reservation in employment.]
- Based on the report, the State enacted a fresh law, which has now been upheld on being compliant with the Nagaraj formulation.



• However, in a 2018 judgement, the Supreme Court ruled out the need for <u>data</u> to justify the '<u>backwardness'</u> of SC/ST communities. Click <u>here</u> to know more.

What are the court's observations now?

- Article 335 of the Constitution states that the claims of the members of the SCs and STs shall be taken into consideration, with the maintenance of efficiency of administration.
- However, the Constitution does not define what the framers meant by the phrase efficiency of administration.
- If the benchmark of efficiency is grounded in exclusion, the pattern of governance will be skewed against the marginalised.
- If this benchmark is grounded in equal access, it will reflect the commitment of the Constitution on a just social order.
- In this context, merit lies not only in performance but also in achieving goals such as promotion and achievement of substantive equality.
- Since inclusion is inseparable from a well-governed society, there is no antithesis between administrative efficiency and the claims of the SCs and STs.
- Inclusion along with the recognition of the nation's plurality and diversity constitutes a valid constitutional basis for defining efficiency.
- The court thus held that a 'meritorious' candidate is not merely one who is 'talented' or 'successful'.
- S/he is also one whose appointment fulfils the constitutional goals of uplifting members of the SCs and STs, and ensures a diverse and representative administration.

Why is it welcome?

- The order validating the Karnataka law is a significant step in the long debate between 'merit' and 'social justice'.
- The Supreme Court's decision rightly rejects the notion that quotas affect efficiency.
- The order is also notable for being the first instance of quantifiable data being used to justify reservation.
- A key principle in this decision is that where reservation for SC/ST candidates is concerned, there is no need to demonstrate the 'backwardness' of the community.
- The other pre-requisites of a valid system remain valid, which are:
 - i. quantifiable <u>data</u> on the '<u>inadequacy</u> of representation' for classes of people identified for reservation
 - ii. an assessment of the impact of such quota on the "efficiency of administration"
- The judgment, in all, places in perspective the historical and social justification for according reservation.

2.4 Recording Dissenting Opinion in EC

Why in news?

The Election Commission has decided by majority that dissenting opinions in Model Code of Conduct (MCC) disputes will not be made part of any final order.

What was the dispute?

- Election Commissioner Ashok Lavasa had given dissenting opinion in at least four cases.
- These related to cases where the ECI (2:1 majority) did not find any violation in the speeches of PM Narendra Modi and BJP chief Amit Shah.
- Election Commissioner Ashok Lavasa had written thrice to the Chief Election Commissioner Sunil Arora in this regard.
- He had conveyed his decision to stay away from proceedings related to the MCC if the dissenting views were not incorporated in the orders.
- With ECI's recent decision, the dissenting opinions will only be included in internal files, as per previous practice.



What does the law say?

- Article 324 of the Constitution vests the superintendence, direction and control of elections in an Election Commission of India.
- It consists of the Chief Election Commissioner and such number of other Election Commissioners, if any, as the President may from time to time fix.
- At present the Election Commission is a multi-member body, with a Chief Election Commissioner and two other members.
- The law requires the multi-member EC to transact business unanimously as far as possible.
- All three Commissioners now have equal decision-making powers.

What is the procedure in case of dissent?

- Where there is a difference of opinion, decision is taken by majority.
- All opinions carry equal weight, which means the CEC can be overruled by the two ECs.
- If some difference of opinion persists even after oral deliberations and discussions, such dissent is recorded in the file.
- In normal practice, while communicating the decision of the Commission in executive matters, the majority view is conveyed to the parties concerned.
- The dissent remains recorded in the file.
- In case dissent is to be recorded in a case of judicative nature, the dissenting member may like to record a separate opinion/order.
- However, despite the existence of the provision to take decisions by majority since 1993, very rarely has dissent been recorded.
- When a matter is deliberated upon by the 3 Commissioners, they normally agree to a common course of action.
- This does not, however, mean that there is no disagreement between the Commissioners.

Is the rejection of the demand justified?

- The recent rejection of the demand of Mr. Lavasa on recording dissenting opinions in the orders may be technically and legally right.
- However, there was indeed a strong case for acceding to his demand.
- This is especially true at least in regard to complaints against high functionaries such as the Prime Minister.
- The EC has been widely criticised for giving a series of 'clean chits' to the PM.
- This was despite some questionable remarks that appeared to solicit votes in the name of the armed forces.
- Added to the dispute was the unexplained delay of several weeks in disposing of complaints against Mr. Modi.
- It is in this context that Mr. Lavasa's dissenting opinion may have been relevant enough to merit inclusion in the EC's orders.
- People are entitled to know whether or not the poll panel's key decisions are unanimous.
- In the present case, Mr. Lavasa has taken up the issue through as many as three letters.
- So it is reasonable to infer that there is some basis for his grievance.
- The onus on EC to maintain a level-playing field and enforce the election code is quite high, especially when its credibility is under question.
- It would be unfortunate if the majority in the EC were to be afraid of any public reaction that may result from disclosure of a split opinion.

3. GOVERNMENT ACTS & POLICIES



3.1 Issues with Universal Debt Relief Programme

Why in news?

Union government has planned to implement universal debt relief programme by making amendments to IBC.

What is IBC?

- The Insolvency and Bankruptcy Code (IBC) was enacted in 2016 for the recovery of giant bad debt volume built up in recent years.
- Under IBC, either the creditor (banks) or the loaner (defaulter) can initiate insolvency proceedings.
- It is done by submitting a plea to the adjudicating authority, in this case, the National Companies Law Tribunal (NCLT).
- The Insolvency and Bankruptcy Code stipulates cases should be heard within 14 days.
- After admission, the insolvency resolution process has to be completed in 180 days (extendable by 90 days).
- IBC provides for Insolvency Resolution Professionals (IRPs) who will take charge of a company when it's taken to the bankruptcy court.

What are the planned amendments to IBC?

- Union government has planned to implement universal debt relief programme by making amendments to IBC.
- The scheme debates that people with small-ticket borrowing should not have to deal with an insolvency process that is as rigorous as for large corporate groups.
- According to new plan borrowers who earn less than Rs 60,000 a year, have assets worth below Rs 20,000 and have outstanding loans of less than Rs 35,000 would be eligible for a "loan waiver programme across sectors for small farmers, artisans, micro-enterprises or other individuals".
- If such plan is not implemented it is possible that such small-ticket cases would clog up the IBC system, thereby rendering the resolution of larger and more systemically important cases difficult.

What are the concerns with the scheme?

- There are suspicions that the idea will undermine the entire basis of financial inclusion which is to enable individuals to borrow more for entrepreneurship or consumption.
- According to official estimates the incentives for banks will cost only Rs. 20,000 crore, but there is no reason to suppose that it could not balloon beyond that figure.
- For individuals who have outstanding loan is considerably below Rs 35,000 (the maximum), a borrower may be encouraged to sell their access to the waivable loan to illegal aggregators.
- As the demonetization experience shows, there is no clear way for banks to prevent such side transactions.
- There has been an upturn in bad loans in MUDRA scheme, the scheme was pushed by the government, overriding RBI reluctance, and the suspicion is that there has been a political angle to some of the loans given mostly small amounts that are not worth chasing given the cost, especially in the absence of collateral.
- A wholesale write-off now would seem like trying to pre-empt criticism of a scheme that clearly has had room for misuse.
- Such a scheme also runs the risk of destroying credit discipline and credit culture, creating problems for the micro-finance institutions via unserviced loans.
- This might choke a crucial source of credit that is far superior to the moneylender.

What lies ahead?

- Universal debt waiver will not address distress among the poor properly, the way a direct benefits transfer scheme would.
- A better structured way to declare insolvency is required for small borrowers, creating a financial system that reaches out to such borrowers effectively is paramount.
- The structured way will require a robust method of ensuring repayment when it is possible.



4. SOCIAL JUSTICE

4.1 Women Workforce Participation

What is the issue?

- A key focus of many political parties in the election time has been women's employment.
- In this context, more than a 'more jobs' approach, addressing structural issues which keep women away from the workforce is a must.

How is women workforce participation?

- Currently, the participation of women in the workforce in India is one of the lowest globally.
- The female labour force participation rate (LFPR) in India fell from around 31% in 2011-2012 to close to 23% in 2017-2018.
- This decline has been sharper in rural areas, where the female LFPR fell by more than 11 percentage points.

What are the factors behind?

- The limitations to participation in work arise from a complex set of factors including
 - i. low social acceptability of women working outside the household
 - ii. lack of access to safe and secure workspaces
 - iii. widespread prevalence of poor and unequal wages
 - iv. dearth of decent and suitable jobs
- So most women in India are engaged in subsistence-level work in agriculture in rural areas.
- In urban areas, it is the low-paying jobs such as domestic service and petty home-based manufacturing.

How does education-work interconnection work?

- Studies reveal a strong negative relationship between a woman's education level and her participation in agricultural and non-agricultural wage work and in family farms.
- With better education, women are refusing to do casual wage labour or work in family farms and enterprises.
- There is also a preference among women for salaried jobs as their educational attainment increases.
- But the challenge is that such jobs remain extremely limited for women.
- E.g. Among people (25 to 59 years) working as farmers, farm labourers and service workers, nearly a third are women.
- On the other hand, proportion of women among professionals, managers and clerical workers is only about 15%.

Why does women's work go unnoticed?

- It is not that women are simply retreating from the world of work.
- In contrast, they devote their substantial time to work which is not considered as work, but an extension of their duties, and is hence largely unpaid.
- This includes unpaid care work such as childcare, elderly care, and household work such as collecting water.
- This burden falls disproportionately on women, especially due to inadequate availability and accessibility of public services.
- It also encompasses significant chunks of women's contribution to agriculture, animal husbandry, and nontimber forest produce.

What should the policy approach be?

- Efforts at women's economic empowerment and equal access to livelihoods must address the above challenges.
- The limitations exist along a highly gendered continuum of unpaid, underpaid and paid work.



- So on the one hand, the measure should
 - i. facilitate women's access to decent work by providing public services
 - ii. eliminate discrimination in hiring
 - iii. ensure equal and decent wages
 - iv. improve women's security in public spaces
- On the other hand, it must also recognise, reduce, redistribute, and remunerate women's unpaid work.
- In this context, gender-responsive public services include
 - i. free and accessible public toilets
 - ii. household water connections
 - iii. safe and secure public transport
 - iv. adequate lighting and CCTV cameras to prevent violence against women in public spaces
- Furthermore, fair and decent living wages and social security such as maternity and sickness benefits, provident fund, pension should be the priorities.
- Besides, policies should address the specific needs of migrant workers, dalits, tribals, Muslims, and other marginalised communities.
- E.g. migration facilitation and crisis centres (temporary shelter facility, helpline, legal aid, and medical and counselling facilities)
- Others include social housing spaces for women workers, spaces for women shopkeepers and hawkers in markets and vending zones.
- Besides these, recognising women as farmers in accordance with the National Policy for Farmers is a crucial priority.
- Their equal rights and entitlements over land, and access to inputs, credit, markets, and extension services must be ensured. Click <u>here</u> to know more on women in agriculture.
- In all, the need is to address the structural issues which keep women from entering and staying in the workforce.

5. HEALTH

5.1 Report on Economic Impacts of Antimicrobial Resistance

Why in news?

The *Interagency Coordination Group on Antimicrobial Resistance* (IACG) has brought out a report on economic impacts of antimicrobial resistance.

What is the report for?

- Antimicrobial resistance (AMR) refers to a condition of antibiotics becoming inefficient against a wide range of pathogenic bacteria.
- It is emerging as a global public health concern and is acknowledged by policymakers as a major health crisis.
- But the economic impacts of AMR are not taken into account by many.
- The IACG report titled "No Time to Wait: Securing The Future From Drug Resistant Infections" brings attention to the financial implications of AMR.

What are the highlights?

- In about 3 decades from now, uncontrolled AMR will cause global economic shocks on the scale of the 2008-09 financial crisis.
- Nearly 10 million people are estimated to die annually from resistant infections by 2050.
- The health-care costs and the cost of food production will spike as a result of this.



- On the other hand, the income inequality will widen too.
- In the worst-case scenario, the world will lose 3.8% of its annual GDP by 2050 on this account.
- Alongside, 24 million people will be pushed into extreme poverty by 2030.
- For high- and mid-income nations, the price of prevention, at \$2 per head a year, is extremely affordable.
- For poorer countries, the price is higher but still modest compared to the costs of an antibiotic disaster.
- The ICAG thus calls for the nations to acknowledge this eventuality, and act to fight against it.

Where does India stand?

- India first published almost 9 years ago the broad outlines of a plan to fight antimicrobial resistance.
- But the difficulty has been in implementing it, given the twin challenges of antibiotic overuse and underuse.
- On the one hand, many Indians still die of diseases like sepsis and pneumonia because they do not get the right drug at the right time.
- On the other hand, a poorly regulated pharmaceutical industry means that antibiotics are freely available to the affordable ones.

Click <u>here</u> to read more on causes for AMR and the measures in place.

What is to be done?

- Some immediate steps could include measures such as phasing out critical human-use antibiotics in the animal husbandry sector, such as quinolones.
- The only way to postpone resistance is through improved hygiene and vaccinations, and it demands a multistakeholder approach.
- It is a challenging task as India still struggles with low immunisation rates and drinking water contamination.
- So besides regulators, it needs the involvement of the private industry, philanthropic groups and citizen activists.
- Private pharmaceutical industries must take it upon themselves to distribute drugs in a responsible manner.
- Philanthropic charities must fund the development of new antibiotics, while citizen activists must drive awareness.
- The emerging challenge is a serious one, as once crucial antibiotics are lost to humankind, they may be lost for decades.

Quick Fact

Interagency Coordination Group on Antimicrobial Resistance

- In 2016, the United Nations General Assembly adopted the Political Declaration of the High-level Meeting on Antimicrobial Resistance.
- It called for the establishment of the Interagency Coordination Group on Antimicrobial Resistance (IACG).
- The IACG's mandate is to provide practical guidance for approaches needed to ensure sustained, effective global action to address AMR.
- It is also tasked to report back to the UN Secretary-General in 2019.
- The IACG Secretariat is hosted by WHO, with contributions from FAO (Food and Agriculture Organization) and the World Organisation for Animal Health (OIE).

5.2 Under-Five Mortality and Low Birth Weight - Lancet Global Health

Why in news?

The Lancet Global Health journal recently published the results of studies on under-five mortality and low birth weight.

How is under-five mortality rate?

• The deaths among children under five years in India was higher than in any other country in 2015.



- India has reduced annual mortality among children under five.
- It is down from 2.5 million in 2000 (90.5 per 1,000 live births) to 1.2 million in 2015 (47.8 per 1,000 live births).
- However, it was still the highest in the world.
- Among the states, the highest mortality rate, in Assam at 73.1 per 1,000, was more than 7 times that in Goa's 9.7.
- Among the regions, the mortality rate ranged from a low of 29.7 per 1,000 (South) to 63.8 (Northeast).
- **Globally**, there are large disparities in the child mortality rate between richer and poorer states.

What is the low birth weight scenario?

- **India** Every newborn must be weighed; yet worldwide, there are no records for the birth weight of nearly one-third of all newborns.
- India is among 47 countries which had insufficient data.
- These include 40 low- and middle-income countries that account for almost a quarter of all births worldwide.
- The researchers said they were unable to arrive at national estimates for India as only partial data were available.
- The national estimate and time trend for India was not reported.
- The National Family Health Survey (2005-06) was included in the analysis.
- But for the latest NFHS (2015-16), only data for a single year met the inclusion criteria and these partial data were used.
- Nevertheless, the estimated prevalence of low birth weight in South Asia has decreased from 32.3% in 2000 to 26.4% in 2015.
- There is optimism that India, in view of its large population, will have made an important contribution to this decline.
- Notably, India has made progress in improving newborn care by building 834 newborn care units in the last decade.
- Moreover, in 2011, The Indian Statistical Institute had reported that nearly 20% of newborns have low birth weight in India.
- Besides, the Union Ministry of Health and Family Welfare reports that the prevalence of low birth weight was between 15% and 20%.
- **Globally**, one in every 7 babies [20.5 million babies (14.6%)] was born with low birth weight i.e. less than 2.5 kg, in 2015.
- The prevalence in 2015 was lower than the 17.5% (22.9 million babies with low birth weight) in 2000.
- However, over 90% of the low-weight babies in 2015 were born in lowand middle-income countries.
- In high-income countries in Europe, North America, and Australia and New Zealand, there has been no progress in reducing low birth weight rates since 2000.
- However, prevalence is low in most of these countries.
- One of the lowest rates of low birth weight in 2015 was estimated in Sweden (2.4%).
- It is around 7% in some high-income countries including the USA (8%), the UK (7%), Australia (6.5%), and New Zealand (5.7%).

RATE IN 2015	ME DIDTUC)
(DEATHS PER 1,000)	LIVE DIRI HS)
ALL INDIA	47.81
BY REGION	
Northeast	63.76
Central	60.55
East	49.25
North	35.15
West	31.79
South	29.68
STATES, HIGHEST 5	
Assam	73.12
MP	67.07
Odisha	64.13
Meghalaya	61.68
UP III	61.15
STATES, LOWEST 5	
Goa 📕	972
Kerala 📃	12.50
Tamil Nadu 📃	21.71
Maharashtra	24.07
Delhi 📃	24.46

SOME PROGRESS, BUT MILES TO GO

Prevalence of low birth weight babies worldwide in 2015

17.1% Prevalence worldwide in 2000

26.4%

Prevalence of low birth weight in South Asia in 2015

32.3%

Prevalence in South Asia in 2000; researchers believe India contributed significantly to reduction



- The regions making the fastest progress are those with the highest numbers of low birth weight babies.
- E.g. Southern Asia and Sub-Saharan Africa recorded a yearly decline in prevalence of 1.4% and 1.1%, respectively, between 2000 and 2015.

What does it call for?

- **Under-five mortality** The UN Millennium Development Goals (MDG) set in 2000 was to reduce the under-five mortality rate in 2015 to one-third of the 1990 figure.
- For India, that would have meant reducing the under-five mortality rate to 39 deaths per 1,000 live births.
- In India, most under-five deaths were due to preterm complications.
- But preventable infectious diseases too featured prominently as causes of death in higher-mortality states.
- India can accelerate reduction of under-five mortality rates by scaling up vaccine coverage and improving childbirth and neonatal care.
- Low birth weight The study highlights that national governments are doing too little to reduce low birth weight.
- There is little change over 15 years, even in high-income settings.
- Here, low birth weight is often due to prematurity as a result of high maternal age, smoking, etc.
- Caesarean sections not medically indicated and fertility treatments that increase the risk of multiple births are also the causes.
- The study thus noted that annual decline will need to more than double to meet the global target of a 30% reduction between 2012 and 2025.
- The study calls for immediate action to tackle the underlying causes of low birth weight.

6. INDIA & ITS NEIGHBORHOOD

6.1 Masood Azhar as Global Terrorist

Why in news?

The United Nations has designated Jaish-e-Mohammed leader Masood Azhar as a "global terrorist".

What is the UN terrorist designation?

- The UNSC 1267 Committee of the UN Security Council was established as a result of resolution 1267 (in 1999).
- It is also known as the AlQaida and Taliban Sanctions Committee.
- The Committee comprises all 15 members of the UNSC and decides unanimously and secretly.
- It was established for the purpose of overseeing the implementation of sanctions measures imposed on Taliban-controlled Afghanistan for its support of Osama bin Laden.
- Eventually the committee has been modified and strengthened by subsequent resolutions.
- Now, if an individual/organisation is included in the 1267 list, it helps in restricting their movement, financial penalties and assets freeze among others.

Click <u>here</u> to know more on the past developments in listing Masood Azhar.

Why is it significant?

- The JeM chief had been behind many attacks on India including the 2001 Parliament attack, 2016 Pathankot airbase attack and the recent <u>Pulwama attack</u>.
- Masood Azhar's listing as a designated terrorist is a success for India's quest to bring the Jaish-e-Mohammad chief to justice.
- China's opposition to the listing has long been a thorn in India's side.
- Beijing's veto of the listing three times between 2009 and 2017 had driven a wedge in India-China relations.



• The designation now comes as a recognition to India's efforts and those of its partners in the Security Council.

What are the concerns?

- There is much disappointment, however, as the final listing made no mention of Mr. Azhar's role in any of the attacks against India.
- It neither mentioned his role in directing insurgency in Jammu and Kashmir.
- A specific reference to Pulwama attack, which was in the original proposal, was also dropped.

What are the challenges?

- Masood Azhar is one of about twenty 1267-sanctioned terrorists who have Pakistani nationality, and more are based there.
- But Pakistan's actions against others on the 1267 list have been far from effective, and in many cases obstructionist.
- E.g. Hafiz Saeed, the 26/11 mastermind and Lashkar-e-Toiba chief, roams free, addresses rallies, and runs a political party without any government restrictions.
- Likewise, LeT's operations commander Zaki Ur Rahman Lakhvi was granted bail some years ago.
- These are despite the UNSC sanctions mandating that funds and assets to the sanctioned individuals must be frozen.
- With Masood Azhar listed as a global terrorist, India must now work to ensure the mandated sanctions.

What lies ahead?

- Constant focus from New Delhi and a push from the global community are essential in Masood Azhar's case.
- It must be ensured that he is starved of funds, arms and ammunition as mandated.
- Besides, prosecution in Pakistan for the acts of terror he is responsible for is also a priority.
- Global terror financing watchdog Financial Action Task Force will also be watching Pakistan's next moves closely.
- [FATF will decide soon if Pakistan has to be placed in "blacklist" or continue on the "greylist". Click <u>here</u> to know more.]
- In all, both financial and political pressure should be maintained on Islamabad.
- This is imperative to bring the hard-fought designation of Masood Azhar to its logical conclusion.

6.2 Indian Ocean Region - China's Strategy and India's Response

What is the issue?

- China's engagement in the India Ocean Region poses new challenges for India.
- It is high time that India makes strategic partnerships, going beyond the current defensive mindset.

What are the recent exercises by India?

- A series of bilateral exercises with regional navies were conducted in the Indian Ocean.
- In April, 2019 in their biggest and most complex exercise, Indian and Australian warships held drills in the Bay of Bengal.
- This was followed by a much-publicised anti-submarine exercise with the U.S. Navy near Diego Garcia.
- Very recently, the Indian Navy held a joint exercise 'Varuna' with the French Navy off the coast of Goa and Karwar.
- Alongside, two Indian warships participated in a 'group sail' with warships from Japan, the Philippines and the U.S. on return from a fleet review in Qingdao, China.

What is the geo-political drive?

• **China** - The trigger for India's increased engagement at sea is the rapid expansion of China's naval footprint in the Indian Ocean.



- China has commercial investments in Pakistan and Sri Lanka.
- Beyond this, it has also established a military outpost in Djibouti, a key link in its Belt and Road Initiative (BRI).
- Reports also suggest that People's Liberation Army (PLA) was planning an expansion of its logistics base for non-peacekeeping missions.
- This raises the possibility of an operational overlap with the Indian Navy's areas of interest.
- It is anticipated that Djibouti could be a future where China would control key nodes covering important shipping lanes in Indian Ocean.
- This would in turn allow the PLA's Navy (PLAN) to dominate the security dynamic.
- **South Asia** South Asian navies too have been making their presence felt in the seas of the Indian subcontinent.
- Sri Lanka has expanded engagement with Pacific powers which includes the Royal Australian Navy and the U.S. Navy.



- With China's assistance, Pakistan is becoming an increasingly potent actor in the northern Indian Ocean, a key region of Indian interest.
- Beijing has also been instrumental in strengthening the navies of Bangladesh and Myanmar.
- In these circumstances, India has had little option but to intensify its own naval engagements in South Asia.

What seems to be China's strategy?

- **Submarine** China's expanding submarine engagements in Indian Ocean indicate its strategic ambitions in India's neighbourhood.
- Reportedly, PLAN has been studying the operating environment in the Indian Ocean.
- This comes in the context of a larger endeavour to develop capabilities for sustained operations in the Indian Ocean Region.
- As a result, the Indian Navy's recent bilateral exercises have focussed on under-sea surveillance and antisubmarine warfare.
- **Less sightings** Despite the above developments, notably, Chinese submarine sightings are said to have decreased in recent times.
- With the Wuhan summit, it is believed that India and China are on a collaborative path.
- Also, India is silent on China's continuing aggression in the South China Sea.
- Indian warships were sent for the Chinese fleet review in Qingdao.
- All these largely suggest a conciliatory stance.
- **China's strategy** Nevertheless, reduced visibility of Chinese submarines does not necessarily prove absence.
- Chinese submarines are quieter, craftier and stealthier than earlier.
- As suspected, PLAN could be on a quest to master undersea 'quieting' technologies.
- South Asia focus China has been downplaying its strategic interests in South Asia.
- It is concerned that too much talk about its growing naval power could prove detrimental to the cause of promoting the BRI.
- The concerns raised at the recent <u>BRI summit</u> on Chinese 'debt traps' has led Beijing to revise some of its infrastructure projects.



• India's refusal to participate in the BRI may have also prompted China to rethink its economic and military strategies in Indian Ocean.

How is China's engagement in African region?

- China hasn't indicated any change of plan in West Asia and the east coast of Africa.
- Most of China's energy and resource shipments originate there.
- Chinese investments in port infrastructure in Kenya, Sudan, Tanzania and Mozambique have grown at a steady pace.
- In response, India has moved to deepen its own regional engagement, seeking naval logistical access to French bases in Reunion and Djibouti.

How significant are partnerships now?

- Despite the bilateral and trilateral naval engagements, India hasn't succeeded in leveraging partnerships for strategic gains.
- India's political leadership is reluctant to militarise the Quadrilateral grouping or to expand naval operations in the Western Pacific.
- Consequently, the power-equation with China remains skewed in favour of China.
- Indian Navy's regional strategy seems to be a mere 'risk management' tactic, with limited approach to shape events in littoral-Asia.
- For long, the Indian Navy has played a prominent role in the fight against non-traditional challenges in the Indian Ocean.
- These include Indian Navy's
 - i. contribution to the counter-piracy mission off the Somalia coast
 - ii. humanitarian assistance and disaster relief (including in cyclone-hit Mozambique)
- However, a paucity of assets and capacity has forced the Navy to seek partners willing to invest resources in joint security endeavours.
- In all, partnerships are vital to the Indian Navy, especially in deterring Chinese undersea deployments in South Asia.

7. BILATERAL RELATIONS

7.1 Developments with the Indo-Pacific - New MEA Division

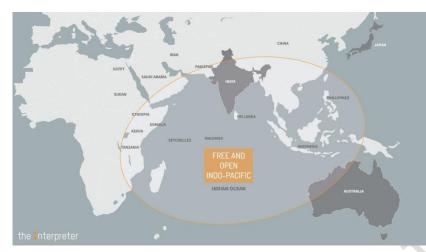
What is the issue?

- India recently set up an Indo-Pacific division in the Ministry of External Affairs (MEA).
- In this backdrop, here is an overview of the rationale and significance of the move as well as India's priorities and challenges in the region.

What constitutes the Indo-Pacific?

- The term Indo-Pacific has been gaining focus in Indian policy circles for some time now.
- This has now achieved an operational clarity with the Indian vision clarified by the PM at the Shangri-La Dialogue in June 2018.
- Accordingly, for India, the geography of the Indo-Pacific stretches from the eastern coast of Africa to Oceania.
- In other words, it spans from the shores of Africa to that of the Americas, including in its fold the Pacific Island countries.





How has India's Indo-Pacific engagement been?

- India's Act East policy remains the bedrock of the national Indo-Pacific vision.
- Evidently, the centrality of ASEAN is embedded in the Indian narrative of Act East.
- India has been an active participant in mechanisms like the Indian Ocean Rim Association (IORA), in ASEAN-led frameworks, in BIMSTEC and the Mekong-Ganga Economic Corridor.
- India has also been convening the Indian Ocean Naval Symposium, in which the navies of the Indian Ocean Region (IOR) participate.
- It has boosted its engagements with Australia and New Zealand and has deepened its cooperation with the Republic of Korea.
- Through the Forum for India-Pacific Islands Cooperation, India is stepping up its interactions with the Pacific Island countries.
- Besides, India's growing partnership with Africa is evident from the convening of mechanisms like the India-Africa Forum Summits.
- Also witnessed is India's multi-layered engagement with China as well as strategic partnership with Russia.
- These underline its commitment to ensuring a stable, open, secure, inclusive and prosperous Indo-Pacific.

What are India's key priorities in this regard?

- India views the Indo-Pacific as a geographic and strategic expanse, along with the 10 ASEAN countries connecting the two great oceans.
- Inclusiveness, openness, and ASEAN centrality and unity, therefore, lie at the heart of the Indian notion of Indo-Pacific.
- Security in the region must be maintained through dialogue, a common rules-based order, and freedom of navigation.
- Besides, unimpeded commerce and settlement of disputes in accordance with international law are also the priorities.
- More connectivity initiatives, with respect for sovereignty, territorial integrity, good governance, transparency, and sustainability should be promoted.

What is the new rationale for the MEA division?

- The term Indo-Pacific has been gaining prevalence in recent days.
- Major regional actors such as the U.S., Japan and Australia are articulating their regional visions, by including 'Indo-Pacific' in their official policy statements.
- E.g. the renaming of the U.S. Pacific Command to U.S. Indo-Pacific Command
- The Free and Open Indo-Pacific concept was unveiled by Japanese Prime Minister Shinzo Abe in 2016.
- Australia released its Foreign Policy White Paper in 2017 that detailed Australia's Indo-Pacific vision centred on security, openness and prosperity.



• Given these, it was becoming imperative for India to operationalise its Indo-Pacific policy.

What is the significance?

- The setting up of the Indo-Pacific wing is a natural corollary to the priorities and vision of India in the Indo-Pacific region.
- It gives strategic coherence to India's Look East policy.
- The wing will integrate Indian Ocean Rim Association (IORA), ASEAN region and the <u>Quad</u> to the Indo-Pacific table.
- The integration of the IORA means that attention will continue to be focused on the Indian Ocean Region.
- This can be a result of the growing Chinese footprint in the Indian Ocean and Chinese diplomacy in the region. Click <u>here</u> to know more.
- Also, now, there is increasing visualising of the ASEAN region as a part of the wider Indo-Pacific.
- This shows an evolution in the region's thinking, opening new possibilities for India's engagement with the grouping.
- Given India's stakes in its immediate neighbourhood, the new wing facilitates a more focused and integrated approach.

What are the tasks ahead?

- There are still challenges for India, especially on integrating the Quad which got revived in 2017 with its larger Indo-Pacific approach.
- The new MEA division should also move beyond security and political issues and articulate a more comprehensive policy.
- Commerce and connectivity will have to be prioritised if India is to take advantage of a new opening for its regional engagement.
- It will be challenging to maintain a balance between the interests of all stakeholders, simultaneously with an emphasis on "inclusiveness."
- Importantly, there are differences between India's vision and the U.S.'s strategy for the Indo-Pacific.
- Alongside this lies China's and Russia's viewing of the Indo-Pacific with suspicion and the geopolitical tensions between China and U.S.
- The new division will have to effectively manage these, in giving shape to India's diplomatic priorities in the Indo-Pacific.

Quick Fact

Shangri-La Dialogue

- The Shangri-La Dialogue (SLD) is an inter-governmental security forum.
- It is held annually by an independent think tank International Institute for Strategic Studies (IISS).
- It is attended by defence ministers, permanent heads of ministries and military chiefs of 28 Asia-Pacific states.

7.2 Emerging Significance of BIMSTEC

What is the issue?

- Leaders from the BIMSTEC, Kyrgyz Republic and Mauritius are invited for the swearing-in ceremony of Indian Prime Minister.
- In this context, here is an overview on the role and significance of BIMSTEC in India.

What do these imply?

- **BIMSTEC** (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation) The invite signals a major outreach to India's neighbourhood in the Bay of Bengal.
- Last time, the PM had invited the SAARC leaders.



- The then Pakistan Prime Minister Nawaz Sharif's attendance had raised hopes of a new beginning in the bilateral ties.
- This time, SAARC's exclusion is clearly aimed at keeping Pakistan out of New Delhi's engagement with its neighbours.
- **Kyrgyzstan** By inviting the Kyrgyz Republic leader, India is displaying an outreach to the Shanghai Cooperation Organisation (SCO).
- India became a member in SCO along with Pakistan in 2017.
- India thus wants to leverage its membership to advance its strategic objectives in Central Asia.
- **Mauritius** Prime Minister Pravind Jugnauth is one of the most well-placed People of Indian Origin in the world.
- Since Indian PM has invested diplomatic capital in outreach to the Indian diaspora since 2014, this invite is seen as a natural choice.

Why is BIMSTEC so significant?

- BIMSTEC comprises of Bangladesh, Myanmar, Sri Lanka, Thailand, Nepal and Bhutan, besides India.
- New Delhi's engagement with BIMSTEC rose from the ashes of SAARC (India, Pakistan, Bangladesh, Bhutan, Sri Lanka, Maldives, Nepal, and Afghanistan).
- In October 2016, following the Uri attack, India gave a renewed push for BIMSTEC, although it had existed for almost two decades.
- India had long felt that the vast potential of SAARC was being under-utilised.
- Opportunities were being lost due to either a lack of response and/or an obstructionist approach from Pakistan.
- So BIMSTEC had emerged as an alternative regional platform.
- With 5 five countries from SAARC and two from ASEAN, BIMSTEC is a bridge between South Asia and Southeast Asia.
- It thus offers scope for discussions on sub-regional cooperation.
- Nevertheless, SAARC summit has only been postponed, and not cancelled.
- The possibility of revival remains, and so, the success of BIMSTEC does not render SAARC pointless.

Why the region matters?

- The Bay of Bengal is the largest bay in the world.
- Over one-fifth (22%) of the world's population live in the seven countries around it.
- These countries have a combined GDP of close to \$2.7 trillion.
- Despite economic challenges, they have been able to sustain average annual economic growth rates of 3.4% 7.5% from 2012 to 2016.
- The Bay also has vast untapped natural resources.
- One-fourth of the world's traded goods cross the Bay every year.

How could India benefit?

- As the region's largest economy, India has a lot at stake in BIMSTEC.
- It is a natural platform to fulfil India's key foreign policy priorities of 'Neighbourhood First' and 'Act East'.
- A key reason for India's engagement is the vast potential that is unlocked with stronger <u>connectivity</u>.
- About 45 million people live in landlocked North-eastern states.
- They will have the opportunity to connect via the Bay of Bengal to Bangladesh, Myanmar and Thailand.
- This opens up new possibilities in terms of development.
- From the <u>strategic perspective</u>, the Bay of Bengal is a funnel to the Malacca straits.

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- In this context, the Bay has emerged a key theatre for an increasingly assertive <u>China</u> in maintaining its access route to the Indian Ocean.
- Given these, it is in India's interest to consolidate its internal engagement among the BIMSTEC countries.
- The BIMSTEC invite is an effort to reach out diplomatically to the neighbourhood, diaspora and the China-Russia-led regional grouping of Central Asian countries.
- The future course of the move depends on the progress New Delhi makes with these groupings.

8. INTERNATIONAL ISSUES

8.1 Proposal on Muslim Brotherhood as Foreign Terrorist Organisation

Why in news?

The White House recently said that a proposal to designate the Muslim Brotherhood as a Foreign Terrorist Organisation was being worked out.

What were the earlier developments in this regard?

- The statement was linked to a meeting between Presidents Donald Trump and Abdel Fattah al-Sisi of Egypt.
- During the meet, the Egyptian leader had urged the U.S. to impose sanction on the Muslim Brotherhood, which opposes his government.
- Also recently, the U.S. designated <u>Iran's Islamic Revolutionary Guard Corps</u> (IRGC) as a Foreign Terrorist Organisation (FTO).
- The designation imposed economic and travel sanctions on IRGC and on organisations, companies, and individuals that have links to it.

What is a Foreign Terrorist Organisation?

- Section 219 of the United States Immigration and Nationality Act provides for the designation of an organisation as an FTO.
- It authorises the Secretary of State to designate an organization as an FTO if s/he finds that
 - i. the organization is a foreign organization
 - ii. the organization engages in terrorist activity or terrorism
 - iii. it threatens the security of U.S. nationals or the national security of the country
- FTO designation plays a critical role in US's fight against terrorism, by curtailing support for terrorist activities and pressuring groups.

Who are the Muslim Brotherhood?

- Muslim Brotherhood is a movement that was founded in Egypt in 1928 by a schoolteacher named Hassan al-Banna.
- He preached that an Islamic religious revival would help Muslim nations improve their situation and defeat their colonial masters.
- Hassan al-Banna was not specific about the kind of Muslim revivalist government he was advocating.
- But his ideas travelled all over the world, and inspired a large number of Islamist groups and movements.
- It reached across political movements and parties as well as powerful missionary and charitable initiatives.
- Among others, Jordan, Iraq, Kuwait, Bahrain, Morocco, Turkey and Tunisia have large parties that trace their origins to the Brotherhood.
- Not all of today's movements and organisations call themselves the Muslim Brotherhood, however.

How about their terrorist orientation?

- In the 1940s, the Egyptian Muslim Brotherhood created an armed wing.
- In 1948, one of its members killed the Prime Minister, Mahmoud Fahmy el-Nokrashy Pasha.



- Hassan al-Banna denounced the killers as "neither Brothers nor Muslims".
- In the 1960s, the Brotherhood formally announced they were only "preachers".
- There is a broad consensus now that the Egyptian Brotherhood, as an organisation at least, has not undertaken violent action since then.
- However, after the military takeover in Cairo in 2013, some factions of it have broken off and carried out violence against the government.
- These include Hasm and Liwa al-Thawra which have already been designated as FTOs by the US.
- Hamas, an offshoot of the Muslim Brotherhood, designated as an FTO, carries out bombings and rocket attacks on Israeli civilians.
- Ayman al-Zawahiri, the fugitive leader of al-Qaeda, is a former member of the Egyptian Brotherhood.
- Given these, President Al-Sisi accuses the Brotherhood, as a whole, of supporting and carrying out terrorism.
- But the Brotherhood has strongly criticised al-Qaeda and violent undertakings of other factions.
- All over the world, Muslim Brotherhood movements have been advocating democratic elections.
- This has put them in the crosshairs of both authoritarian ruling regimes as well as militant Islamists.

8.2 Iran's Decision on Nuclear Deal

Why in news?

Iran has announced that it would reduce its commitments under the 2015 nuclear deal, the Joint Comprehensive Plan of Action.

Click <u>here</u> to know more on the deal.

What was the deal on?

- The Iran nuclear deal (or the Joint Comprehensive Plan of Action (JCPOA)) was signed between Iran and the P5, plus Germany and the EU in 2015.
- [P5 is the 5 permanent members of the UNSC (US, China, France, Russia, and UK).]
- The deal aimed at curbing Iran's nuclear programme.
- Under the deal:
 - i. most of Iran's enriched uranium was shipped out of the country
 - ii. a heavy water facility was rendered inoperable
 - iii. operational nuclear facilities were brought under international inspection
- In return, the deal involved lifting of international sanctions on Iran.

What is Iran's decision now?

- Iran has announced the suspension of some of the restrictions in the deal, and not of withdrawing from the deal.
- It will immediately stop shipping out excess enriched uranium and heavy water.
- Iran would give remaining parties to the deal 60 days to find solutions to shield Iran's banking and oil sectors from U.S. sanctions.

What led to this?

- The very idea for Iran agreeing to the deal was that it would help lift sanctions, providing relief to its economy.
- But U.S. withdrawal from the nuclear deal and the increasing pressure thereafter made implementation of the deal difficult.
- Iran's move now is a response to a year of increasing struggles with renewed sanctions, a new set of U.S. sanctions and several provocative U.S. threats.



- Recently, U.S. President Trump designated <u>Iran's Islamic Revolutionary Guard Corps</u> as a foreign terrorist organization.
- The U.S. also announced an end to waivers that allowed 8 countries, including India, to purchase Iranian oil. Click <u>here</u> to know more.
- Resultantly, Iran's oil shipments have significantly been affected.
- U.S. also revoked two waivers allowing Iran to ship excess heavy water to Oman and trade excess enriched uranium for low enriched uranium with other countries.
- This effectively limits Iran's ability to continue implementing its commitments under the deal.
- The countries which remained committed to the JCPOA feared the US would directly impose sanctions on anyone who dealt with Iran.

What are the likely implications?

- In theory, excess enriched uranium and heavy water allows Iran to expand its nuclear programme.
- The big threat is that it will resume higher levels of enrichment to build weapons unless its grievances are addressed in 60 days.
- Iran's concerns are genuine as it is being punished even as it is compliant with the terms of the agreement.
- Iran's decision is more of a warning than a move to break the nuclear deal.
- So it is high time that European signatories to the nuclear pact address Iran's concerns.
- If Europe does not find a solution in 60 days and Iran sticks to its threat, the deal will collapse, giving more reason to the U.S. to escalate hostilities.
- US has, among other things, deployed an aircraft carrier and a bomber squad to the Gulf.

What is the way forward?

- European countries have been working on a mechanism, which is still in the initial stages.
- It allows Europe to trade with Iran through a barter system avoiding the dollar and circumventing sanctions.
- But it has not covered oil trade, the mainstay of Iran's economy.
- In any case, Europe should stand firmly up to the U.S.'s unilateral threats and pressure, and come up with ways to help Iran.
- A practical alternative would be for Iran to deepen cooperation with other signatories instead of breaking the deal.
- A collapse of the deal would not only exacerbate the Iran nuclear crisis but also set a bad precedent in international diplomacy.

8.3 Yemen - Ceasefire Broken

Why in news?

Renewed clashes broke out between Houthi rebel fighters and Saudi-backed pro-government forces in Yemen.

Click here to read on Yemen Civil War

Click <u>here</u> to know more on the ceasefire agreement

What is the recent happening?

- The tussle in Yemen is essentially between Yemen's Shia Houthi rebels loyal to the former President and the forces loyal to the current government.
- [The former is Ali Abdullah Saleh and the latter is Present Abdrabbuh Mansour Hadi.]
- The two factions claim to constitute the Yemeni government.
- Following the December 2018 ceasefire agreement, Houthi rebels were withdrawing from three of Yemen's ports.



- But while the withdrawal was under way, Houthis, who are reportedly getting support from Iran, allegedly carried out a drone attack on a Saudi pipeline.
- In retaliation, Riyadh launched airstrikes on Sanaa, the capital city of Yemen controlled by the rebels.
- The attack killed at least six civilians, including children.
- Yemen now risks falling back to the pre-ceasefire days of conflict.
- Fighting is broken out in parts of the governmentcontrolled south too.

How has Saudi's role been?

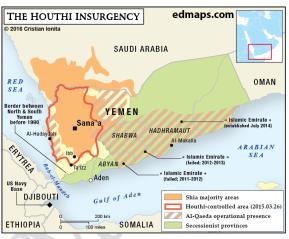
- Saudi Arabia started its Yemen military campaign in March 2015 with the goal of driving Houthis out of territories they captured.
- Four years of war have devastated the country of Yemen.
- According to the UN, at least 7,000 civilians have been killed.
- Thousands of others have died due to disease, poor health care and malnutrition.
- The blockade Saudi Arabia imposed on Yemen steadily worsened its hunger problem and health-care crisis, and is now on the brink of a famine.
- Even when the ceasefire was holding, the Saudis did not halt bombing Yemen.
- Saudi Arabia appears to be frustrated that it is not able to defeat the Houthis even after years of heavy bombing.
- The Houthis, on their part, continue to provoke the Saudis through cross-border rocket and drone attacks, both affecting the Yemenis severely.

Why is the recent attack so dangerous?

- The resumption of hostilities is more dangerous in the regional angle.
- Tensions are already on the rise in West Asia over the U.S.-Iran standoff. Click here to know more.
- The U.S. had earlier warned against possible attacks by either Iran or Iran-backed militias against American interests or its allies in the region.
- U.S. has also deployed an aircraft carrier and a bomber squad to the Gulf.
- Immediately after the pipeline was attacked, the Saudis blamed Iran for ordering it.
- Both Iran and the Houthis have refuted this allegation.
- Whatever the case be, the incident and subsequent Saudi airstrikes show how the Yemeni conflict is entangled with the rivalry between Iran and Saudi Arabia.

What is the way forward?

- Moving ahead, the Hodeida model should be replicated elsewhere in Yemen.
- Hodeidah is the city wherefrom Yemen's government and Houthi rebels agreed on the first phase of a withdrawal.
- The ceasefire took effect in this Red Sea port city and both the rebels and government forces showed compliance till the rebels pulled out recently.
- It is only safe if the parties to the conflict continue talks under international mediation.
- For this to be achieved, the Houthis should decouple themselves from the regional politics.
- They should stay focussed on resolving differences with the government and rebuilding the war-torn country.
- Importantly, Saudi Arabia should get out of Yemen.





9. ECONOMY

9.1 Economic Slowdown - May 2019

What is the issue?

The recent numbers on Index on Industrial Production and other indicators signal an economic slowdown across sectors.

What are the recent indicators?

- Automobiles Domestic sales of cars, commercial vehicles and two wheelers all contracted in April, 2019 from a year earlier.
- There is a decline of almost 16% in total automobile industry sales.
- This is an indication that consumption demand across markets urban and rural, institutional and individual is affected.
- Sales of commercial vehicles, a fair proxy for overall economic activity, slid 6% last month.
- A 16.4% drop in demand for two-wheelers extended the segment's slump into the new financial year, reflecting the rural distress.
- The data on passenger vehicles, which saw the steepest drop in almost 8 years, add to the weakening trend.
- **IIP** The latest industrial output figures underscore the widespread nature of the demand drought.
- The Index of Industrial Production (IIP) for March shows output fell 0.1% from a year earlier to a 21-month low.
- The capital goods sector shrank by 8.7% on the back of an 8.9% contraction in the preceding month.
- Output of consumer durables fell 5.1% from a year earlier.
- The growth in consumer non-durables production slid to 0.3% from the 14.1% pace in March 2018.
- **Manufacturing**, which has a weight of almost 78% in the index, continues to be the biggest drag.
- Manufacturing output contracted by 0.4% after shrinking by a similar extent in February.
- Overall, the sector's growth slowed to 3.5% in the last fiscal, from 4.6% in 2017-18.

What are the possible reasons?

- The possible factors for the slowdown include declining growth of private consumption, weak increase in fixed investment, and muted exports.
- It could be a result of endemic demand deficiency, deepened by demonetisation.
- This was later made worse by the <u>NBFC crisis</u> triggered by the implosion of <u>IL&FS</u> and others.
- It is not clear if the remonetisation of the economy resolved the woes of small firms hit by disruption of working capital cycles and their inability to repay debt.
- On the other hand, the IBC mechanism has not been able to release the locked assets quickly.
- This could have added to the uncertain investment scenario.
- It is, however, true that there were feeble signs of an investment pick-up in 2018-19.
- This was reflected in higher credit offtake by corporates from SBI and ICICI Bank.
- However, it is not clear if the rise in bank credit offtake and external commercial borrowings by corporates will translate into greenfield investments.
- Banks went on a credit spree during the first phase, and unviable infrastructure was created.
- Resultantly, now the economy is dealing with legacy NPAs, with infirmities in the financial sector still haunting.

What are the implications?



- All these indicators make CSO's implicit fourth-quarter GDP growth assumption of 6.5% an overly optimistic number.
- At the global level, challenges are increasing against the backdrop of an escalating trade war between the U.S. and China.
- Also, the rising tensions in West Asia are beginning to push up energy costs.
- Given all these, Indian policymakers have to contend with an external sector that would likely only add to the domestic pressure.

What lies ahead?

- The distress in the farm sector may just ease marginally if the monsoon does turn out to be "near normal" as forecast.
- It could also help marginally encourage demand revival in the rural hinterland.
- However, concerted measures are needed by the government to help reinvigorate demand.
- The government must also ensure that such a revival is robust, across-the-board and enduring.

9.2 Rise in Forex Reserve, April 2019

Why in news?

India's foreign exchange reserves has risen to a near one-year high of \$418.5 billion (week ended April 26, 2019).

What were the earlier challenges?

- Forex reserves had hit a high of \$426 billion in the week ended April 13, 2018.
- But it witnessed a steady slide over the following months and went down to \$392 billion in October, 2018.
- In October, the rupee had fallen to its all time low of 74.34 against the dollar.
- This was mainly because, in October, the Brent crude oil prices had hit a high of around \$86 per barrel.
- There were also high capital outflows from the debt and equity markets of India.
- So the RBI had to intervene to stem the slide of rupee against the dollar which was also putting pressure on current account deficit.
- Also, in the months after that, crude oil prices fell sharply as well as FPI fund flows stabilised, offering a much needed relief to the rupee.

What are the recent developments?

- There is a continuing strong inflow of funds by Foreign Portfolio Investors (FPI).
- In November and December 2018, FPIs invested a net of over Rs 17,000 crore in the equity and debt markets.
- Since February 1, 2019 FPIs have pumped in a net of close to Rs 76,000 crore into Indian equity and debt markets.
- A growing inflow of FPI money has helped the rupee withstand other pressures.
- It has helped balance the impact of US decision to withdraw waivers for imports from Iran. [Click <u>here</u> to know more.]
- Secondly, RBIs decision to conduct \$10 billion <u>dollar-rupee buy-sell swap</u> auction between March and April 2019 has also contributed.
- Resultantly, standing at \$399.1 billion in February 2019, forex reserves has risen sharply by over \$19 billion over the last 2 months.
- The current reserve of \$418.5 billion is the highest since May 4, 2018 when it stood at \$418.94.

How will it benefit the economy?

• Forex reserves in terms of months of import cover has fallen from 14 months from April 2016 to 9 months in October 2018.



- But rising forex reserves had led to an improvement in India's import cover to 11-months in February 2019, and is expected to improve further.
- As forex reserves continue to rise, a decline in imports would lead to improvement in current account deficit in the coming quarters.

9.3 Tax Revenue - Record GST Collections

What is the issue?

- The Finance Ministry released the recent numbers on tax collections, with GST registering an all time high.
- It offers hope for pick up in economic growth rate in the coming quarters.

What are the highlights?

- **Income tax** For the first time in the history of income tax returns, the number of returns filed dropped in FY19.
- It is down to 6.68 crore from 6.74 crore in FY18, indicating the diminishing effect of demonetisation.
- Income Tax compliance has been lower in FY19 compared to the past few years.
- The ratio of actual filings to registered filers dropped to 79.1% in FY19 from an all-time high of 91.6% in FY18.
- Against the revised estimates, overall direct tax collection in FY19 fell short by Rs. 50,000 crore.
- GST -In indirect taxes, the goods and services tax (GST) collections was around Rs.1.13 lakh crore in March, 2019.
- This is the highest recorded since the tax regime was introduced in July 2017.
- Strong collections over the last two months reflect the growing compliance with indirect tax laws.
- They represent an increase of over 10% compared to the same month a year ago.

What are the possible reasons on GST collections?

- It is largely attributed to increasing compliance among businesses as a result of push by the tax authorities to widen the tax base.
- The tax rate cuts by the GST Council in December too may have spurred higher volumes for some goods and services.

Shift in income tax filings

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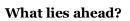
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- The rush to pay tax arrears at the end of the financial year may have been another seasonal factor.
- Enforcement action by tax authorities to collect more revenue from registered taxpayers who have not been filing returns could have helped too.

What is the significance?

- The growth rate of the economy fell from 8.2% in the first quarter to 7.1% in the second and 6.6% in the third. Click here to know more.
- Given this, the latest GST numbers offers some hope for better growth momentum in 2019-20.
- Healthier GST collections, if sustained, will also mean • less pressure on the Centre to cover its fiscal deficit.



- The government will have to look at ways to expand the tax base in the context of direct tax collections.
- Weak growth in tax filings is likely to have further impacts in an already stressed fiscal space.
- On the other hand, with collections hitting a record high in GST, the next step should be to simplify the tax regime.

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GST collections touch record

high in March this year



• To encourage greater compliance, there must be efforts to make it easier for small firms to remain in the tax net.

9.4 SEBI's Order on NSE

Why in news?

Securities and Exchange Board of India (SEBI) ordered the National Stock Exchange of India (NSE) to pay a fine of about Rs.1,000 crore over certain irregularities.

What is the scam all about?

- Co-location services allow brokers to operate closer to their servers upon payment of additional fees.
- It helps brokers secure advantage over others due to proximity to exchange servers as data transmission takes less time.
- A whistleblower in 2014-15 complained to the SEBI, on brokers abusing the colocation facility in collusion with few top NSE officials.
- NSE was then using the so-called tick-by-tick (TBT) server protocol to relay data to members.
- Normal data protocols send data to all users connected on the network at the same time.
- But TBT transmits in the sequence of orders received.
- In other words, the user who gets the access to the system first would receive data earlier than the rest.
- [Omnesys Technologies is the company that provided this technology to NSE.]
- A select set of brokers in collusion with NSE officials and Omnesys Technologies got the first access to the NSE's servers giving them an advantage.

What is SEBI's order now?

- SEBI has found OPG Securities, GKN Securities and Way2Wealth along with internet service provider Sampark Infotainment guilty of unfair trading practices.
- These brokerages continuously got first access to NSE servers.
- OPG got access to NSE's backup servers which were maintained by it to prevent technical glitches on the main server from impacting operations.
- It thus, in effect, gave them first access which helped them in executing orders fast.
- NSE also overlooked the fact that Sampark Infotainment did not have a valid Department of Telecom licence to provide dark fibre connectivity to some brokers.
- [Connection through dark fiber ensures more bandwidth and less distortion of data; faster and efficient access to exchange's servers.]
- Along with brokers, SEBI has also charged several NSE top officials for colluding with brokers and not following appropriate protocols.
- Two former NSE chiefs have been ordered to pay back a part of their past salaries as punishment.
- Further, NSE has been slapped with a fine of Rs 687 crore plus interest.
- Also, NSE cannot access capital markets for six months, and its Initial Public Offering (IPO) will be delayed till the year-end.

Did NSE break the rules?

- It was NSE's supervisory negligence that led to some of its broker-clients gaining preferential access to certain market data.
- But there was lack of sufficient evidence to establish fraudulent conduct by NSE.
- It's because it has not yet been proven decisively that the firms with preferential access managed to profit from such data.
- Nevertheless, clearly, NSE failed to ensure that the exchange was fully compliant with the norms governing securities exchanges.



• This violates SEBI's principle of not allowing information asymmetry among the participants, and thus affects market fairness.

Why is SEBI's move significant?

- Millions of retail investors believe that stock exchanges provide a level playing field to all the players.
- Given this, the financial penalty on NSE is a welcome regulatory action.
- It ensures that small investors retain confidence in the fairness and soundness of key institutions that enable a market economy.

Quick Fact

National Stock Exchange of India

- The National Stock Exchange of India Ltd. (NSE) is the leading stock exchange in India.
- It is the second largest in the world by nos. of trades in equity shares from January to June 2018.
- NSE has a fully-integrated business model comprising exchange listings, trading services, clearing and settlement services, indices, market data feeds, technology solutions and financial education offerings.
- It also oversees compliance by trading and clearing members and listed companies with the rules and regulations of the exchange.

9.5 New Income Tax Rule for Senior Citizens

Why in news?

The Central Board of Direct Taxes (CBDT) has revised the rules applicable in case of filing of Form 15 H, allowing Section 87A rebate.

What is Form 15 H?

- The Form 15 H is a declaration under section 197A (1C) of the Income Tax Act.
- This is to be made by an individual who is of the age of 60 years or more claiming certain incomes without deduction of tax, i.e. TDS.
- The form needs to be submitted to any institution such as a bank.
- It deducts TDS if interest income exceeds Rs 50,000 a year (Rs 40,000 for non-senior citizens).

What is Section 87A?

- Under Section 87A of the Income Tax Act, an assessee, being an individual resident in India, whose total income does not exceed Rs 5 lakh, shall be entitled to a deduction.
- This will be a deduction from the amount of income-tax (as before allowing the deductions) on the total income with which s/he is chargeable for any assessment year.
- The deduction will be an amount equal to 100% of such income-tax or an amount of Rs 12,500, whichever is less.

What is the new rule?

- CBDT has notified that the Form 15H declaration will cover the Section 87A rebate.
- The new rule is applicable for the financial year 2019-20.
- The new rule will benefit those senior citizens whose tax liability will be Nil after allowing rebate under Section 87A.
- This means that if they are able to keep their total taxable income within Rs 5 lakh, they will face no tax and will be eligible to file Form 15H.
- Those who have interest income as the only source of income will stand to benefit from this change.
- The new rule will help reduce the running around for tax refund for those who now become eligible for submission of Form 15 H.



CBDT

- The Central Board of Direct Taxes is a statutory authority functioning under the Central Board of Revenue Act, 1963.
- CBDT consists of a Chairman and six Members.
- The officials of the Board in their ex-officio capacity also function as a Division of the Ministry dealing with matters relating to levy and collection of direct taxes.

9.6 RBI Draft Rules for NBFCs

Why in news?

RBI has put up the draft circular, Liquidity Risk Management Framework for Non-Banking Financial Companies and Core Investment Companies.

Click here to know more on NBFCs

What are the new rules?

- LCR Non-Banking Financial Companies (NBFCs) should maintain a liquidity coverage ratio (LCR) in line with banks.
- [The LCR requires banks to hold enough high-quality liquid assets (HQLA) that can be sold to fund banks during a stress scenario.]
- The LCR requirement shall be binding on NBFCs from April 01, 2020.
- The liquidity rules were proposed for all NBFCs.
- But for NBFCs with assets above Rs 5,000 crore and deposit-taking NBFCs, the LCR is mandatory.
- **HQLA** RBI has asked the firms to have sufficient High Quality Liquid Asset (HQLA) that would keep them liquid for at least 30 days.
- HQLAs are generally cash or government securities that can be quickly sold in the market to raise cash.
- The minimum HQLAs to be held from April 1, 2020 will be 60% of the LCR.
- But by April 1, 2024, large and deposit-taking NBFCs should have HQLAs of a minimum of 100% of net cash outflows over the next 30 calendar days.
- **Collaterals** An NBFC must actively manage its collateral positions, differentiating between encumbered and unencumbered (free of liabilities) assets.
- NBFCs should monitor such assets so that they can be mobilised in a timely manner.
- All NBFCs must have **contingency funding plans** for responding to severe disruptions.
- Liquidity position Firms are to measure their liquidity in a granular manner, measuring as minutely as 1-7 days', 8-14 days', and 15-30 days' period.
- Asset-liability mismatches should not exceed 10-20% in the timeframes running up to a year.
- Liquidity position has to be reported to the RBI, along with the interest rate sensitivity statement.
- Liquidity positions should also be disclosed to the public for investors.
- [Earlier, the RBI also asked large NBFCs to introduce <u>chief risk officers</u> to manage asset-liability mismatches on the books.]
- In addition to the structural and dynamic liquidity needs, a stock approach will also have to be maintained to gauge liquidity needs.
- NBFCs were thus asked to maintain tools that would generate early warning on risk situations.

What is the rationale?

- Since the <u>IL&FS crisis</u>, there has been notable uncertainty in the NBFC market.
- Over the past few months, many NBFCs have not been able to borrow from markets, including banks.
- In this backdrop, the regulatory norms are good for the long-term sustainability of the NBFC sector.



- With the RBI bringing in the guidelines to manage asset-liability mismatches, lenders will get more confidence.
- It ensures that an NBFC has sufficient collateral to meet expected and unexpected borrowing needs.

9.7 Tariff Issues in Indo-US Trade

Why in news?

US Commerce ministry condemned India for charging high tariffs on US products and for having a difficult regulatory environment.

What are the issues in Indian tariffs highlighted by US?

- According to US products such as motorcycles, technology goods and Agri produce attracted zero tariffs in the US, but corresponding duties imposed by India were "unjustifiably high".
- Other obstacles by India included price controls on medical devices and pharmaceuticals, and restrictive tariffs on electronics and telecommunications.
- India has average applied tariff rate of 13.8 per cent and that remains the highest of any major world economy.
- It has, for example, a 60 per cent tariff on automobiles, 50 per cent on motorcycles, and 150 per cent on alcoholic beverages.
- Its bound tariff rates, namely the highest rate they can charge, on agricultural products average an incredible 113.5 per cent, and some are as high as 300 per cent, these are not justified percentages for the USA.

What is action taken by US on the issues?

- The US is India's largest export market, accounting for 20 per cent of all shipments.
- The US has recently pushed aggressively to reduce its trade deficit with India, which stood at \$ 21 billion in 2018.
- Due to overtly restrictive market access barriers India is US' 13th largest export market.
- India is the largest beneficiary nation under the GSP scheme, having exported goods worth \$5.6 billion to the US in 2017-18.
- The US has indicated that it will cut off India's duty-free access to its markets under the Generalized System of Preferences (GSP) trade scheme after May 23.
- USAs strict Foreign Corrupt Practices Act assures the Indian government that US companies will not cause scandals in India.
- India demands American companies to operate in a transparent environment supported by the rule of law, and a level playing field.

What is Generalized System of Preferences?

- The Generalized System of Preferences (GSP) is a U.S. trade program instituted in 1976 to promote economic growth in the developing world.
- It provides preferential duty-free entry for up to 4,800 products from 129 designated beneficiary countries and territories.
- The concept of GSP is very different from the concept of MFN.
- GSP provides tariff reduction for least developed countries where MNF is only for not discriminating among WTO members.
- Often GSP authority lapses before it is renewed, in which case duties on imports that are normally covered are held in escrow pending renewal.
- If any item's GSP status changes, thereby losing eligibility for duty-free treatment, the duties held in escrow will not be refunded to the importer.

What will be the impacts for India on loosing GSP?

• US imports \$586.58 million worth of RMG products under 15 categories that currently enjoy GSP.



- India's share of this pie is \$17.97 million, the bulk of the benefit is concentrated on Woven silk dresses for women, which make up 58.5 per cent of India's total trade under GSP.
- USA's plan to end the preferential trade status granted to India may have negative impact on textile exports from the country.
- The existing list of products for withdrawal of GPS may not have a major impact on India's garments exports.
- But, if the list is expanded to cover India's readymade garments (RMG) also, then the impact would be big as 30-35 per cent of India's RMG exports go to the United States.
- Though the impact would be marginal, under the current circumstances it would not be good as exports are already dropping.
- The high impact would be on women's or girls dresses, not knitted or crocheted, containing 70 per cent or more by weight of silk or silk waste.

What lies ahead?

- India countered the charges of USA by pointing out current tariffs were well within the threshold allowed under the World Trade Organization (WTO) rules, and said other nations had protected their industries by imposing much higher tariffs.
- Apart from protectionism Union government should make a plan to compensate the price increase through subsidy or incentives and should learn from the US on different matters related to trade.

9.8 Assessing India's Trade Policy

What is the issue?

With uncertain developments in, and the changing nature of, the global trade, India has to make a revisit of its trade policy.

What are the recent developments?

- **US-China** United States increased its tariffs from 10% to 25% on \$200 billion worth of Chinese goods.
- China soon retaliated, by announcing its plans to hike import tariffs ranging from 5% to 25% on a target list worth \$60 billion of US goods.
- The renewed US-China trade war and related uncertainty is likely to have a negative impact.
- Worryingly, the impact will be far beyond the US-China bilateral trade on global growth.
- The WTO, in its recent revised estimates, has already trimmed world trade growth forecast for 2019 to 2.6% from the earlier 3.7%.
- India-US On the India-US side, the recent tensions include the following
 - i. withdrawal of the generalized system of preferences (GSP) by the US
 - ii. end of sanction waivers for crude oil imports from Iran
 - iii. criticism of <u>India's protectionist tariff regime</u> and complex business environment by the visiting US Commerce Secretary
- All these have led to heightened tensions regarding US-India bilateral economic relations and trade diplomacy.
- The goods trade deficit reached a high of \$176 billion in 2018-19.
- At \$331 billion, exports, though the highest since 2013-14, have been well below the target of the Ministry of Commerce (MoC) for the year.

What does it call for?

- An export push in traditional sectors is being appropriately worked on by a newly set up Ministry of Commerce working group.
- But these challenging circumstances require a deeper understanding of global value chain (GVC)-led trade.
- The facilitating role of preferential trading agreements (PTAs) therein has to be understood more now than before.



- In particular, India needs to recognise the importance of aligning with evolving regional trade formations.
- Utilising PTAs in its global value chain integration strategy is the need of the hour.

How is India's export sector at present?

- Sectors India's exports continue to be predominantly low skill and labour intensive commodities.
- Gems and jewels, cotton, articles of apparel and footwear have together accounted for 25-35% of exports over a decade and half.
- Over the same period, the most dynamic sectors globally have been office machinery, communication equipment, textiles and apparel.
- These have taken shape with highest production fragmentation based sectoral relocation across borders, which is characteristic of GVC led trade.
- **Office machinery**, with almost 40% of exports relocating across countries, has been the most dynamic sector globally.
- But the corresponding sectors of electrical equipment and machinery account for only 4-5% of India's exports.
- This reflects India's insignificant integration in global GVCs.
- Textiles and apparel is the only sector where India has been able to share gains of sectoral dynamism.
- However, this has only been alongside other countries such as China, Bangladesh and Vietnam.
- Even in this, over time, India's share in global exports has declined from a constant of about 5% in 2000-2012 to 4% in 2017.
- Over the same period, competitors like Bangladesh have registered an increase in their share of global exports from around 4.5% to 8%.
- China leads with a share of 37% in global exports in textiles and apparel.
- Other Indian top export sectors like leather goods, chemicals, and motor vehicles have been among the less dynamic sectors with lower relocation shares.
- India's export basket has not, therefore, evolved in line with the pattern of dynamic GVC-led trade.

How is the regional trade scenario?

- At present, global value chains (GVCs) are undergoing a transformation.
- There is greater domestic content and regional consolidation.
- This is particularly the case in East Asia and in sectors like automotives, computers and electronics.
- East Asia has emerged as the global manufacturing hub centred on China early on in the process of GVC-led trade.
- The EU and North America were the other GVC hubs.
- But trade and growth in the EU is yet to gain its pre-global financial crisis momentum and the US grapples with trade disputes.
- So currently, East Asia remains the most resilient regional manufacturing hub in the world.
- It thus becomes imperative that India seeks a trade strategy towards greater integration with East Asia.

How significant is RCEP in this context?

- Regional comprehensive Economic Partnership (RCEP) offers India the above opportunity, but there is no agreement yet on its clauses.
- India's perception of the RCEP is limited by its bilateral trade deficit with the largest economy in the trade formation China.
- India's stance in the RCEP negotiations has been mainly defensive.
- It seeks differential and lower levels of preferential market access for its non-FTA partners such as China and Australia/New Zealand.



- This is because of the fear of being overwhelmed by Chinese goods under a preferential arrangement.
- Nevertheless, RCEP has to be seen as a mega regional trade agreement.
- Notably, India's trade strategy to work through multilateralism may once have been an option.
- But today when the WTO is struggling to remain relevant, mega regional PTAs have become dominant trade vehicles.
- It would, therefore, be in India's interest to make sure that the RCEP negotiations are concluded at the earliest.
- It is a means to both trade liberalisation and integration with regional value chains or GVCs through East Asia.
- Furthermore, China is caught in a trade war with the US.
- So India using its large, alternative market advantage could work out a bilateral deal with China within the RCEP.

9.9 Crisis in WTO's Appellate Body

What is the issue?

Over 20 developing countries recently met in New Delhi to discuss ways to prevent the World Trade Organization's dispute resolution system from collapsing.

What is the WTO's Appellate Body?

- The Appellate Body of the WTO was set up in 1995 and is a standing committee of 7 members.
- It presides over appeals against judgments passed in trade-related disputes brought by WTO members.
- Over 500 international disputes had been brought to the WTO and over 350 rulings had been issued since 1995.
- With this, WTO's dispute settlement mechanism is one of the most active in the world.

How does it work?

- Countries involved in a dispute can approach the Appellate body if they feel the report of the panel set up to examine the issue needs to be reviewed on points of law.
- The Appellate Body can uphold, modify, or reverse the legal findings of the panel that heard the dispute.
- Between 1995 and 2014, around 68% of the 201 panel reports adopted were appealed.
- Countries on either or both sides of the dispute can appeal.
- The Appellate Body has so far issued 152 reports.
- The WTO's dispute settlement procedure is vital to ensuring smooth international trade flows.
- The reports, once adopted by the WTO's disputes settlement body, are final and binding on the parties.

What is the ongoing crisis?

- Over the last 2 years, the membership of the Appellate Body is down to just 3 persons instead of the required 7.
- This is because the United States has been blocking appointments of new members.
- It also stalls the reappointments of some members who have completed their four-year tenures.
- The U.S. believes that WTO is biased against it, and is thus blocking appointments.
- Two of the three members will complete their tenures in December, 2019, leaving the body with just one member.
- Notably, at least 3 people are required to preside over an appeal.
- If new members are not appointed to replace the two retiring ones, the body will cease to be relevant.

What are the implications?



- The understaffed appeals body has been unable to stick to its 2-3 month deadline for appeals filed in the last few years.
- The backlog of cases has prevented it from initiating proceedings in appeals that have been filed in the last year.
- The three members have been proceeding on all appeals filed since October, 2018.
- Unless the issue is resolved, the trade body could become defunct.
- Consequently, countries locked in international trade disputes will be left with no forum for recourse.
- The US is directly involved in more disputes than other WTO member countries.
- But several countries, including India, enter disputes as third parties.
- India India has so far been a direct participant in 54 disputes, and has been involved in 158 as a third party.
- In February 2019, the appellate body said it would be unable to staff an appeal in a dispute between Japan and India.
- This was over certain safeguard measures that India had imposed on imports of iron and steel products.
- The panel had found that India had acted "inconsistently" with some WTO agreements.
- India had notified the Dispute Settlement Body of its decision to appeal certain issues of law and legal interpretations.
- But it has so far been unable to review at least 10 appeals that have been filed since July 2018.

What is the larger concern?

- With the Appellate Body unable to review new applications, there is already uncertainty over WTO's dispute settlement process.
- If the body is declared non-functional, countries may be compelled to implement rulings by the panel despite concerns with it.
- If a country refuses to comply with the panel's order, it will run the risk of facing arbitration proceedings initiated by the other party.
- This does not bode well for India which is facing a rising number of dispute cases, especially on agricultural products.
- Also, the overall weakening of WTO framework could have the effect of undoing over two decades of efforts to avoid protectionism in global trade.
- This is a major concern currently, because trade tensions such as between the US and China and the US and India, are on the rise.

What is the way forward?

- New appointments to the Appellate Body are usually made by a consensus of WTO members.
- But there is also a provision for voting where a consensus is not possible.
- The group of 17 least developed and developing countries have committed to working together to end the current impasse.
- This group, which includes India, can submit or support a proposal to the above effect, helping to get new members on the Appellate Body by a majority vote.

9.10 Boosting Private Investments

What is the issue?

A key priority for the new government taking office after the general elections 2019 would be to revive private investments in the country.

What is the current growth scenario?

• Currently, growth is largely being powered by consumption and government spending.



- The other two, more powerful engines of growth, namely, private investment and exports, are still sluggish.
- Indeed, if private investment gains momentum, consumption and government spending as well as exports would get a boost.
- When India grew its fastest (2003-08), private investment as a share of GDP was around 36%.
- In contrast, now, it is hovering around the 29% mark.

What is the need now?

- There has been appreciable government spending, particularly on infrastructure, to make up for the sluggishness of private investment.
- As a short-term strategy, it works.
- However, in the medium term, government capacity to spend productively and speedily is limited.
- To address this and for private investment to be the priority, there has to be structural change within the ministry of finance.
- The balance of power needs to shift away from the departments of revenue and expenditure to the departments of economic affairs and financial services.
- This does not mean the government should adopt austerity.
- But if the challenge is to deliver more jobs and better paid jobs, then priority must be given to reviving private investment.

What are the priorities in the coming years?

- **Changes** The new government must commit that it will not apply any policy change with retrospective effect.
- It should also not make any abrupt changes in rules, to ensure the smooth functioning of the economy and confidence of investors.
- **PSUs** The government must execute the strategic disinvestment/privatisation plans approved so far.
- A loss-making and inefficient public sector is a burden for the whole economy.
- It causes distortions which deter private participation in several sectors.
- If there are no buyers forthcoming for these PSUs, they must be closed down as they may have undesired effects on the handful of well performing PSUs too.
- FDI Import dependence in the most strategic sectors like defence is growing steadily.
- Also, Indian firms do not have the capacity to take over failing firms in some other critical sector, as in the case of Jet Airways and Air India
- In this context, the government must revisit and rationalise on the FDI caps that remain across sectors.
- Tax The current approach of setting targets for tax officials in tax collections is often counter-productive.
- The system cannot become coercive and extractive and therefore a deterrent to investment.
- A reorientation in strategy is urgently required in this front.
- **Dispute resolution** There needs to be a dialogue within the government on alternative (to courts) methods of dispute resolution.
- There is not likely to be any immediate solution to the massive backlog at various levels of the judiciary.
- So the government should take efforts to resolve disputes in a different forum, like arbitration.



10.AGRICULTURE

10.1 PepsiCo and Potato Farmers Case

Why in news?

- PepsiCo India Holdings (PIH) announced it is withdrawing lawsuits against nine farmers in north Gujarat.
- It had earlier sued 11 farmers for "illegally growing and selling" a potato variety registered in the company's name.

What is the case about?

- The patent is for the potato plant variety FL-2027 (commercial name FC-5).
- Pepsi's North America subsidiary Frito-Lay has the patent until October 2023.
- For India, PIH has patented FC-5 until January 2031 under the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001.
- The FC-5 variety, used to make Lay's chips, is grown under a contract farming deal, by 12,000 farmers in Gujarat's Sabarkantha district.
- PIH has a buyback agreement with some Gujarat farmers.
- It has now accused 11 farmers of illegally growing, producing and selling the variety "without permission of PIH".
- The government reportedly held out-of-court settlement talks with the company, which eventually announced the withdrawal of cases.

What do the farmers say?

- Farmers say that the agreement was only that PIH would collect potatoes of diameter greater than 45 mm.
- Farmers would store the smaller potatoes for sowing next year.
- Some of the other accused farmers said they got registered seeds from known groups and farmer communities.
- They had been sowing these for the last four years or so, and had no contractual agreement with anyone.
- They said they learnt they were growing a registered variety only when they got a court notice.

Is PHI's claim valid?

- Rights on a patented seed differ from country to country.
- In the US, if someone has patented a seed, no other farmer can grow it.
- But the Section 39(1)(iv) of the PPV&FR Act of India has clauses in defence of the farmers in this case.
- Under this, farmers were allowed to continue to practise in the same manner as was entitled before the coming into force of this Act.
- In other words, they could save, use, sow, resow, exchange, share or sell farm produce including seed of a variety protected under this Act.
- It was only specified that the farmer shall not be entitled to sell branded seed of a variety protected under this Act.
- Certainly, in Pepsico's case, the seeds were not sold as branded seeds.

Why is the PPV&FR Act significant?

- India's choice in this regard is a conscious departure from UPOV (International Union for the Protection of New Varieties of Plants) 1991.
- The UPOV 1991 gives breeders the right to monitor all aspects of a farmer's activity.
- It bars the scope for farmers to re-use seeds without their permission.
- But the PPV&FR Act was formulated to give farmers free access to seeds.
- Japan and Canada, besides other developing countries, have also voiced their reservations against UPOV.

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- The argument that food should be kept out of rigid patent-like frameworks gains ground here.
- It is not clear whether enhanced breeders' rights under UPOV have enhanced research and public welfare along expected lines.
- But monopoly concerns as well as those related to health and the environment have assumed centre-stage over time.
- To see in the Green Revolution context in India, indigenous varieties of rice have been rendered extinct by the propagation of hybrids.

What lies ahead?

- Plant diversity is crucial in a time of growing pest attacks, rising temperatures and climate change.
- UPOV does not appear to be in sync with these realities.
- However, breeder research should be promoted in drought resistant varieties of millets and pulses.
- There is no reason to believe that India's legal framework does not allow this space, given the private participation in these areas.
- Government efforts should balance among the aspects of providing for new varieties, farmers rights, and environmental concerns in this regard.

11. SCIENCE & TECHNOLOGY

11.1 Blockchains for Internet of Things

What is the issue?

- The Internet of Things is gaining momentum as the much deployed technology in the world across sectors.
- In this backdrop, here is how the blockchain architecture could satisfy the key demands of IoT.

What is IoT?

- The internet of things, or IoT, is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people.
- These are provided with unique identifiers (UIDs) and the ability to transfer data over a network.
- The transfer happens without requiring human-to-human or human-to-computer interaction.

How significant is this becoming?

- Estimatedly, the number of connected devices in the world could grow 2.4-fold, from 6.1 billion in 2017 to 14.6 billion by 2022.
- Traffic from these connected devices is expected to grow seven-fold over the same period.
- With this, there will be an exponential increase in both the number of devices and amount of data transmitted.

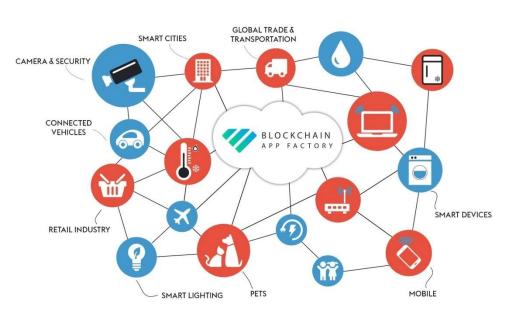
What are the challenges?

- With IoT, a large amount of data is being captured from all around people by millions of devices.
- So there are reasonable concerns with respect to scalability, reliability and security, when considering the creation of large IoT networks.
- So it is essential to provide for an acceptable level of confidence in the platforms that will power the Internet of Things.
- Besides, a key question is if optimum economic value could be derived from the vast amount of data generated.
- The answer is not that encouraging as the quality and adequacy of the back-office systems and technologies are not adequate yet.
- Globally, only about 30% of IoT projects survive beyond the pilot phase.
- This is a powerful indicator that much needs to be done to effectively tap this new technology.



How does blockchain help here?

- The blockchain or multi-ledger technology provides the possible solution in handling the large amount of data.
- Blockchain was designed specifically as a back-end for Bitcoin, a crypto-currency.
- [It is a digital public ledger that records every transaction. Once a transaction is entered in the blockchain, it cannot be erased or modified.]
- But the conceptual architecture of blockchain, being versatile, has evolved and found theoretical application in nearly every industry.
- It can work as a distributed network, and safely execute on a wide variety of requirements.
- This makes it an ideal candidate to support the level of innovation and adoption required for IoT to succeed.
- The key issues of scalability, identity management, autonomy, reliability, security and marketing can all be addressed.
- But the IoT Blockchain combination rarely gets the attention it deserves.



Blockchain IoT

What are the key features of IoT-Blockchain use?

- **Decentralisation** The current centralised architectures of IoT networks is problematic when it comes to citywide networks.
- Decentralisation is a core feature of blockchains; the expected points of failure and scalability bottlenecks in IoT can be adequately addressed.
- If implemented appropriately it could allow for a shift to peer to peer network designs, greater fault tolerance and expedited scalability.
- **Managing identities** A massive IoT network would also be required to manage identities of both users and things.
- With blockchain, all identity records can be contained within a single network, thus facilitating their discovery and management.



- **Autonomy** The very nature of IoT mandates a certain level of autonomy in the functioning of enabling platforms.
- The reliance on server farms is expected to be significant for any large scale IoT implementation.
- With blockchain, devices would be able to communicate without the need for large server farms.
- **Security** In IoT, authenticity and verification of data are critical, especially in the case of digitised citywide networks.
- The tamper-proof nature of the blockchain provides the much-needed security to IoT platforms.
- Powered by smart contracts, the blockchain could enable secure communications between devices, with scope for radical innovation.

How could large scale adoption be ensured?

- The blockchain possesses the ability to increase market access for deployed services.
- Transactions between peers can be simplified to a significant degree, and without the need for authorities or third parties.
- The blockchains' trustless environment ironically offers unprecedented levels of distributed security.
- This is ideal for the deployment of micro services and for the simplified execution of micro transactions.

11.2 RISAT-2B Launch

Why in news?

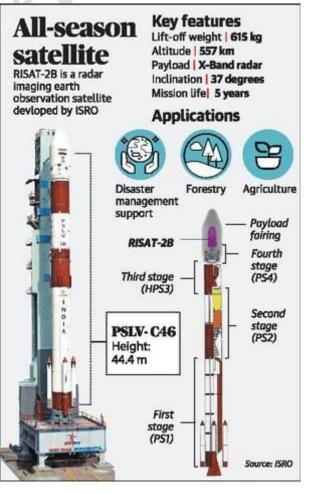
The RISAT-2B satellite was launched with the PSLV-C46 by the Indian Space Research Organisation (ISRO).

What is the RISAT?

- Two satellites in RISAT (radar imaging satellite) series have earlier been launched by ISRO.
- RISAT-2 was the first one to be launched, in 2009, while RISAT-1, which had got delayed, was launched only in 2012.
- RISAT-1 is no longer operational.
- After a very long time, ISRO's PSLV rocket was used to launch just one satellite into space.
- In recent times, ISRO has been launching multiple satellites at one go.

What are the key features?

- The RISAT, or radar imaging satellite, is equipped with a sensor known as **'synthetic aperture radar'**, to take "radar images".
- It works much like the flashlights of a camera, which release visible light to illuminate an object and then use the reflected light to create an image.
- The synthetic aperture radar transmits hundreds of radio signals (**microwave pulses**) every second towards the ground.
- It then captures the signals reflected back by the objects, to create a radio image, which can then be used by computers to build a real image.
- The moisture and texture of the object will determine the strength of the microwave signal that gets reflected.
- The strength of the reflected signal will help determine different targets.





- Likewise, the time between the transmitted and reflected signals will help determine the distance to the object.
- Unlike visible light, microwaves have longer wavelength and so will not be susceptible to atmospheric scattering.
- In other words, the very large wavelength radio waves are not obstructed by clouds, dust or other such obstacles in the atmosphere.
- So they produce reliable images during day and night and all seasons.
- The RISAT-2B satellite uses **X-band synthetic aperture radar** for the first time, which was developed indigenously.
- Unlike the C-band that was used by RISAT-1, the X-band allows for higher resolution imagery for target identification and discrimination.
- [C-band and X-band are the designations for a band of frequencies in the microwave radio region of the electromagnetic spectrum.]
- Since it has high resolution, the satellite will be able to detect objects with dimensions of as little as a metre.
- This capacity to study small objects and also movement could be useful for surveillance.

What is the significance?

- RISAT-2B adds to India's capability to observe the earth in all weathers and all conditions.
 - It will enhance India's monitoring capabilities for civil and military purposes, which include
 - i. crop monitoring during the monsoon season
 - ii. forestry mapping for forest fires and deforestation
 - iii. flood mapping as part of the national disaster management programme
- Given that overcast skies are a constant during monsoon season and times of flood, the ability to penetrate the cloud cover is essential.
- While optical remote sensing that relies on visible light for imaging gets obstructed by clouds, RISAT-2B will not.
- Services of such satellites are in great demand from national security agencies as well.

12. ENVIRONMENT

12.1 IPBES Report

Why in news?

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) recently released a report.

What is IPBES?

- IPBES is an independent intergovernmental body, established by member States in 2012.
- It is a global scientific body, similar in composition and functioning to the Intergovernmental Panel on Climate Change (IPCC).
- IPCC's assessment reports form the scientific basis on which the international negotiations on climate change have been happening.
- IPBES is often described as the "IPCC for biodiversity", as it is mandated to do a similar job for natural ecosystems and biodiversity.
- The objective is to strengthen the science-policy interface for biodiversity and ecosystem services.

How does it differ from IPCC?

• Like IPCC, IPBES does not produce any new science. It only evaluates existing scientific knowledge to make assessments and projections.



- However, unlike IPCC, the IPBES assessment reports are likely to feed into and inform several multilateral processes.
- Two UN Conventions are likely to be guided by this report in future, -
 - 1. Convention on Biological Diversity that addresses biodiversity issues
 - 2. Convention on Combating Desertification that deals with sustainable land management
- Besides, the Ramsar Convention, Convention on International Trade in Endangered Species, and Cartagena Protocol may also find some inputs.

What is the present report on?

- The present one is the first global assessment report by the IPBES. [IPCC, set up in 1988, has produced 5 reports so far.]
- It includes a systematic review of 15,000 scientific and government sources and resources collected from indigenous and local knowledge.
- The IPBES report makes a comprehensive scientific evaluation of the state of Earth's natural ecosystems.
- It gives a detailed account of health of the species that inhabit earth and the condition of habitats that they live in and depend upon.
- It ranks "five direct drivers" that cause changes in nature that have the largest relative global impact.
- In descending order, these include:
 - 1. changes in land and sea use
 - 2. direct exploitation of organisms
 - 3. climate change
 - 4. pollution
 - 5. invasive alien species

What are the key findings?

- The health of ecosystems that humans and other species depend on is "deteriorating more rapidly than ever".
- As many as 1 million different species are facing the threat of extinction, more than at any previous time.
- This is out of a total of an estimated 8 million plant and animal species.
- The threat is because of changes brought about in natural environments by human activities.
- The current rate of global species extinction is "tens to hundreds of times" higher compared to the average over the last 10 million years.
- Even for global warming of 1.5 to 2 degree Celsius, the majority of terrestrial species ranges are projected to shrink profoundly.
- Natural habitats are being destroyed at an accelerating pace.
- 75% of earth's land surface and 66% marine environments have been "significantly altered".
- Over 85% of wetland area had been lost.
- But, on an average, these trends were less severe on areas controlled or managed by indigenous people and local communities like the tribes.
- The negative trends in nature are expected to continue to 2050 and beyond in all of the policy scenarios explored in the assessment.



What humans have done to nature

8 million

estimated number of animal and plant species on Earth

40%: amphibian species threatened with extinction

33%: reef forming corals, sharks and shark relatives, and 33% marine mammals threatened with extinction

680: vertebrate species driven to extinction by human actions since the 16th century

FORESTS

Tree stumps in Madagascar, result

of deforestation and slash & burn

50%: agricultural expansion that

occurred at the expense of forests

68%: global forest area today compared with pre-industrial level

7%: reduction of intact forests (>500 sq km with no human pressure) from 2000-13 in developed and developing countries

>100%: growth of urban areas since

105%: increase in human population (from 3.7 to 7.6 billion) since 1970

nevenly across countries, regions

>2,500: conflicts over fossil fuels,

water, food and land currently

occurringworldwide

URBANISATION

1992

farming, Dudarev Mikhail/Shutterstock.com

+/-10%: tentative estimate of proportion of insect species threatened with extinction. Total insect species are 5.5 million.

3.5%: domesticated breed of birds extinct by 2016

70%: increase since 1970 in numbers of invasive alien species across 21 countries with detailed records

OCEANS & FISHING

33% Marine fish stocks being h unsustainable lev

7%

60%

Maximally sustainably fished

3-10%: projected decrease in ocean net primary production due to climate change alone by the end of

3-25%: projected decrease in fish biomass by end of century in low and high warming scenarios, respectively

+/-50%: live coral cover of reefs lost

100-300 MILLION: people in coastal areas at increased risk due to loss of

mammals and reptiles estimated to have benefited from the eradication

coastal habitat protection

107: highly threatened birds,

of invasive mammals on islands

the century

since 1870s

of these species are threatened with extinction, many within decades

47%: proportion of terrestrial flightless mammals (besides 23% of threatened birds) whose distributions may have been impacted by climate change already

(*approx)

1 million*

6: species of ungulate (hoofed mammals) would likely be extinct or surviving only in captivity today without conservation measures

HEALTH



Kuta beach, Bali. Plastic pollution has multiplied 10 times since 1980. Maxim Blinkov/Shutterstock.com

40%: proportion of global population lacking access to clean and safe drinking water

>80%: global wastewater discharged untreated into the environment

300-400 mn TONNES: Industrial wastes dumped annually into the world's waters

CLIMATE CHANGE

1°C: average global temperature difference in 2017 compared to preindustrial levels

>3 mm: annual average global sea level rise over the past two decades

5%: estimated fraction of species at risk of extinction from 2°C warming alone, rising to 16% at 4.3°C warming

What is the relevance for India?

- The report does not have country-specific information.
- However, India can identify with most of the trends pointed out in the report.
- The major biodiversity hotspot, vast areas, especially the coastline, of which are under tremendous stress due to large population, makes some findings very relevant to India.
- E.g. 23% of global land area had shown a reduction in productivity due to degradation
- Also, 100 to 300 million people are said to be at an increased risk of floods and hurricanes due to loss of coastal habitats and protection.
- The other findings in connection with India include the following:
 - i. plastic pollution had increased 10 times from 1980
 - ii. the number of large dams (those with a height of 15 m or more) had reached almost 50,000
 - iii. human population had more than doubled since 1970s
 - iv. the number of urban areas had doubled since 1992
- All these trends have been clearly visible in the case of India and thus bring with them the associated risks to natural ecosystems.

What is the way forward?

- The report says there is still an opportunity for human beings to live in harmony with nature.
- But there has to be a change in the way how natural resources are governed, and things are produced and consumed.



• This is inevitable in terms of economies, livelihoods, food security, health and quality of life worldwide.

12.2 Global Concentration of Atmospheric CO2

Why in news?

On May 11, 2019 global concentration of carbon dioxide in the atmosphere was measured to have crossed the 415 parts per million (ppm) mark for the first time.

What are the recent observations?

- The levels are as measured from Mauna Loa observatory in Hawaii.
- On every subsequent day from May 11, the daily average atmospheric concentration of CO2 has remained over that level.
- The rapidly rising concentration is one of the key indicators of the manner in which the planet has been warming up.
- The higher the concentration of CO₂, the greater the greenhouse gas (GHG) effect that causes the Earth's atmosphere to heat up.

How has CO2 concentration been?

- For several thousand years, the carbon dioxide concentration remained constant at around 270-280 ppm.
- The industrial revolution started to slowly push this level up.
- When direct measurements began at the Mauna Loa observatory in 1958, concentrations were around 315 ppm.
- It took nearly 50 years for it to reach 380 ppm, a mark first breached in 2004, but thereafter the growth has been rapid.
- Currently, the carbon dioxide concentration is growing at more than 2 ppm per year.
- Scientists say the growth rate is likely to reach 3 ppm a year from this year.

How is the emission scenario?

- The increase in CO₂ concentrations in atmosphere is caused by the emissions, mostly from man-made processes.
- However, in recent years, the growth in global carbon dioxide emissions has slowed down considerably.
- It remained almost flat between 2014 and 2016, and increased by 1.6% in 2017 and about 2.7% in 2018.

What raises the CO2 concentrations then?

- The rapid rise in the atmospheric concentrations is due to the fact that Co₂ has a very long lifespan in the atmosphere, 100 to 300 years.
- So, even if the emissions were to reduce to zero all of a sudden, it would have no impact on the atmospheric concentrations in the near term.
- About half of emitted carbon dioxide is absorbed by plants and oceans, leaving the other half to go into the atmosphere.
- An addition of about 7.5 billion tonnes carbon dioxide to the atmosphere leads to a 1 ppm rise in its atmospheric concentration.
- In 2018, the global emission of carbon dioxide was estimated at 37.2 billion tonnes (about 18.6 billion tonnes after absorption).
- The absorption of carbon dioxide by plants too follows a predictable seasonal variability.
- Plants absorb more carbon dioxide during the summer.
- So a lower amount of carbon dioxide is added to the atmosphere in the summer months of the northern hemisphere.
- This variability is reflected in the very rhythmic seasonal fluctuation of atmospheric concentration of carbon dioxide.



How does it affect the temperature?

- The global community's effort is to keep the rise in average surface temperatures below 2°C higher than during pre-industrial times.
- The carbon dioxide concentration level corresponding to a 2° C rise in global temperatures is generally understood to be 450 ppm.
- At current rates of growth, that level would be reached in less than 12 years i.e. by 2030.
- Until a few years ago, it used to be understood that this milestone would not be reached till at least 2035.

What lies ahead?

- A recent <u>Intergovernmental Panel on Climate Change report</u> called for a net zero emissions of all GHGs by 2075 to attain the 2°C target (by 2050 for the ambitious 1.5°C target).
- Net zero is achieved when the total emissions is neutralised by absorption of carbon dioxide.
- This is done through natural sinks like forests, or removal of carbon dioxide from the atmosphere through technological interventions.

12.3 CEA's Plan on Renewable Energy

Why in news?

Central Electricity Authority (CEA) has set up a new division to oversee developments in renewable power.

What is the capacity of renewable energy in India?

- India's current renewable power capacity stands at 78,316.39 Mw, which includes 35,625.97 Mw of wind power and 26,384.30 Mw of solar.
- On May 1, renewable energy was 12 per cent of the total power generation in the country.
- In terms of million units of energy production, renewable has seen a 10 per cent growth over last year.

What are the hurdles in the renewable energy?

- Power is transmitted across regions through high-tension electricity lines that are managed from the backend.
- This entire infrastructure constitutes grids that can lose stability if power source is intermittent and its flow is not planned.
- The major hurdle in the successful integration of renewable energy is the difference in the actual and forecast energy generation.
- This impacts the planning of the whole system, including backing down or increasing conventional energy in the grid to balance renewable.

What is the plan of CEA in renewable energy development?

- Central Electricity Authority (CEA) is the apex technical body for the power sector, has set up a new division which will oversee day-to-day developments, capacity addition and grid integration of renewable power.
- With the share of renewable power in the country's energy generation increasing, the CEA plans to put out daily data on green power, as it does for thermal, hydro power and coal-based power.
- In order to map the intermittent solar and wind energy, the CEA will source data from the Renewable Energy Management Centers (REMCs), which are being set up across the country.
- These centers will collect data, help in integrating renewable energy with the grid, and maintain grid balance in the area.
- It is a first such attempt to bring all renewable energy generation control operations under a standardized framework, consistent across all states and regions in real time.
- CEA's new division will also put out data on forecasting and scheduling of renewable energy, which is key to its integration in the grid and healthy energy mix.

How CEA's plan will address hurdles in power sector?



- The CEA in 2017 envisaged to set up one REMC each in the south, west and north regions along the resourcerich states.
- There are 11 REMCs across the country, west and south REMC are functioning well and they will take regular data from them.
- To bring about large-scale renewable evacuation, REMCs will act as the nodal point for all renewable generators to schedule their generation via a dedicated scheduling system.
- Best-in-class forecasting and standardized real-time scheduling framework will enable grid operators to look into the future and make efficient real-time decisions integrating renewables without compromising on grid stability.
- The CEA already has a sub-portal which tracks installed capacity sector, state- and fuel-wise, now renewables added along with hydro, thermal and nuclear.

12.4 India and Arctic Council

Why in news?

India was re-elected as an Observer to the Arctic Council in its recent ministerial meeting at Rovaniemi, Finland.

What is the Arctic Council?

- The Arctic Council is an intergovernmental forum for discussing and addressing issues concerning the Arctic region.
- These include scientific research, and peaceful and sustainable use of resources in the region.
- The Council was established by the 8 Arctic States through the Ottawa Declaration of 1996.
- These are Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the US.
- Besides these, 6 organisations representing the indigenous people of the Arctic region is granted the status of permanent participants.
- All decision-making happens through consensus between the eight members, and in consultation with the permanent participants.

What are the objectives?

- The Arctic Council is not a treaty-based international legal entity like the UN bodies or trade or regional groupings like NATO or ASEAN.
- It is only an intergovernmental 'forum', to promote cooperation in regulating activities in the Arctic region, a much informal grouping.
- The six working groups each deal with a specific subject.
- Through this, the Arctic Council seeks to evolve a consensus on the activities that can be carried out in the Arctic region.
- It is driven by the overall objective of conserving the pristine environment, and biodiversity.
- The interests and well-being of the local populations are also its focus.

Who are the other participants?

- India had been given the Observer status in 2013, along with 5 other countries China, Italy, Japan, South Korea, and Singapore.
- India, along with 12 other countries now, has the Observer status in the Arctic Council.
- 13 other intergovernmental and inter-parliamentary organisations like the UN Environment Programme, UN Development Programme and 12 other NGOs also enjoy the Observer status.
- The Observer status is granted to entities that support the objectives of the Arctic Council.
- Those which have demonstrated capabilities in this regard, including the ability to make financial contributions, are included.





- The Observers are not part of the decision-making processes.
- They are invited to attend the meetings of the Council, especially at the level of the working groups.
- The renewal of Observer status is just a formality.
- The status, once granted, continues until the Observer engages in any activities that run counter to the objectives of the Council, and there is a consensus on this.

What is India's role in the Arctic?

- India is one of the very few countries to set up a permanent station in the Arctic for the purposes of scientific research.
- The polar regions offer some unique opportunities to carry out research related to atmospheric and climate sciences.
- The Himadri research station, located in Ny Alesund, Svalbard in Norway, was started in 2008.
- The Goa-based National Centre for Antarctic and Ocean Research (NCOAR) is the nodal organisation coordinating the research activities at this station.
- The station has been used to carry out a variety of biological, glaciological and atmospheric and climate sciences research projects.
- [Besides, India's first permanent station in Antarctica was set up way back in 1983.
- India has almost 3-decade experience in carrying out scientific research in the polar regions of Antarctica.
- India is now among the very few countries which have multiple research stations in the Antarctic.]

Why is it significant to India?

- The Arctic Council does not prohibit the commercial exploitation of resources in the Arctic.
- It only seeks to ensure that it is done in a sustainable manner.
- So countries with ongoing activities in the Arctic hope to have a stake in the commercial exploitation of natural resources there.
- India could derive some commercial and strategic benefits, given the fact that the Arctic region is rich in some minerals, and oil and gas,
- With some parts of the Arctic melting due to global warming, the region also opens up the possibility of new shipping routes.

13. DISASTER MANAGEMENT

13.1 Lessons from Fani Cyclone

What is the issue?

- A horrific tropical cyclone Fani made landfall in Odisha recently. Click <u>here</u> to know more.
- It is imperative at this juncture to understand the increasingly climate-risked world that Fani indicated.

What was Fani's impact?

- Cyclone Fani left behind a trail of broken homes, powerlines and infrastructure.
- Odisha has lost years of its development dividend in one shock.
- Nevertheless, the fact that there were far fewer fatalities in this cyclone than before is to be acknowledged.
- Even when wind speeds crossed 170 km/hour and reached 204 km/hour, the loss of human life was contained at 41 (reportedly increased to 70).
- In contrast, the state had lost 10,000 people in the super cyclone of 1999.

What is the climate change factor here?



- The 2018 climate assessment by the World Meteorological Organization (WMO) gives some inputs in this regard.
- Tropical storms in the Northern Hemisphere were up, from 63 in the previous year to 74 in 2018.
- They were roughly the same, 22, in the Southern Hemisphere.
- The fact is that there is a big difference in these storms, as the India Meteorological Department (IMD) is finding.
- The recent storms are being increasingly and crazily unpredictable.
- In recent years, the IMD has nearly perfected the science of cyclone forecast.
- But now it is learning, in real time, to change its methods and to advance its technology.

What is the recent evidence to this?

- Ockhi which hit the Kerala coast in late 2017 took many lives and caught fishermen at sea unawares. Click <u>here</u> to know more.
- Ockhi went from a deep depression in the ocean to a cyclonic storm in a matter of just 6 hours.
- The failure to predict and warn was not just human, but because of the unnatural characteristics of such a tropical storm.
- It changed direction; it gathered steam when least expected and became more intense and more virulent at speeds never seen before.
- One reason was the intense heat pockets in the ocean, which changed the direction and speed of the cyclone.

What was the case with Fani?

- As the IMD was prepared for such changes, it used even more sophisticated equipment and improved the prediction models in Fani.
- But the speed of change was so rapid that the learning of 2017 from Ockhi became outdated.
- Intensity Fani intensified from severe to very severe in no time.
- Landfall Fani also made landfall ahead of its schedule.
- It was to hit Odisha by the afternoon; in real time, this meant evacuations should have been completed by then.
- But Fani landed with ferocity by the morning itself.
- The fact that the state administration had planned and managed to move people ahead of schedule speaks volumes for the preparedness.
- Inland Fani moved inland and reached Bhubaneshwar.
- But notably, it did not weaken in its wind speed there, as should have been the usual case.
- This was strange because storms need moisture on land to gather intensity and to lash the land with rain.
- But it was peak summer, a time when ocean storms never hit in any case.
- It is still unclear why it moved inland and how should this be predicted in the future.
- In all, Fani demands that India invest in the science of weather and in the governance capacity to move rapidly to avert disasters.
- The future is even more risked and even more unpredictable than imagined.

13.2 Surat Fire Tragedy

What is the issue?

- More than 20 students died in a massive fire in a Surat coaching centre.
- Besides fixing accountability, the tragedy calls for updating the fire safety protocol countrywide.

What are the shortfalls in this regard?



- The Surat fire cannot be completely called an accident.
- As, there are reports of notices having been served to the builder on the risks, but not pursued.
- Two deaths had occurred in another coaching centre in the city the previous year too.
- The earlier tragedies, at least, should have led to a comprehensive review of public buildings.
- But civic officials were largely indifferent to these.

What are the larger concerns?

- India's abysmal record on fire safety is reflected in the death of 17,700 people countrywide in fires (public and residential buildings) during 2015.
- Notable ones are the Uphaar cinema blaze in Delhi that killed 59 people in 1997, and Kumbakonam school fire in Tamil Nadu in 2004 that killed 94 children.
- The latest tragedy highlights the gap between India's dreamy smart cities visions and the worrisome reality of urbanisation and lawlessness.
- None of these had been a strong case for governments to make fire safety the priority it should be.
- The courts too have allowed this to continue without severe penalties.
- The prolonged, aggressive litigation by the affected families in the Uphaar case made no difference.
- The role of administrative machinery and officials who sanctioned unsafe buildings, often in return for bribes, remains largely unaddressed.

What is to be done?

- The present inquiry should go into any deviations from the sanctioned plan for the commercial building housing the coaching centre.
- The role of urban planning officials in allowing it to come up should also be inquired into.
- It is essential now that the judiciary stresses on 'no tolerance' to corruption and evasion in the enforcement of building rules and fire safety.
- Beyond suspending a few officials and filing cases against the building owners, the role of sanctioning and enforcement authorities should also be looked into.
- Mandating compulsory insurance for all public buildings against fire risk and public liability can help.
- With this, the insurer would require a reduction of risk and compliance with building plans.
- It would thus bring about a change to the way architects and builders approach the question of safety.

14. INTERNAL SECURITY

14.1 Gadchiroli Maoist Attack

Why in news?

A recent Maoist attack in Gadchiroli in Maharashtra left 15 police commandos of the C-60 wing dead.

What happened?

- Maoists torched 25 vehicles at a road construction site in Kurkheda of Gadchiroli early in the morning.
- A team of the Quick Response Team of the Gadchiroli police was on way to inspect this.
- While on road in a private vehicle, these fifteen policemen and their driver were killed by a powerful explosion set off by Maoists.
- An improvised explosive device (IED) blast was set off.





- The slain fighters were members of the elite C-60 wing.
- This is the fourth Maoist attack, since the national election began in April, 2019, in Gadchiroli which borders Chattisgarh.

What is the C-60 wing?

- Naxalite activity first expanded into Maharashtra from then-Andhra Pradesh in the 1980's.
- The Gadchiroli district, carved out of Chandrapur district in 1982, was the most affected, with series of violence.
- Veteran police officer KP Raghuvanshi was given the charge of creating an elite commando force of the state police in 1990.
- The C-60 was thus created as a batch of 60 commandos to counter Maoist violence in Gadchiroli.
- As Naxal activities heightened in the coming years, a second branch was also created in 1994.
- They are similar to the Greyhound forces in Telangana and the SOG (Special Operation Group) units in Andhra Pradesh.

How has C-60 wing's role been?

- The contribution of C-60 has been a notable one, and they have been alternatively referred to as 'crack commandos'.
- The commandos were recruited from the same regions where the Naxals enlisted their own fighters.
- Having the same roots, the C-60 had operational advantages compared to other units of the state police.
- These include faster maneuvering, and the greater ability to converse with the local population.
- The C-60 is qualified for combat in difficult battlegrounds, such as dense forests and over hilly terrain.
- Apart from actual combat, the C-60's task also includes facilitating Maoists to surrender and join the mainstream.
- For this, members of the unit meet the families of Maoists to apprise them of government schemes made for ex-Maoists.

What does the recent attack imply?

- The death of security personnel in the landmine attack in Gadchiroli is another reminder of India's continued failure to crush naxalism.
- This attack has occurred despite the deployment of
 - i. 30 companies of the Central Reserve Police Force (a company comprises 135 personnel)
 - ii. 13 companies of the State Reserve Police Force
 - iii. 5,500 personnel of the local police in Gadchiroli and neighbouring Chandrapur district
- This exposes the lack of preparedness of the security forces on the one hand, and the boldness of the perpetrators on the other.
- The ease with which the extremists torched so many vehicles and how the response team went there without proper planning are alarming.
- In the process, standard operating procedures, including letting a road-opening team lead the way, seem to have been ignored.

What is the way forward?

- It is some comfort that the polling percentages in both Gadchiroli and Chandrapur districts have risen, compared to the 2014 elections.
- But the path of the voter to the polling booth in the naxal-dominated districts is still not an assuring one.
- The security forces deployed in the region too have not been able to instil in them a greater level of confidence.
- Notably, most of the police personnel who were killed in the latest attack seem to have been local citizens.



• India cannot afford to take the challenges of internal security lightly and needs concerted measures at tackling naxalism.

14.2 Extension of Ban on LTTE

Why in news?

The Centre recently extended the ban on the Liberation Tigers of Tamil Eelam (LTTE) for another 5 years under the Unlawful Activities (Prevention) Act, 1967 (UAPA).

What is the UAP Act?

- The Unlawful Activities (Prevention) Act, 1967 (UAPA) is India's primary anti-terror law.
- It provides for effective prevention of certain unlawful activities of individuals and associations.
- It helps deal with terrorist activities, and for matters connected therewith.
- Section 3 of the UAPA deals with the declaration of an association as unlawful.
- It specifies that notifications by the government making such a declaration shall specify the grounds on which it is issued.
- The notification shall also contain such other particulars as the Central government may consider necessary.

What is the recent decision?

- The ban on LTTE is extended under sub-sections (1) and (3) of Section 3 of the UAPA with immediate effect.
- The notification noted that LTTE's continued violent and disruptive activities are prejudicial to the integrity and sovereignty of India.
- It continues to adopt a strong anti-India posture as also continues to pose a grave threat to the security of Indian nationals.
- Organisations banned by the Ministry of Home Affairs (MHA) under Section 3 of the UAPA are listed in the First Schedule of the Act.
- The latest version of the list contains 41 entries, including, apart from the LTTE, Khalistani terrorist organisations, Pakistan-based terror groups, Islamic State or Daesh, and Indian Mujahideen.
- It also includes some Northeastern militant organisations, Kashmiri separatist organisations, Maoist groups, and the Students Islamic Movement of India (SIMI).

Who are the LTTEs?

- The Liberation Tigers of Tamil Eelam (LTTE) was founded in 1976 by Velupillai Prabhakaran.
- The goal of the organisation was creating an independent Tamil Eelam out of Sri Lanka.
- With this motive, the LTTE constantly clashed with the Sri Lankan military.
- In the early 1980s, it launched a full-scale nationalist insurgency in the north and east of the country.
- It carried out a string of major terrorist attacks against both military and civilian targets.

How has India and LTTE been?

- India's relationship with the LTTE had been complex.
- It has ranged from providing support to the guerrillas initially to sending the Indian Peacekeeping Force (IPKF) to support Sri Lanka from 1987 to 1990.
- The LTTE pioneered suicide bombing as a weapon of terror.
- In 1991, an LTTE suicide bomber killed former Indian PM Rajiv Gandhi in an attack on Indian soil.
- India first banned the LTTE after the assassination of Rajiv Gandhi; the ban was last extended for five years in 2014.



How is the terrorist orientation?

- Among the other high-profile assassinations carried out by LTTE was that of the Sri Lankan President Ranasinghe Premadasa in 1993.
- The LTTE is also said to have freely used women and children in combat.
- At its peak, the LTTE covered over three-quarters of Sri Lanka's northern and eastern provinces.
- The organisation was finally crushed in a military offensive by the government of President Mahinda Rajapaksa in 2009.
- The LTTE was designated as a terrorist organisation by 32 countries, including, besides India, the U.S., Canada, and the EU.
- The US designated the LTTE as a Foreign Terrorist Organisation (FTO) in 1997.

14.3 Human Rights Violation in J&K

Why in news?

- The UN Human Rights Council (HRC) recently sent submissions on the alleged human rights violations in Jammu and Kashmir.
- In reaction to this, India has decided to shut down communication with UN HRC's Special Rapporteurs.

What was it about?

- The current Special Rapporteurs on Extrajudicial Executions, Torture, and Right to Health had referred to an earlier report of the Office of the High Commissioner of Human Rights (OHCHR).
- The OHCHR's was the first-ever such report on J&K as well as Pakistan-occupied Kashmir that came out in June 2018.
- In this context, Special Rapporteurs had written to the Indian government asking about steps taken to address the alleged human rights violations.
- In addition, the Special Rapporteurs had listed "13 cases of concern" from 2018 alone.
- In this, 4 children were among 8 civilians killed by members of the security forces.
- The UN report had come at the same time when another report was released from two NGOs in the State on the alleged cases of torture.
- It was endorsed by a former UN Special Rapporteur.

What is India's stance?

- India has rejected all the claims, and accused the Special Rapporteurs preparing the report of "individual prejudice" against India.
- India had also rejected the OHCHR's report on the 'Situation of Human Rights in Kashmir'.
- In its objections, the government said the report was "false and motivated".
- Its conclusions and recommendations were violative of India's sovereignty and territorial integrity.
- India also drew notice to the <u>Pulwama</u> <u>attack</u>, calling terrorism the "grossest" violation of human rights, not the allegations against the security forces.
- India refused to respond to questions about deaths of 69 civilians between 2016 and 2018 in violence in the Valley.
- The Indian Permanent Mission to the UN in Geneva replied to the OHCHR that India

Spat over reports

June 2018: OHCHR publishes report on 'Human Rights Situation in Jammu and Kashmir' and Pakistan-occupied Kashmir

 India slams report, says it shows individual bias of Commissioner of Human Rights Zeid Ra'ad Al Hussein

January 2018-March 2019: UN says Special Rapporteurs sent 34 communications (27 in 2018 and 7 in 2019 to date), 20 pending requests for Special Rapporteur visits, including to Jammu and Kashmir

 India doesn't reply, declines to clear visits by Special Rapporteurs March 2019:

Three UN Special Rapporteurs send submission to India, ask for action taken on human rights violations

 India rejects submissions, says it will no longer engage with them on the issue



did not intend to engage further on the issue.

Is India's response justified?

- India's response is largely in line with its reaction to such international reports over the last few years.
- Demands for action against Indian officials and amendment of laws can cross the line on Indian sovereignty.
- The previous OHCHR has called for UNHRC to set up an independent and international tribunal to investigate the matters.
- This was seen to be invasive, and could be dismissed by New Delhi as well.
- However, the government cannot suppress the troubling questions that the UN report and Special Rapporteurs' submissions raise.
- Notably, most of the sources for the OHCHR report are
 - i. official Indian authorities
 - ii. State and national human rights commissions
 - iii. international human rights agencies
 - iv. reputed Indian NGOs
- This is therefore a view from within India, and not some disengaged UN official.
- Also, two Kashmiri NGOs report has documented 432 specific cases of alleged brutality by security forces in Kashmir.
- These include electrocution, 'water-boarding' and sexual torture of civilians.
- Of these, only about 27 cases were taken up by the State Human Rights Commission.
- It is fair if the government press for due process and justice in each of the cases of human rights violations in J&K.

uick Facts

UNHRC

- It is an inter-governmental body within the UN system, made up of 47 States.
- It was established in 2006 as part of the UN's reform process and replaced the UN Commission on Human Rights.
- Members are elected by the UNGA with 3-year terms, with a maximum of 2 consecutive terms.
- They are responsible for promotion and protection of human rights.
- Its resolutions are not legally binding but carry moral authority.

OHCHR

- The role of the Office of the United Nations High Commissioner for Human Rights (OHCHR) is not to be confused with the UNHRC.
- OHCHR is a separate institution which presents reports independent of the HRC. E.g. the June 2018 report on Kashmir
- The HRC and the OHCHR have separate mandate and functions, but both are part of the UN system for human rights protection.

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PRELIM BITS

HISTORY AND ART & CULTURE

Charminar

- Charminar (Four Minarets) is a historic monument in Hyderabad.
- It was built by Mohammad QuliQutb Shah, 5th king of the Qutb Shahi dynasty (Golconda Sultnates).
- He shifted the capital from Golconda to Hyderabad at the time of devastating plague.
- He commemorated the end of plague by building mosque, which became known as Charminar because of its four towering and distinctive minarets, one on each of the building's four corners.
- It is a grand architectural composition in Indo-Saracenic style.
- It is built of granite and lime mortar with stucco ornamentation.
- It has recently suffered damage after a piece of lime stucco work on one of its minarets fell off.

Denisovans

- The Denisovans are an extinct species or subspecies of archaic humans in the genus Homo.
- This human species is genetically distinct from Neanderthals and modern humans but shared a common origin with Neanderthals.
- Denisovans lived among and interbred with the ancestors of some modern humans.
- Contrary to popular belief that high altitude regions were inhabited only by modern humans dating back to less than 40,000 years, recent findings prove that Denisovans lived in the Tibetan Plateau at an altitude of 3,280 meters much earlier 1,60,000 years ago.
- Previous genetic studies have found that modern humans living in the Tibetan Plateau carried a special gene variant EPAS1 that allowed them to cope with low oxygen (hypoxia) environments typical of high altitude.
- Recent researches has found this gene variant in Denisovans.

Vedanta Desikan

- Vedanta Desikan (1268–1369) was one of the most prominent preceptors in the Srivaishnava tradition, born in Tamil Nadu.
- He had authored literary works in Sanskrit, Tamil, Prakrit and Manipravalam.
- His 'SubhashitaNeevi' contains a fund of moral and ethical advice which is relevant and practical.
- Desikan's talent as a military strategist came to the fore during the repeated invasions of the holy city of Srirangam by the forces of the Delhi Sultanate in 1327.
- On the occasion of 750th anniversary of Vedanta Desika, Indian postal department unveiled a stamp to commemorate the great philosopher's life and highly valued works.

Sri Vaishnava philosophy

- Sri Vaishnava philosophy was initially propounded by that Saint Ramanujaand got a much wider audience with Vedanta Desikann's writings and preaching.
- One of the essential features of this philosophy was the aspect of inclusion.
- Anyone, irrespective of caste and creed could join the Sri Vaishnava fold.





• This is a truly democratizing movement that obliterated caste distinctions.

GEOGRAPHY

Mango showers

- Mango showers is used to describe the occurrence of pre-monsoon rainfall, they help in the early ripening of mangoes.
- They are notable across much of South and Southeast Asia, including India, and Cambodia.
- These rains normally occur from March to April, although their arrival is often difficult to predict.
- Their intensity can range from light showers to heavy and persistent thunderstorms.
- In India, the mango showers occurs as the result of thunderstorm development over the Bay of Bengal.
- They are also known as 'Kaal Baishali' in Bengal, as Bordoisila in Assam and as Cherry Blossom shower or Coffee Shower in Kerala.
- Towards the close of the summer season, pre-monsoon showers are common, especially in Kerala, Karnataka and parts of Tamil Nadu in India.

Cyclone Fani

- According to IMD report, cyclone fani was intensified in to extremely severe cyclone in the Bay of Bengal region.
- It is named by Bangladesh.
- In the past (1891-2017) only 14 severe tropical cyclones formed in April over the Bay of Bengal. Only one storm crossed the Indian mainland.
- Cyclone Fani is the second storm forming in April and crossing the mainland. Last severe cyclone Nargis in 2008 devastated Myanmar.
- **Tropical Cyclone** It is a rapidly rotating storm system characterized by a low-pressure center, a closed low-level atmospheric circulation, strong winds, and a spiral arrangement of thunderstorms that produce heavy rain.
- Naming of Cyclones over north Indian ocean region was started in 2004.
- India, Pakistan, Bangladesh, Maldives, Myanmar, Oman, Sri Lanka and Thailand are part of the panel that names cyclones.
- In the event of a tropical cyclone/storm, the Regional Specialized Meteorological Centre, New Delhi, selects a name from the list.

Pacific Decadal Oscillation

- The Pacific Decadal Oscillation (PDO) is a robust, recurring pattern of ocean-atmosphere climate variability centered over the mid-latitude Pacific basin.
- The PDO is detected as warm or cool surface waters in the Pacific Ocean, north of 20°N.
- During a "warm", or "positive", phase, the west Pacific becomes cooler and part of the eastern ocean warms; during a "cool" or "negative" phase, the opposite pattern occurs.
- Over the past century, the amplitude of this climate pattern has varied irregularly at interannual-tointerdecadal time scales.
- Northeast India, one of the wettest places on the Earth has been experiencing rapid drying due to the Pacific Decadal Oscillation.



- Just like El Nino/La Nina in the tropical Pacific, PDO has a signature for a longer time (on the decadal scale) in the subtropical Pacific Oceantemperatures and its interaction with the atmosphere, which in turn affects the northeast Indian summer monsoon.
- This climate pattern also affects coastal sea and continental surface air temperatures from Alaska to California.

GOVERNMENT INITIATIVES

Global Food Policy Report

- International Food Policy Research Institute (IFPRI) releases Global Food Policy Report annually.
- The report reviews the major food policy issues, developments, and decisions of 2018, and considers challenges and opportunities.
- According to the report consumption patterns is changing largely due to urbanization, demographic transitions, increasing income, and growing integration of food supply chains.

Water, Sanitation and Hygiene (WASH) Initiative

- WASH is a partnership for the goals initiative of United Nation Sustainable Development Goal (UNSDG).
- The core activity of WASH emphasizes the teaching of basic sanitation and hygiene to communities and school children with a particular focus on girls' education and gender equality, as a necessary complement to the success of water and sanitation infrastructure projects.
- The WASH Partnership supports coalition-building among multi-stakeholders at national and grassroots level.

IPBES

- The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is an independent intergovernmental body, established by member States in 2012.
- The objective of IPBES is to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development.

FCRA license

- The Foreign Contribution (Regulation) Act (FCRA) registration of Bengaluru-based NGO Infosys Foundation has been cancelled by the Home Ministry recently.
- As per the FCRA Act 2010, all NGOs are required to be registered under the Act to receive foreign funding, and also have to furnish the same.
- An FCRA applicant can be a Trust or Society or a Section 8 Company.
- The not-for-profit entity must have also been in existence for a minimum of 3 years while making the FCRA application.
- It should not have received any foreign contribution prior to that without the Government's approval.
- Organisations have to submit their annual return to the government within 9 months from the closure of the previous financial year.



Rules/ Procedures	Society	Trust	Section 8 Company	
Purpose	Entities which are generally associated with promotion of literature, science, or the fine arts, or for the diffusion of useful knowledge, or for charitable purposes;	A trust is usually floated with a property involved, especially in terms of land and building. It can be a public charitable entity for the benefit of general public (or) A private trust for the benefit of closed groups like relatives, friends.	A company (without the addition to its name to the word "limited") with the objective of promotion of commerce, art, science, sports, education, research, social welfare, religion, charity, protection of environment or any such other object;	
Governing Legislation	i. Federal Act - Societies Registration Act, 1860. ii. Every State has its own legislation of Societies Act for registration, management & dissolution of society.	 i. Private Trusts are regulated by Indian Trust Act, 1882. ii. Public Trusts are regulated by State- specific legislations. (In the absence of state legislation, it is governed by the Trust Act) 	Indian Companies Act, 2013. It can enjoy all the privileges and be subject to all the obligations of limited companies.	
Conditions	Needs a minimum of 7 members to form a society.	A trust deed with aims and objectives of trust should be signed by settlor and trustee. Settlor – A person who transfer his/her property to the trust.	Needs a minimum of 3 trustees.	
Eligibility of Members	Members of the same family cannot be members	No restriction on family members.	No restriction on family members.	
Registering Authority	Registrar or Deputy Reg. of societies of concerned State/ Charity Commissioner	Sub-Registrar of Registration/Charity commissioner	Registrar of company	
Income	It receives income from subscription, gifts, grants- in-aid and donations from the members and the general public. The income should not be distributed among its members. Upon dissolution, all its income/debts shall be given to other society, which is determined by voting.	The trustee has the right to maintain the property, arise income from it and use it for beneficiaries. When it is mentioned in the trust deed, trustee may even have powers to sell the property subject to the charges or free of them.	Profits from the company should be used for promotin its objectives and should no be paid as dividends to its members.	



GOVERNMENT SCHEMES

cVIGIL App

- "cVIGIL" is an Android application which will be operational only where elections are announced.
- "cVIGIL" will allow anyone in the election-bound state to report violations of Model Code of Conduct (MCC) that comes into effect from the date of announcement of elections and goes on till a day after the polls.
- By using this app, citizens can immediately report on incidents of misconduct within minutes of having witnessed them and without having to rush to the office of the returning officer to lodge a complaint.
- The identity of the complainant will be kept confidential.
- The app will receive complaints only about Model Code of Conduct violations.
- The user will get 5 minutes to report an incident after having clicked a picture or a video.
- To prevent any misuse, the app will not allow uploading of the pre-recorded or old images and videos.
- The app will not facilitate saving of the photos or videos recorded using the 'cVIGIL' app into the phone gallery either.

MANAV

- It is a human atlas initiative launched by the Department of Biotechnology.
- It aims at creating a database network of all tissues in the human body from the available scientific literature.
- **Applications** Better biological insights through physiological and molecular mapping, develop disease models and have a wholistic analysis and finally drug discovery.
- The project encouraged colleges and universities to register as teams and work in this project.
- The project can be signed up by students from science background who are in their final year graduation and above.
- Initially, the project will focus on curating information revolving skin tissues.

NATIONAL INSTITUTES IN NEWS

PM-STIAC

- Prime Minister's Science Technology and Innovation Advisory Council (PM-STIAC) is an overarching body for assessment, creation and implementation of major scientific, technology and innovation interventions for India.
- Principal Scientific Advisor's Office will oversees the implementation of such interventions by concerned S&T Departments and Agencies and other government Ministries.
- Recently PM-STIAC has approved to setup Centre of Excellence for Waste to Wealth Technologies in New Delhi.
- The center will implement sustainable, scientific and technological solutions for waste management, through validation and deployment of available technologies for transformation of waste to wealth.

INTERNATIONAL ORGANISATIONS

Organisation for Economic Cooperation and Development

- OECD, an organisation dedicated to economic development, consists of 36 member countries.
- It includes not only most advanced countries but also emerging countries like Mexico, Chile and Turkey.
- European Commission also participates alongside Members in discussions on the OECD.



- It also works closely with **non-member**countries like China, India, Brazil and South Africa through "Enhanced Engagement" programmes.
- Though India is not a member country, it is part of the various committee setup under OECD.
- It administers and publishes the Programme for International Student Assessment (PISA), which is a regular assessment of the attainment of 15-year-olds in three areas of knowledge thus measuring the performance of educational systems across countries.
- India is a signatory of this policy.

WTO

- It operates a global system of trade rules, acts as a forumfor negotiating trade agreements, it settles trade disputes between its member countries and it supports the needs of developing countries.
- WTO officially commenced under the Marrakesh Agreement, replacing the General Agreement on Tariffs and Trade (GATT).
- It is created by Uruguay round of negotiations and established in 1995. HQ Geneva.
- The trade agreements are signed by representatives of member governments and ratified by their parliaments.
- It has 164 members and 22 observer governments, with Afghanistan and Liberia being the latest to join.
- The members need not have to be fully independent states.
- Even customs territory with full autonomy in the conduct of their external commercial relations can join with the consent of other members. eg: Hong Kong.
- **Recent developments** India has recently hosted Mini-Ministerial meeting of World Trade Organisation in New Delhi.
- It is an informal meeting of 50 WTO members to deliberate upon ways to create a positive atmosphere for carrying forward the mandate of WTO.
- It focused on the deadlock in WTO's dispute settlement body and attempts by richer nations to deny developing countries access to certain trade benefits.
- US has consistently blocked the appointment of judges in dispute settlement body.
- The lack of judges on the 7-member body has become a serious concern since it is the principal body tasked with arbitration between nations on trade disputes.

Dispute Settlement Body in WTO

- Dispute Settlement Body establishes "panels" of experts to consider a case.
- It accepts or rejects the panels' findings.
- The panel's report can only be rejected by consensus in DSB, hence its conclusions are difficult to overturn.
- It monitors the implementation of the rulings and recommendations, and has the power to authorize retaliation when a country does not comply with a ruling.
- Appeals to the panel ruling are dealt by the permanent 7 member Appellate Body broadly representing the members.
- DSB has to accept or reject the appeals and again the rejection is only possible by consensus.

Comprehensive Test Ban Treaty Organization

• CTBTO has invited India to be an observer in the treaty.



- It is expected to give India access to data from the International Monitoring System, which can detect even small nuclear explosions using seismology, hydroacoustics, infrasound and radionuclide technology.
- It is a multilateral treaty that bans all nuclear explosions, for both civilian and military purposes, in all environments.
- It was adopted by the United Nations 1996 but has not entered into force as eight specific states have not ratified the treaty.
- 166 states have ratified the CTBT and another 17 states have signed but not ratified it.
- China, Egypt, Iran, Israel and the United States have signed but not ratified the Treaty.
- India, North Korea & Pakistan have not signed it. They have neither signed the Non-Proliferation Treaty 1968.
- According to CTBT each State Party undertakes not to carry out any nuclear weapon test explosion or any other nuclear explosion, and to prohibit and prevent any such nuclear explosion at any place under its jurisdiction or control.

BCIM Economic Corridor

- The Bangladesh China India Myanmar (BCIM) economic corridor aims to connect Kolkata with Kunming, capital of the Yunnan province of China.
- It envisages formation of a thriving economic belt, focusing on cross-border transport, energy and telecommunication networks.
- India will benefit in terms of the development of the Kolkata port and the opening up of the economic potential of the northeast states.
 - Earlier BCIM was part of China's BRI initiative, recently the project has been delisted from the BRI umbrella.



Projects under Belt and Road Initiative of China

- Belt and Road Initiative (BRI) is a giant connectivity initiative speared by China to revive the ancient Silk Road across Eurasia and Africa.
- Under the project South Asia is covered by three major undertakings
 - 1. China-Myanmar Economic Corridor (CMEC).
 - 2. Nepal-China Trans-Himalayan Multi-dimensional Connectivity Network, including Nepal-China crossborder railway.
 - 3. China Pakistan Economic Corridor (CPEC) India opposes this project as it passes through Pakistan occupied Kashmir.

Other projects in which India is a member

- **IMT trilateral Highway -** India-Myanamar-Thailand Trilateral Highway will join India's Northeast with Thailand and other ASEAN members through Myanmar.
- **Kaladan Multimodal Project** The Kaladan Multimodal Transit Transport Project will help connect the Northeast with Myanmar as well as with West Bengal.
- **BBIN** Bangladesh, Bhutan, India, and Nepal (BBIN) needs to be accorded the highest priority as it has great potential to deliver rich dividends quickly.



CHRI

- The Commonwealth Human Rights Initiative (CHRI) is an independent, non-partisan, international nongovernmental organization, headquartered in New Delhi.
- The organization works for the practical realization of human rights across the Commonwealth.
- In 1987, several Commonwealth associations founded CHRI as a response to South Africa's policy of racism.
- These groups felt that while member countries had a common set of values and legal principles from which to work and a forum within which to promote human rights, there was relatively little focus on human rights issues.
- CHRI's objectives are to promote awareness of and adherence to the Harare Commonwealth Declaration, the Universal Declaration of Human Rights, and other internationally recognized human rights instruments, as well as domestic instruments supporting human rights in member states.

Harare Commonwealth Declaration

- The Harare Commonwealth Declaration was a declaration of the Commonwealth of Nations, issued in Harare, Zimbabwe, on 1991.
- It sets out the Commonwealth's core principles and values, detailing the Commonwealth's membership criteria, and redefining and reinforcing its purpose.

Universal Declaration on Human rights

- Universal Declaration of Human Rights (UDHR) was adopted by the United Nations General Assembly in 1948.
- The Declaration consists of 30 articles affirming an individual's rights which, although not legally binding in themselves, have been elaborated in subsequent international treaties, economic transfers, regional human rights instruments, national constitutions, and other laws.
- The Declaration was the first step in the process of formulating the International Bill of Human Rights, which was completed in 1966, and came into force in 1976, after a sufficient number of countries had ratified them.
- India is the signatory of UDHR.

Basel Convention

- The 14th conference of parties of Basel convention was recently held in Geneva, Switzerland.
- It is held jointly and back-to-back with Rotterdam Convention COP 9 and Stockholm Convention on COP 9.
- **Basel Convention** It will discuss the control of trans-boundary movements of hazardous wastes and their disposal.
- It covers wide range of wastes defined as "hazardous wastes" that are explosive, flammable, poisonous, infectious, corrosive, toxic or eco-toxic including household and incinerator ash.
- **Rotterdam Convention** It will deliberate on the Prior Informed Consent (PIC) procedure for certain hazardous chemicals and pesticides in international trade.
- The PIC procedure is the mechanism for formally obtaining and disseminating the decisions of importing Parties for receiving the chemicals under the convention and ensuring compliance by the exporting countries.
- The inclusion of chemicals under this convention does not ban the chemical.
- However, importing countries need to follow the PIC procedure and it may lead to an increase in the trade cost, as well as delay the import/export process.



- Stockholm Convention It will discuss on the control of Persistent Organic Pollutants (POPs) which are,
 - i. Remain intact in the environment for long periods (persistent),
 - ii. Become widely distributed geographically (long range transport),
 - iii. Accumulate in the fatty tissue of humans and wildlife (bioaccumulation),
 - iv. Have a harmful impact on human health, or on environment (toxic).
- Under the Convention, the chemicals can be listed for complete elimination from production, use, export and import (Annex-A), restriction in use and production for specific purpose only (Annex-B) or unintentional production (Annex-C).
- Listing of chemicals under Stockholm convention bans/restrict the chemicals for trade, import, export and use along with minimizes unintentional release of POPs.
- India has ratified all the three conventions and the meetings of the COPs of BRS Conventions are generally held every alternate year.

ECONOMY

Interest Rate Parameters

- Financial institutions decide on the interest rates for a loan through different parameters, and bank can't lend below that interest rate.
- The most widely used methods to calculate interest rates by bank are as follows
- Base Interest Rate It is a minimal interest rate set and published by commercial banks for accumulating interest on different credit types, this rate is based on non-treasury securities.
- MCLR-The Marginal Cost of Funds based Lending Rate (MCLR) system was introduced by the Reserve Bank to provide loans on minimal rates as well as market rate fluctuation benefit to customers.
- This system has modified the base rate system of providing home loans.
- In this system, banks have to set various benchmark rates for specific time periods starting from an overnight to one month, quarterly, semi-annually and annually.
- External Bench Mark Rate -The RBI proposed to the use of external benchmark rates such as Treasury bill rate, certificate of deposit rate and repo rate with an objective to make transmission faster.
- Recently State Bank of India (SBI) linked its interest rates on savings bank deposits and short term loans to the reporte of the Reserve Bank of India (RBI).
- The new system of external benchmark is expected to bring in more transparency in fixing interest rates, and faster transmission of rates.
- Banks were lagging in these two crucial factors while determining their deposit and lending rates.

Repo Rate and Reverse Repo rates

- Repo rate is the rate at which RBI lends to its clients generally against government securities.
- Reduction in repo rate helps the commercial banks to get money at a cheaper rate and increase in repo rate discourages the commercial banks to get money as the rate increases and becomes expensive.
- The increase in the repo rate will increase the cost of borrowing and lending of the banks which will discourage the public to borrow money and will encourage them to deposit.
- Reverse repo rate is the rate at which RBI borrows money from the commercial banks.
- As the rates are high the availability of credit and demand decreases resulting to decrease in inflation.



• This increase in repo rate and reverse repo rate is a symbol of tightening of the policy.

NATRIP Project

- National Automotive Testing and R&D Infrastructure Project (NATRiP), is most significant initiatives in automotive sector of India.
- Government of India, a number of State Governments and Indian Automotive Industry collaborate to create a state of the art Testing, Validation and R&D infrastructure in the country through the project.

ICAT

- The International Centre for Automotive Technology (ICAT), Harayana, is a leading world class automotive testing, certification and R&D service provider under the aegis of NATRiP.
- ICAT is an important element of the automotive sector, with its world-class infrastructure and domain expertise providing services in development, testing, validation and homologation.
- With Centers of Excellence (CoE) in automobile development ICAT intends to eventually transform it into an automotive product development center.

Foreign Direct Investment

- According to the recent data presented by Ministry of Commerce & Industry, Maharashtra has emerged as the favourite destination for FDIs by NRIs in the last 4 financial years.
- It attracted 30% of the total NRI investments in the country.
- It is followed by Kerala and Gujarat. Three states together received 60% of the total FDI-NRI investments.

States	2014-15	2815-16	2016-17	2817-18	Tetal
Maharashtra	216.01	190.31	277.48	770.67	1,454.47
Kerala	195.96	443.79	260.67	1.84	902.26
Gujarat	200.48	147.12	159.00	9.22	515.82
NCT of Delhi	115.00	266.05	48.36	9.49	438.9
Telangana	129.09	68.28	127.19	57.72	382.28
Tamil Nadu	77.16	28.82	49.69	89.8	245.47

Source: Ministry of Commerce and Industry, Lok Sabha Questions February 2019

Generalised System of Preferences

- India has decided to postpone the proposed higher tariffs on high-value goods from US with its access to US markets through GSP under stake.
- The GSP is a U.S. trade program designed to promote economic growth in the developing world.
- It was instituted in 1976 by the Trade Act of 1974.
- It provides preferential duty-free entry for up to 4,800 products from more than 120 designated beneficiary countries and territories.
- It was extended to India in 1976, under which India is able to export about 2,000 product lines to the U.S. under zero tariff.
- United States Trade Representative (USTR) is currently viewing India's eligibility under the programme.
- USTR notified that Indian exports did not qualify for GSP benefits under their updated eligibility criteria. However, final presidential proclamation is still pending.
- India is the largest beneficiary nation under the GSP, having exported goods worth \$5.6 billion to the US in 2017-18.



Anti-dumping Duty

- The Finance Ministry has, on the recommendations of the Commerce Ministry, imposed an anti-dumping duty on the import of saccharine from Indonesia.
- Saccharine is a compound most commonly used in sugar-substitute sweeteners.
- Dumping is said to occur when the goods are exported by a country to another country at a price lower than its normal value.
- Anti-dumping is a measure to rectify the situation arising out of the dumping of goods and its trade distortive effect.
- The use of anti-dumping measure as an instrument of fair competition is permitted by the WTO.
- It is an instrument for ensuring fair trade and is not a measure of protection per se for the domestic industry. It provides relief to the domestic industry against the injury caused by dumping.
- There is one more trade remedial measure called "**safeguards**" which are applied as an emergency measure in response to the surge in imports of a particular item.

ENVIRONMENT

POLLUTION

Ross Ice Shelf

- Antarctica's Ross Ice Shelf is the world's largest ice shelf roughly the size of France, is melting rapidly.
- Recently it is found that the ice cap is melting rapidly leading to global sea-level rise of around 13.8 millimeters over the last 40 years.
- The ice shelf is melting 10 times faster than the overall average, due to solar heating of the surrounding ocean surface.
- Antarctica comprises 90 per cent of the world's ice, thus whatever happens to its ice and snow is a matter of



serious concern, and if this situation continues, sea-levels would rise up to 60 meters by 2050 and the ocean would engulf coastal cities across the globe.

SPECIES IN NEWS

Beluga Whale

- The beluga whale is an Arctic and sub-Arctic aquatic mammal.
- It is also known as the white whale, as it is the only marine mammal of this color.
- It possesses a distinctive protuberance at the front of its head which houses an echolocation organ called the melon, which in this species is large and deformable.
- Its sense of hearing is highly developed and its echolocation





allows it to move about and find breathing holes under sheet ice.

• Recently it is believed that Russia has been using the whales for military intelligence by mounting spying devices on the whale.

Kashmiri Stag

- Kashmir stag or Hangul is the state animal of Jammu & Kashmir.
- It is restricted to the Dachigam National Park some 15 km north-west of Jammu & Kashmir's summer capital Srinagar.
- It is placed under Schedule I of the Indian Wildlife (Protection) Act, 1972 and the J&K Wildlife Protection Act, 1978.
- The Hangul was once widely distributed in the mountains of Kashmir and parts of Chamba district in neighbouring Himachal Pradesh.
- The IUCN's Red List has classified it as Critically Endangered and is similarly listed under the Species Recovery Programme of the Wildlife Institute of India (WII) and the Environmental Information System (ENVIS) of the MoEFCC.

Grizzled Giant Squirrel

- For the first time, researchers have sighted nests of the grizzled giant squirrelat Pakkamalai Reserve Forests near Gingeein the Eastern Ghats region of Tamil Nadu.
- The species is usually known to nest in the Western Ghats in Southern India ranging from Chinnar Wildlife sanctuary in Kerala to Anamalai Tiger Reserve and Palani hills in Tamil Nadu.
- It is an endangered species listed under Schedule I of the Wildlife Protection Act, 1972.
- It has been categorised as near threatened by the Red List and listed under Schedule II of CITES.

Asiatic Lion

- CSIR has recently sequenced the entire genome of Asiatic lion for the first time.
- The genome sequencing has already been done for big cats like Royal Bengal tiger, African Cheetah and Jaguar.
- With the complete genome of Asiatic lion, a comparative study of all these cats would be possible.
- It would also help to better understand the evolution of Asiatic lion.
- Asiatic Lion that once ranged from Persia (Iran) to Palamau in Eastern India were almost driven to extinction by hunting and habitat loss.
- According to 2015 census, it is found in Gir Protected Area Network that includes Gir National Park, Gir Sanctuary, Pania Sanctuary, Mitiyala Sanctuary adjoining reserved forests, protected forests.
- It is listed as "Endangered" in the IUCN red list of threatened species and in Schedule I in CITES Appendix.
- It is included in 21 critically endangered species included in the Centrally Sponsored Scheme Development of Wildlife Habitat (CSS-DWH).
- Asiatic lion conservation project will be funded under this scheme.

Cryptozoology

- Cryptozoology is a pseudoscience and subculture that aims to prove the existence of entities from the folklore record.
- Cryptozoology does not follow the scientific method, thus it is neither a branch of zoology nor folkloristics.



- Recently Indian Army during its Himalayan expedition identified Giant footprints which is 32 inches long and 15 inches wide.
- Indian Army suspects that the footprints they have observed must be of the Yeti, a mythical snowman that is said to inhabit the high Himalayas.
- There is no scientific evidence thus far that a creature like a snowman exists, but the Yeti remains a part of Himalayan folklore.

OTHERS

Assessment Report on Biodiversity and Ecosystem Services

- Global Assessment Report on Biodiversity and Ecosystem Services is first ever report released by Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).
- The report primarily analyzed the impact of economic development on nature and ecosystems.
- According to the report One million animal and plant species are under extinction, and thousands of these would extinct within decades.
- Since the beginning of the last century (1900), availability of native species in most of the land-based habitats has declined by 20 per cent. Similarly, 40 per cent of the amphibian species are threatened with extinction.
- Almost 33 per cent of reef-forming corals and more than a third of all marine mammals are threatened.
- Ecosystems, species, wild populations, local varieties and breeds of domesticated plants and animals are shrinking, deteriorating or vanishing.
- This loss is a direct result of human activity and constitutes a direct threat to human well-being in all regions of the world.
- Three-quarters of the land-based environment and about two-thirds of the marine environment have been significantly altered by human actions, says the assessment. Nearly 75 per cent of all freshwater resources are now used for crop and livestock rearing activities.

Discovery of Orchid

- Lecanorchistaiwaniana, is one of the smallest orchid in terms of size and duration of bloom to be recorded botanicallyin India.
- It was recently discovered in the state of Assam.
- It is a mycoheterotroph, one of two types of parasitic plants that have abandoned photosynthesis.
- Northeast India has rich orchid wealth in the country, having 800 of some 1,300 species.
- About 300 species are found in the Western Ghats and 200 in the north-western Himalayas.

World Migratory Bird Day

- World Migratory Bird Day is celebrated in May month each year to highlight the need for the conservation of migratory birds and their habitats.
- This year highlighted the impact of plastic pollution on the migratory birds health which affects wide range of species Whales, turtles, Fish and birds.
- It is organised by 3 environmental organisations,
 - i. The Convention on Migratory Species (CMS)
 - ii. The African-Eurasian Migratory Waterbird Agreement (AEWA)
 - iii. Environment for the Americas (EFTA).



- CMS and AEWA are intergovernmental wildlife treaties administered by UN Environment.
- CMS a.k.a Bonn Convention, aims to conserve terrestrial, aquatic and avian migratory species throughout their range.
- It was entered into force in 1979 and currently it has 127 parties.
- AEWA is dedicated to the conservation of migratory waterbirds that migrate along the African-Eurasian Flyway.
- It covers 255 species of bird ecologically dependent on wetlands for at least part of their annual cycle.
- Currently, 78 countries and EU are part of this agreement.

UN Accord on Plastic Waste

- In a meeting organised by UNEP, 180 governments have agreed on a new UN accord to regulate the export of plastic waste.
- It has amended the 1989 Basel Convention on the control of hazardous wastes to include plastic waste in a legally-binding framework.
- This new amendment would empower developing countries to refuse "dumping plastic waste" by others.
- It has also eliminated 2 toxic chemical groups from the purview of basel convention.
- Dicofol and Perfluorooctanoic Acid, plus related compounds have been used in a wide variety of industrial and domestic applications.
- Even though the U.S. and a few others have not signed the accord, they cannot ship plastic waste to countries that are on board with the deal.
- The Nordic governments in April became the first in the world to formally call for a global treaty to tackle plastic waste in oceans.

Click here to know more about Basel Convention.

UNEP Report

- United Nations Environment Programme (UNEP) has released a report, "Sand and Sustainability: Finding new solutions for environmental governance of global sand resources".
- It highlighted that sand consumption globally has been increasing and we are extracting it at rates exceeding natural replenishment rates.
- Report says that Sand and gravel are the 2nd largest natural resources extracted and traded by volume after water, but among the least regulated.
- It also says that, China and India head the list of critical hotspots for sand extraction impacts in rivers, lakes and on coastlines
- While 85% to 90% of global sand demand is met from quarries, and sand and gravel pits, the 10% to 15% extracted from rivers and sea shores.
- Their extraction often results in
 - i. River and coastal erosion and
 - ii. Threats to freshwater and marine fisheries and aquatic ecosystems,
 - iii. Instability of river banks leading to increased flooding, and
 - iv. Lowering of ground water levels.

Database for Indian Rhino



- Union Environment ministry has commenced a project to create DNA Profiles of all Rhinos in the country by 2021.
- There are three species of rhinos, of which only one, the Indian rhino is found in the country.
- Indian rhino could be the first wild animal species in India to have all its members DNA-sequenced.
- World Wide Fund for Nature India (WWF-India) and Wildlife Institute of India (WII) are part of this project.
- This project would be useful in curbing poaching and gathering evidence in wildlife crimes involving rhinos.
- There are about 2,600 rhinos in India, with more than 90% of the population concentrated in Assam's Kaziranga National Park.
- It is listed as Vulnerable in IUCN red list of threatened species.
- It is mainly poached for its hard, hair-like growth, which is revered for medicinal use in China, Taiwan, Hong Kong, and Singapore.
- The horn is also valued in North Africa and the Middle East as an ornamental dagger handle.

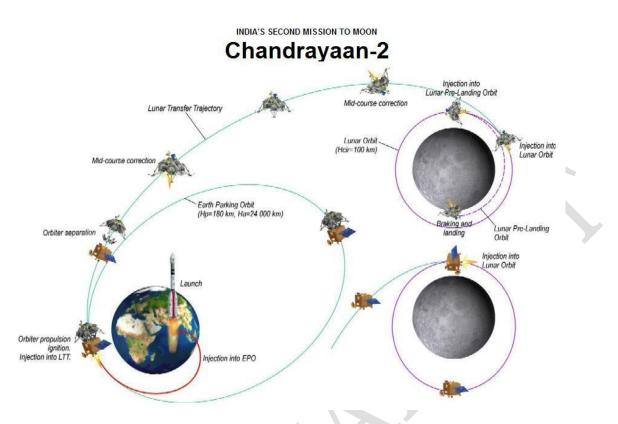
SPACE

SCIENCE AND TECHNOLOGY

Chandrayaan – II

- Chandrayaan-2 is India's second lunar mission.
- It has three modules namely Orbiter, Lander (Vikram) & Rover (Pragyan).
- The Orbiter and Lander modules will be interfaced mechanically and stacked together as an integrated module and accommodated inside the GSLV MK-III launch vehicle and the Rover is housed inside the Lander.
- After launch into earth bound orbit by GSLV MK-III, the integrated module will reach Moon orbit using Orbiter propulsion module.
- Subsequently, Lander will separate from the Orbiter and soft land at the predetermined site close to lunar South Pole.
- Further, the Rover will roll out for carrying out scientific experiments on the lunar surface.





Types of Orbit

- **Geostationary Orbit (GEO)** -A geostationary orbit, often referred to as a GEO orbit, circles the Earth above the equator from west to east at a height of 36 000 km.
- It follows the Earth's rotation, thus satellites in a GEO orbit appear to be 'stationary' over a fixed position.
- As satellites in geostationary orbit continuously cover a large portion of the Earth, this makes it an ideal orbit for telecommunications or for monitoring continent-wide weather patterns and environmental conditions.
- **Geostationary Transfer Orbit (GTO)** This is an elliptical Earth orbit used to transfer a spacecraft from a low altitude orbit or flight trajectory to geostationary orbit.
- Low Earth Orbit (LEO) A low Earth orbit is normally at an altitude of less than 1000 km and could be as low as 160 km above the Earth.
- In general, these orbits are used for remote sensing, military purposes and for human spaceflight as they offer close proximity to the Earth's surface for imaging and the short orbital periods allow for rapid revisits.
- The International Space Station (ISS) is in low Earth orbit.
- Polar Orbits -As the name suggests, polar orbits pass over the Earth's Polar Regions from north to south.
- The orbital track of the satellite does not have to cross the poles exactly for an orbit to be called polar, an orbit which passes within 20 to 30 degrees of the poles is still classed as a polar orbit.
- Satellites in polar orbit look down on the Earth's entire surface and can pass over the North and South Poles several times a day.
- Polar orbits are used for reconnaissance and Earth observation.
- Sun Synchronous Orbits These are polar orbits which are synchronous with the Sun.
- Generally these orbits are used for Earth observation, solar study, weather forecasting and reconnaissance, as ground observation is improved if the surface is always illuminated by the Sun at the same angle when viewed from the satellite.



- **Earth Parking Orbit (EPO)** -A Parking orbit tends to be a temporary orbit that something enters before being boosted into its final orbit.
- There is no single orbit that's called a parking orbit, any orbit can be used as EPO.

Marsquake

- NASA has recently recorded tremblings in Mars for the first time ever.
- It appears to have come from inside the planet, as opposed to being caused by forces above the surface.
- It was recorded by NASA's Insight lander and its specially designed seismometer picked up the fainted trembles.
- **Insight's core mission** is to study the interior of Mars by looking for seismic waves, studying the planet's wobble as it moves in its orbit around the Sun.

Double Asteroid Redirection Test

- DART is a planetary defence technique developed by NASA.
- Its objective is to save the planet from Asteroid collision by changing its motion in space.
- The spacecraft will cause deliberately crashing itself into the asteroid at a speed of approximately 6 km/s.
- The collision will change the speed of the asteroid in its orbit around the main body by a fraction of one percent, enough to be measured using telescopes on Earth.
- It targets binary near-Earth asteroid Didymos, which pose a hazard to earth.
- It is going to be launched SpaceX Falcon 9 rocket that will hit Didymos in September 2022.
- Near -Earth Asteroid (NEA) An asteroid when its trajectory brings it within 1.3 Astronomical Units (AU) from the Sun and hence within 0.3 AU of the Earth's orbit.
- The largest known NEA is Ganymed. NEA's are also known Potentially Hazardous Asteroid.

Square Kilometre Array

- SKA project is an international effort to build the world's largest radio telescope, with eventually over a square kilometre (one million square metres) of collecting area.
- It will use 1000s of dishes and up to a million low-frequency antennas that will enable astronomers to monitor the sky in unprecedented detail and survey the entire sky much faster than any system currently in existence.
- South Africa's Karoo region and Western Australia's Murchison Shire were chosen as co-hosting locations for this project.
- Karoo will host the core of the high and mid frequency dishes and Murchison will host the low-frequency antennas.
- **Recent Developments** MeerLITCH is the world's first optical telescope linked to a radio telescope launched in South Africa.
- The device forms part of the SKA project and will be linked to MeerKAT, a radio telescope located 200km away.
- Scientists at Cambridge have finished designing the data processor of SKA's telescopes.

Hubble Space Telescope

- The telescope has recently imaged a "stunning spiral galaxy" located about 30 million light-years away from the earth in the constellation of Leo.
- The spiral galaxy named as NGC 2903 is similar to our own Milky Way galaxy.

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- Hubble is the world's first large, space-based optical telescope with Sun as its energy source.
- It is a joint project between NASA and the European Space Agency.
- Since, the telescope is in space, its vision is not blocked by Earth's atmosphere.
- It uses a digital camera to takes pictures like a cell phone. Then it uses radio waves to send the pictures through the air back to the earth.
- It makes one orbit around Earth every 95 minutes and it can spot stars and galaxies lights years away from the earth.

Terra and Aqua Satellites

- NASA Satellites Terra and Aqua have tracked the movement of cyclone Fani through Infrared, microwave and visible imagery of it.
- Both are Earth Observing satellites, studying the precipitation, evaporation, and cycling of water.
- Both employed MODIS (or Moderate Resolution Imaging Spectroradiometer) as a key instrument, which image the same area on Earth approximately three hours apart.
- Terra's orbit around the Earth is timed so that it passes from north to south across the equator in the morning, while Aqua passes south to north over the equator in the afternoon.
- Terra MODIS and Aqua MODIS are viewing the entire Earth's surface every 1 to 2 days, acquiring data in 36 spectral bands, or groups of wavelengths.

HEALTH

Monkeypox Virus

- Singapore has recently reported its first case of the rare monkeypox virus.
- Monkeypox, a virus like the human smallpox which was eradicated in 1980.
- Itdoes not spread easily from person to person but can in rare cases be fatal.
- Transmission is usually via close contact with infected animals such as rodents and monkeys and is limited between people.
- This viral infectionhas only been documented outside of Africa in 3 countries US, UK and Israel.
- It typically lasts for 2 to 4 weeks, starting as a fever and headache and progressing through to small bumps called pustules that spread over the body.

DEFENCE

Varuna

- It is a bilateral naval exercise between India and France.
- It was initiated in the year 1983 and it form a vital part of the Indo-French strategic partnership.
- It will be held in two phases with the 1st part in Goa Coast and other part in Djibouti.

India's Aircraft Carrier

- Currently, Indian Navy opera only a single carrier, the 44,000-tonne INS Vikramaditya bought from Russia.
- INS Vikrant, is an indigenous aircraft carrier being built in Cochin Shipyard.
- It is a 40, 000 tonne carrier and expected to join service by 2021.
- INS Vishal, proposed to be India's 2nd indigenous aircraft carrier has stalled since 2017 awaiting defence ministry's clearance.

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- It was conceived as 65,000 tonne class carrier. The clearance was mainly delayed owing to its production cost.
- Recently, Indian government has approached UK to build state of the art aircraft carrier along the lines of Britain's HMS Queen Elizabeth.
- The talks are under way to buy detailed plans for the 65,000-ton British warship to build a so-called "copycat supercarrier" to be named INS Vishal in 2022.
- This India-UK Naval deal would follow the sale of INS Viraat to India in 1987, which was decommissioned 2 years ago.

INS VELA

- VELA the fourth Scorpene class submarine has been inducted into Indian Navy.
- It is a diesel-electric attack submarine of Kalvari-class.
- The Scorpene class of submarines can undertake multifarious tasks typically undertaken by any modern submarine which include anti-surface as well as anti-submarine warfare.
- INS Vela was first commissioned on August 31, 1973 in the Indian Naval Service and continued to serve for 37 years.
- It was the country's oldest submarine when it was decommissioned in 2010.

Apache Guardian Attack Helicopters

- Indian Air Force has signed contract with the US government and Boeing Ltd in 2015 for Apache helicopters.
- Boeing has recently handed over the 1st of the 22 apache helicopters to India.
- It is a multi-role attack helicopter with a capability to carry out precision attacks and operate in hostile airspace.
- The helicopter also has the unique capacity to transmit and receive battlefield picture through data uplinking and networking.
- It has been customised to suit the requirements of the Indian military and will have significant capability in mountainous terrain.
- The introduction of Apache will lead to the modernisation of the IAF's attack helicopter fleet which at present is equipped with Russian origin MI-35 helicopters.

INDEX AND REPORT

SDG India Index

- SDG India Index is a single measurable Index to map progress of States & UTs towards 2030 SDGs.
- The index is released by NITI Aayog, it is developed in collaboration with the Ministry of Statistics & Programme Implementation (MoSPI).
- NITI Aayog has the twin mandate to oversee the implementation of SDGs in the country, and also promote Competitive and Cooperative Federalism among States and UTs.
- The SDG India Index tracks progress of all States and UTs on 62 Priority Indicators selected by NITI Aayog, which in turn is guided by MoSPI's National Indicator Framework.
- Through which a composite score was computed between the range of 0-100 for each State and UT based on their aggregate performance across 13 SDGs, which indicates average performance of State/UT towards achieving 13 SDGs & their respective targets.
- If a State/UT achieves a score of 100, it signifies that it has achieved the 2030 national targets.



- The higher the score of a State/UT, the greater the distance to target achieved.
- Classification Criteria based on SDG India Index Score is as follows:
 - 1. Aspirant: 0-49
 - 2. Performer: 50-64
 - 3. Front Runner: 65-99
 - 4. Achiever: 100

Services Trade Restrictiveness Index

- STRI is released by Organisation for Economic Cooperation and Development (OECD).
- It was launched in 2014 and it ranks countries (both OECD and non-OECD) based on their services trade policies.
- The index is now available for 2018 for a total of 45 economies and 22 sectors.
- It has placed Indian service sector as highly restrictive in areas such as FDI.
- India has found problems with the current method under which index is being calculated.

International Religious Freedom Report

- International Religious Freedom report is an annual report released by the US Commission on International Religious Freedom (USCIRF).
- USCIRFis a bipartisan, independent federal government commission, created by International Religious Freedom Act of 1998.
- The report describes threats to religious freedom around the world and recommends to the State Department countries for designation as "countries of particular concern" (CPCs) for engaging in or tolerating "systematic, ongoing, egregious violations."
- USCIRF also recommends to the State Department that non-state actors cited for similarly severe violations be designated as "entities of particular concern" (EPCs).
- According to the report India is facing declining religious freedom, apart from increased securitization and politicization of religion.
- India continues to remain a Tier II country of the list, Tier II countries are those in which violations engaged in or tolerated by government are serious and characterized by at least one of the elements of systematic, ongoing, and egregious (horrible)'.