



IASBABA'S MONTHLY MAGAZINE

OCTOBER 2018



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#MeTooIndia and Reforms to sexual harassment law

National Nutrition Mission

Global Hunger Index 2018

India Elected To UN Human Rights Council

India-Japan ties: 13th annual summit

India and China: "Wuhan spirit"

The 1.5°C challenge

PREFACE

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

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

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

This is the **41st edition** of IASbaba's Monthly Magazine. This edition covers all important issues that were in news in the month of **OCTOBER 2018** which can be accessed from <https://iasbaba.com/current-affairs-for-ias-upsc-exams/>

VALUE ADDITIONS FROM IASBABA

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

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

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

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HISTORY/CULTURE/GEOGRAPHY

UNESCO Global Geopark Network status

Part of: GS Prelims and Mains I and III – India Art, Culture and Heritage; Heritage sites; Tourism

In news:

- Geological Survey chooses heritage locations in Maharashtra and Karnataka for UNESCO site status.

Heritage locations

1. Lonar Lake – An ancient circular lake created by a meteorite strike in Maharashtra
2. St. Mary's Island and Malpe beach – A hexagonal mosaic of basaltic rocks in an island off Udupi

– The above heritage locations are poised to become global geoparks.

Criteria to become Geopark:

An aspiring Global Geopark must have –

- a dedicated website,
- a corporate identity,
- comprehensive management plan,
- protection plans,
- finance, and
- partnerships for it to be accepted.



Do you know?

- The Geopark tag is akin to that of a 'World Heritage Site' for historical monuments that can bring India's famed geological features to the global stage. (50,000 years old)
- Lonar lake is the only known meteorite crater in basaltic rock and is world famous.
- St. Mary's island is a unique phenomenon that has been preserved well - estimated to be an 88-million-year-old formation that goes back to a time when Greater India broke away from Madagascar.

Place in news: Mansar Lake

In news:

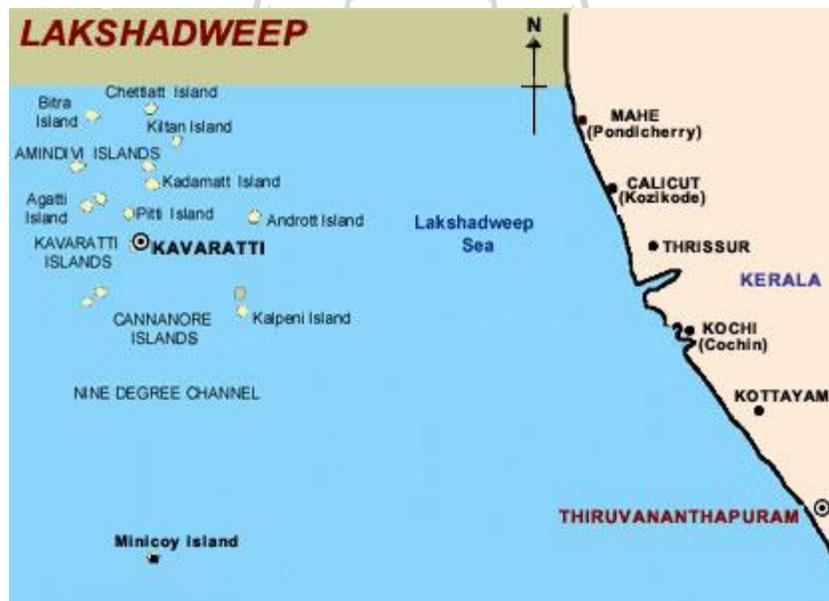
- Mansar Lake is one of the largest freshwater lakes in the Shivalik range of the Jammu region.
- The lake is facing an existential threat due to human intervention and climate change.

Lagoon villas for Lakshadweep soon

Part of: GS Prelims and Mains I and III – Geography; Tourism and Infrastructure

In news:

- NITI Aayog plans to boost island tourism (especially Lakshadweep and Andaman and Nicobar Islands)
- Government plans to make Lakshadweep - a popular alternative to leading destinations such as Mauritius and Maldives
- Government to grant licenses to build villas and attract tourists from across the globe. These will mainly be eco-cottages, for which private players can bid to build.
- NITI Aayog, along with other stakeholders, including the Island Development Agency (IDA), which is chaired by Home Minister Rajnath Singh, is conducting a technical feasibility study.



Pic: <https://www.traveldealsfinder.com/wp-content/uploads/2012/09/lakshwadweep-map.jpg>

'Jewel of Roman Empire' faces danger

In news:

- UNESCO declared **Sabratha** to be at risk in 2016, mainly due to damage caused by armed groups
- The world heritage site is classified as “endangered” by UNESCO.
- Locals say snipers positioned themselves at the top of the amphitheatre, once a jewel of the Roman Empire.



Pic: <https://media-cdn.tripadvisor.com/media/photo-s/01/c7/15/14/roman-sabratha.jpg>

About Sabratha

- Sabratha is one of three former cities that constituted Roman Tripolitania. (The others are Oea — modern-day Tripoli — and Leptis Magna in western Libya that was one of the sites categorised as endangered by UNESCO two years ago.)
- It is located west of Tripoli, in Libya.
- It was an ancient Carthaginian city on the coast of north Africa.
- It lies on the Mediterranean coast about 70 km west of modern Tripoli.
- The extant archaeological site was inscribed as a UNESCO World Heritage Site in 1982.

Do you know?

- Since the toppling and killing of Libya's dictator Muammar Qadhafi in a 2011 uprising, Sabratha has become a key departure point for illegal migration.
- Smugglers and militias have profited amply from a chronic security vacuum. It is from the long and deserted shores a few km from ancient Sabratha that most migrants start their perilous boat journeys towards Europe.

River under threat: Musi River

Part of: GS Prelims and Mains I and III – Geography, Environment conservation; Biodiversity; Pollution

In news:

- Musi River - is a tributary of the Krishna River in the Deccan Plateau flowing through Telangana state in India.
- Due to indiscriminate urbanization and lack of planning, the river has become a receptacle of untreated domestic and industrial waste dumping out of Hyderabad.
- The river water downstream of the cities remains highly polluted, considered a major disaster in Hyderabad.

Odisha, Andhra on red alert as cyclone Titli inches close

Part of: GS Prelims and Mains II – Geography

In news:

- India Meteorological Department (IMD) issued red alert to Odisha and Andhra.
- It said the deep depression over the Bay of Bengal has intensified into cyclonic storm 'Titli' and is moving towards the Odisha-Andhra Pradesh coast.

Do you know?

- Earlier, Cyclone Mekunu had hit parts of coastal Karnataka, Mangalore and Udupi.
- 'Mekunu' is a Maldivian name as it is located to the northwest of Maldives and west of Lakshadweep.
- The Indian Ocean is an active zone at present and is throwing in a number of disturbances. Moreover, a Cyclone named Luban, the first of the Post Monsoon season had already developed over the Arabian Sea.

Think!

What makes coastal India more susceptible to tropical cyclones?

[PM unveils statue of Sir Chhotu Ram in Sonipat, Haryana](#)

[Person in news: Sir Chhotu Ram](#)

Part of: GS Prelims and Mains I – Famous personalities and their contribution

In news:

- PM unveiled the statue of farmer leader Sir Chhotu Ram.

About Sir Chhotu Ram

- Rai Richhpal better known as Sir Chhoturam was born on 24 November 1881 in a small village called Sampala in Rohtak.
- This great personality was a Messiah for farmers. He not only fought for the country's independence in the Quit India movement, but also for the rights of farmers.
- He played an instrumental role in empowering farmers during British rule and laid the foundation stone of a Railway Refurbishing Factory in Rohtak.
- He also played a huge role in motivating youngsters to join the forces during the first world war. Inspired by Mahatma Gandhi, he led several movements against the British rule. In 1937 he became the Revenue minister of Punjab province.

Note:

- For more info about Sir Chhotu Ram, please CLICK ON below link
- [Simply Put: Why Sir Chhotu Ram matters](#)

[Museum of PMs](#)

Part of: GS Prelims and Mains I – Indian Art and Culture; Heritage

In news:

- The Union Culture Ministry will construct a museum on Prime Ministers on the Teen Murti Estate, Delhi.
- The museum dedicated to all Prime Ministers will come up within the 25.5-acre estate, but separate from the Nehru Memorial Museum and Library (NMML) buildings.
- A museum dedicated to all the Prime Ministers in the vicinity of the memorial of the country's first Prime Minister was envisaged to enable the visitor a holistic

understanding of the continued thread of leadership, initiatives and sacrifice that have shaped our nation since independence.

[Korean War memorial to be built in Delhi](#)

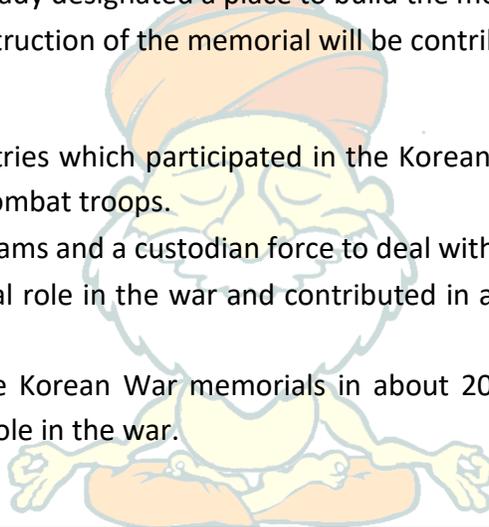
Part of: Prelims and Mains GS I and II – World history; International Relations

In News

- A **Korean War memorial** will be built in **New Delhi** to commemorate India's role in the war which ended in an armistice in 1953.
- India and South Korea have agreed on building the war memorial.
- The proposal was initiated by the Indian Korean War Veterans Association and the Delhi government had already designated a place to build the memorial.
- Funding for the construction of the memorial will be contributed both the countries.

Do you know?

- There were 21 countries which participated in the Korean War of 1950-53 of which 16 countries had sent combat troops.
- India sent medical teams and a custodian force to deal with the Prisoners of War (PoW).
- India played a neutral role in the war and contributed in a peaceful manner to end the Korean War.
- As of now, there are Korean War memorials in about 20 countries around the world which had played a role in the war.



[Saffron marigold is the colour of sacrifice](#)

In news:

- The marigold was chosen as the **symbol of remembrance** for Indian soldiers martyred in First World War.
- A unique Indian symbol will allow citizens in India, as well as the international diaspora, to acknowledge the valour and sacrifice of the Indian armed forces in the service of the nation, including those who fell in the two world wars.
- World to mark the centenary of the end of the First World War on November 11.
- The marigold was chosen because it is easily and widely available and also because saffron is often seen as a colour of sacrifice.



Pic: https://www.saffronmarigold.com/catalog/images/albums/bp_01_Photo_marigold.jpg

About India Remembers project

The India Remembers project is a joint endeavour of the United Service Institution of India (USI) and the Commonwealth War Graves Commission (CWGC) and a part of the 'India and the Great War' Centenary Commemoration project initiated by the USI in 2014 with the support of the Ministry of External Affairs and in close association with the British High Commission.

The Project highlights India's contribution during the First World War and primarily aims at exploring India's engagement in war efforts from a variety of perspectives.

Important Value Additions:

- **First World War (1914-1918)** is considered as one of the largest wars in history.
- The world's great powers assembled in two opposing alliances: the **Allies** (British Empire, France and the Russian Empire) versus the **Central Powers** (Germany and Austria-Hungary).
- Triple Entente - France, Russia, and Great Britain.
- Triple Alliance - Germany, Austria-Hungary, and Italy.

Do you know?

- The Indian War Memorial, to be inaugurated at Villers-Guislain in France, has a bronze marigold wreath as an integral part of its design.
- The First World War ended with the signing of the armistice on November 11, 1918. Since then, **poppy was adopted as the symbol of remembrance** as it grew widely in the Flanders fields in Europe where some of the major battles were fought.

Note: Try to know the Causes of the First World War and India's contribution during the First World War.

The unifier of modern India: Sardar Vallabhbhai Patel

Introduction

“By common endeavour we can raise the country to a new greatness, while a lack of unity will expose us to fresh calamities.”

These pragmatic but profound remarks defined the vision and the sterling character of Sardar Vallabhbhai Patel, the principal unifier of modern India.

Force behind unification

- Sardar Patel’s foresight and tactful navigation of the most turbulent period in post-Independence, and the resolve he demonstrated in integrating the more than 500 princely States into the Dominion of India is an unparalleled accomplishment in modern history.
- Hailing Patel’s feat, **Lord Mountbatten declared the unification of India as the first great success of the new independent government.**
- Patel was a statesman with a strong sense of realpolitik, a realist to the core and an earthy politician whose sole aim was to build a strong and united India.
- The princely rulers had the option at that time to either accede to India or Pakistan or remain independent.
- Patel’s wisdom, foresight, patriotism, tact, persuasive powers and abiding commitment to fair play enabled him to **untangle a highly complex political and social problem without triggering any kind of revolt or civil unrest.**

Operation Polo (Hyderabad) and case of Junagarh

- Patel was also compelled to use coercion by launching **‘Operation Polo’ to liberate and integrate Hyderabad** after the Nizam of Hyderabad entertained false hopes of either joining Pakistan or remaining independent.
- In a swift operation lasting five days, Hyderabad State was liberated in September 1948.
- It was the most critical time when the country’s political unity was in jeopardy, India found the man of the moment in Sardar Patel.
- **He displayed amazing patience, tact and a steely determination** in dealing with an intransigent ruler, who refused to see the writing on the wall and even wanted to take the issue to the United Nations.
- Displaying statesmanship of the highest order, Sardar Patel **prevented the attempts to not only Balkanise India but internationalise the issue as well.**
- The complicated case of Junagarh, Gujarat, was also handled with dexterity by Patel.
- The problem of Jammu and Kashmir may have been resolved long back had Sardar Patel been given a free hand to handle it at that time.

A builder of India

- Patel himself termed the entire exercise as a **“bloodless revolution”** when he wanted the Constituent Assembly to consider **privy purse settlements** for the surrender by the rulers of all their ruling powers and the dissolution of the States as separate units.
- **Patel was an ardent follower of Mahatma Gandhi** and never swerved in his loyalty to his mentor, although there were occasions when he differed with him.
- Similarly, he did not see eye-to-eye with Jawaharlal Nehru on certain issues, including the handling of Jammu and Kashmir.
- But he **did not allow these differences or personal ego to come in the way of protecting the larger interests of the country.**
- He worked shoulder-to-shoulder with Nehru in building a modern India.
- **Patel was a multifaceted personality.** He was a **dynamic political leader**, an **organiser par excellence**, a **competent administrator** and a **skilful negotiator.**
- After coming under the influence of Mahatma Gandhi, he became his loyal follower and **successfully organised peasants against the imposition of taxes by the British at Kheda and Bardoli, Gujarat**, and in the process he earned the title of ‘Sardar’ for his leadership qualities.
- The manner in which he marshalled the peasants and the unflinching stand taken by him eventually forced the authorities to roll back the taxes.

Architect of the steel frame

- **The Iron Man of India was the chief architect of India’s steel frame — the civil services.**
- Thus, the All India Services were seen as an important cementing force in promoting the unity and integrity of the nation.
- It will be relevant to recall his famous address to the civil service probationers in 1947. when Patel told them that the service will have to adopt its true role of national service without being trammelled upon by traditions and habits of the past.
- He said: “Your (officers’) predecessors were brought up in the traditions in which they felt out of touch and kept themselves aloof from the common run of the people. It will be your bounden duty to treat the common men in India as your own or to put it correctly, to feel yourself to be one of them.”

The man of integrity and intentions of "nation first"

- **He readily accepted the Mahatma Gandhi’s advice to withdraw his candidacy for the post of Congress President in favour of Pandit Nehru in 1946**, although a majority of State Congress committees supported his candidature.

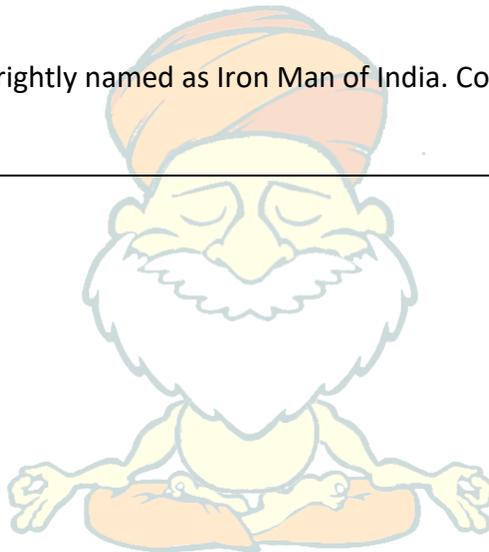
- It was apparent that the Congress President would become the first Prime Minister of India. It once again proved his noble intention of placing the country's interests above self.
- His love for the motherland was best described by **Maulana Azad when he said: "He made his choice out of two courses that come before a man, namely would he live for his country or for himself? Sardar chose his country."**

A tribute

- The 182-metre-tall 'Statue of Unity' is being unveiled on his birth anniversary at the Narmada dam site in Gujarat, in a tribute and recognition of Patel's stupendous role in integrating and ensuring India's unity.
- We must try to emulate his qualities and work towards realising his dream of providing 'Suraaj' in a new and prosperous India.

Connecting the dots:

- Sardar Vallabh Patel rightly named as Iron Man of India. Comment.



POLITY/GOVERNANCE

Dumping an archaic law

General Studies 2

- *Constitution: Right to equality, Freedom and dignity*
- *Social justice and governance*

Introduction

The Supreme Court delivered series of land mark judgments this month, including Section 377, Sabrimala, and decriminalisation of the offence of adultery by holding Section 497 of the Indian Penal Code (IPC) unconstitutional.

As previously: Adultery an offence

- India was one of the few countries in the world that still considered adultery an offence.
- The Indian definition of this crime was that it did not punish the erring spouses, but instead punished the adulterous man, or rather 'the outsider', for having extra-marital relations with a woman who he knows to be married.
- It was only an offence if the husband had not consented to this relation, implicitly suggesting that the wife was the property of her husband.
- Hence, the husband was considered to be the "victim" of adultery and could file a case. The same recourse was, however, not available to the wife.

Moral wrong as crime

- For any act to be a crime, it has to be committed against society at large.
- The main argument for retaining the criminal provision was that the outsider should be punished for breaching the matrimonial unit and that the law should mandate punishment for such a moral wrong.
- This violation was seen as a crime against the institution of marriage, thus justifying it to be a breach of security and well-being of society, this argument was unanimously dismissed by the bench.

Observations of the SC

- The court observed that the issue of adultery between spouses was a private matter, and could be a ground for divorce under civil law.
- It did not warrant the use of criminal sanction against any party involved.
- Moreover, no justification can be given by the state for penalising people with imprisonment for making intimate and personal choices.

- Addressing the issue of making the penal provisions of adultery gender neutral, the court held that even then the matter was private, and anything otherwise would be a grave intrusion into the privacy of individuals.
- As the law previously stood, the victim would be the husband alone, whose property (i.e. the wife) was trespassed upon. The court dismissed this regressive patriarchal notion of women being “chattels” of their husband.
- The court held that Section 497, as it existed, denied women ownership of their sexuality and agency over their own relationships.

Rights violated by Section 497 of IPC

- The court relied on K.S. Puttaswamy v. Union of India to explain this deprivation of autonomy as a violation of their right to privacy and to live with dignity, thus violating their fundamental rights under Article 21 of the Constitution.
- The adultery provision also violated the right to equality guaranteed under Article 14. The fact that the commission of the offence would have been in the absence of the husband’s consent proved the inequality between the spouses.
- Section 497 consumed the identity of a wife, as an individual with rights as an equal partner to the marriage, tipping the scales to favour the husband.

Justifications given in support of Section 497

- Previous challenges to this provision claimed that exempting women under Section 497 from prosecution and being prosecuted was ‘protecting’ them.
- Also claimed, was in consonance with Article 15(3) of the Constitution that allowed the state to make laws for the benefit of women and children.
- This provision was made when bigamy was prevalent and Lord Macaulay, the drafter of the IPC, did not find it fair to punish one inconsistency of the wife when the husband was allowed to marry many others.
- Misconception in this reasoning was pointed out by the court — the law that takes away the right of women to prosecute, just as her husband had the right to proceed against the other man, could not be considered ‘beneficial’ and was, in fact, discriminatory.

Conclusion

- The court rightly explained: “Marriage in a constitutional regime is founded on the equality of and between spouses. Each of them is entitled to the same liberty which Part III [of the Constitution] guarantees.”
- Therefore, not affording both parties to a marriage equal rights and opportunities would be discriminatory and a violation of their right to equality.
- It is surprising to see that even after the verdict many have opposed this decision of the Supreme Court, most countries around the world have done away with this practice.

- While the struggle for equality in many other spheres still continues, the decision to scrap this archaic law is definitely a step in the right direction.

Connecting the dots:

- The Indian civil and criminal codes (IPC and CrPC) designed and drafted by colonial lawmakers should be scrapped and redrafted again, according to needs of modern Indian democratic society. Do you agree? Elucidate.

Decriminalisation of politics: In Parliament's court

General Studies 2

- **Constitution: Elections, Parliament**
- **Democratic governance and society**

Introduction

- The issue of candidates facing criminal charges getting elected to Parliament and State legislative Assemblies is often raised, but initiatives to minimise the problem, if not eliminate it completely, have been rather slow.
- In a recent judgment, the Supreme Court has left it to Parliament to legislate on the subject, with regard to preventing such candidates from contesting elections.

Steps taken by Supreme Court

- Some important changes in the electoral laws — making it mandatory for candidates to submit an affidavit with full disclosure of criminal cases, if any, and details of their asset and income — were made mandatory by the judiciary.
- The court made it mandatory for political parties and candidates themselves to make public disclosure through print and electronic media.
- Providing an option to voters to exercise None of the Above (NOTA) in case they do not want to vote for any of the candidate contesting an election, was also introduced by the judiciary in 2003 on the basis of the PIL filed by People's Union for Civil Liberties.
- The court mentioned that it was not within its powers to disqualify politicians facing criminal cases from contesting election, but recommended that Parliament enact a strong law.

Concerns and challenges

- There is serious doubt whether this judgment would in any way help in making our politics cleaner than before. The chances of Parliament acting fast on this issue are dim.

- No political party is free of this problem. The use of muscle power along with money power is a weapon used by all political parties to maximise electoral gains.
- In such a scenario, any move to ban candidates with a criminal record from contesting elections would mean political parties inflicting self-harm.
- Public opinion too is not firm on this. A survey found that opinion was divided when people were asked whether they would be willing to vote for a honest candidate who may not get their work done, or a tainted candidate who could get their work done.

What data show?

- Data from the Association for Democratic Reforms (ADR) indicate that 179 out of the 543 elected Members of Parliament in the present Lok Sabha have some kind of criminal case pending against them.
- While it is true that some of these may be of a frivolous nature, it is also true that many of these cases concern allegations of their involvement in serious crimes.
- In the case of over 100 MPs, the cases were of a very serious nature such as crimes against women and kidnapping.
- There seems to be very little improvement in this regard in the last five years.
- In the previous Lok Sabha (2009), 163 had criminal cases pending against them, many of which were of a serious nature.
- The profile of members of the Upper House is no better; of 228 members of the Rajya Sabha for whom data could be analysed, 20 have cases of serious crimes pending against them.
- Among the current ruling party's MPs (Lok Sabha and Rajya Sabha), 107 (32%) have criminal cases pending against them.
- Of them, 64 (19%) have cases of serious crimes pending against them.
- The Congress is only a shade better than the BJP; 15 MPs (15%) have criminal cases pending against them, of whom eight (8%) have cases of serious criminal offences pending against them.
- There is hardly any difference between the national and regional parties in this regard.
- In the Shiv Sena, 18 MPs (86%) have criminal cases pending against them, of whom 10 (48%) are alleged to be involved in serious criminal cases.
- Of all MPs, six each of the Nationalist Congress Party (55%) and the Rashtriya Janata Dal (67%) have serious criminal cases pending against them.
- Going by the ADR's estimates, there are more than 1,500 MPs and MLAs in Parliament and State Assemblies with criminal cases pending against them.

Conclusion

- While political parties raise concern about candidates with a tainted background contesting elections and getting elected, none of them come forward to set an example for others when it is time to act.
- The issue is far more important and serious than the attention being paid to it by the policy makers.
- While the Election Commission has limited powers to legislate on such laws, it is only Parliament which can legislate to bring about the desired change.

Connecting the dots:

- Merely relying on electoral reform for decriminalisation of politics is not sufficient. There is need of multidimensional approach to wipe out this disease. Comment.

NRC in Tripura soon?

Part of: GS Prelims and Mains II and III – Indian Polity; Centre State Relations; Internal Security; Government policies and interventions

In news:

- Supreme Court issued notice to the government on a public interest litigation petition to update the National Register of Citizens (NRC) in Tripura, as is being done in Assam.
- NRC is being updated to weed out illegal immigration from Bangladesh and neighbouring regions.
- The petition contended the “influx” of illegal immigrants into Tripura amounted to ‘external aggression’ under **Article 355** of the Constitution.

Do you know?

- Article 355 entrusts the duty upon Union to protect the states against “external aggression” and “internal disturbance” to ensure that the government of every State is carried on in accordance with the provisions of Constitution.

Note:

To know about NRC and its background, visit the below page –

<https://iasbaba.com/2018/01/iasbabas-daily-current-affairs-prelims-mains-focus-5th-january-2018/>

[Silver Jubilee celebrations of NHRC](#)

Part of: GS Prelims and Mains II – Role of Constitutional and Non Constitutional Bodies; Government schemes and policies; Welfare issue

In news:

- PM Modi inaugurated Silver Jubilee celebrations of National Human Rights Commission (NHRC)
- PM said NHRC has an important role to play in government's efforts to achieve sustainable development goals.

Govt committed to improve lives of people by ensuring their rights

- Mr Modi cited **Ayushman Bharat, Pradhan Mantri Awas Yojana, Swachh Bharat, Saubhagya Yojana** as schemes aimed towards providing dignified life for all.
- He said government is moving ahead with the aim of **employment for all, education for all and health care for all**.
- The Prime Minister stated that, government brought **triple talaq bill to ensure the rights of Muslim women**. He said the government also worked for rights of persons with disabilities. He said social media can play a big role in spreading awareness about human rights.
- He also hailed the Ayushmaan Bharat scheme, saying 50,000 people have benefited from it within two and a half weeks of its launch.

PM on NHRC

- Prime Minister said NHRC has acted as the **voice of the weaker sections** and played an important role in the nation-building.
- During the last four years, serious efforts have been made to raise the dignity of the oppressed section of the society. He said, during the dark period of emergency, human rights were violated but people of the country worked hard to regain these rights.

Do you know?

- The NHRC was set up on the 12th October, 1993 under the Protection of Human Rights Act, passed by Parliament.

[Fake encounter killing in India](#)

Part of: GS Mains II – Human Rights issue; Fundamental Rights issue

In news:

- Five youth were killed in an encounter in eastern Assam's Danggari in 1994.
- An Army court in Assam has ordered the dismissal from service and life imprisonment of seven personnel, including a Major General, for killing those five people in a fake encounter.
- The judgment has strengthened people's belief in the judiciary. It has also shown that the Army too believes in delivering justice and maintaining its glory that a few officers cannot taint.

Important Value Additions:

- The fundamental premise of the rule of law is that every human being, including the worst criminal, is entitled to basic human rights and due process.
- Encounter killings generally take place with the prior consent or in full knowledge of the top authority.

Do you know?

- NHRC registered 1,782 fake encounter cases between 2000-2017; Uttar Pradesh alone accounts for 44.55%.
- Following Uttar Pradesh, the next five states which account for the highest number of fake encounter cases are Andhra Pradesh, Bihar, Assam, Jharkhand and Manipur.
- Fake encounters are essentially staged confrontations between the police or military forces and victims who the security officials believe to be "culprits".
- As per Section 18 of the Protection of Human Rights Act, 1993, the NHRC is empowered to recommend compensation, damages, or interim relief to the families of the victim or complainant. Between 2013 and 2017, the NHRC recommended financial relief of Rs 60.07 crore to the affected parties in fake encounter cases.

Hamstringing the RTI Act

Introduction

- The Right to Information (RTI) Act, operationalised in October 2005, was seen as a powerful tool for citizen empowerment.
- It showed an early promise by exposing wrongdoings at high places, such as in the organisation of the Commonwealth Games, and the allocation of 2G spectrum and coal blocks. However, it now faces multiple challenges.

Challenges

- The Act, path-breaking in many respects, **did not give adequate authority** to the Information Commissions to enforce their decisions.
- Besides awarding compensation to an applicant for any loss suffered, the commissions can direct public authorities to take the steps necessary to comply with the Act, but are **helpless if such directions are ignored**.
- If an officer fails to fulfil his duty, the commission can either impose a maximum penalty of Rs. 25,000 or recommend disciplinary action against him.
- This **deterrent works only when the piece of information lies at the lower levels**; it is ineffective in many cases where information relates to higher levels of government.
- Implementation of decisions taken by the commissions, therefore, remains a weak link.

Proposed amendments

- The government proposes to **do away with the equivalence of the Central Information Commissioners with the Election Commissioners** on the ground that the two have different mandates.
- The underlying **assumption that transparency is less important for a democracy than holding of free and fair elections** is absurd.
- The government also proposes to **replace the existing fixed five-year tenure** of the Information Commissioners with tenure as may be prescribed by it.
- This would make the tenure largesse to be bestowed by the government.
- This would be detrimental to the independence and authority of the Information Commissions.

Right to information and right to privacy

- The Act struck a balance between privacy and transparency by barring the disclosure of personal information if it has no relationship to any public activity or would cause unwarranted invasion of privacy.
- However, the Justice Srikrishna Committee has proposed an amendment that would broaden the definition of 'harm', restricting disclosure of personal information even where it may be clearly linked to some public activity.

Strength and appointments to Information commissions

- The Central and State Information Commissions have been functioning with less than their prescribed maximum strength of eleven because governments have dragged their feet on appointing commissioners.
- For instance, the Central Information Commission (CIC), currently having seven members, will have only three by the end of the year if no appointments are made.
- This leads to delay in disposal of cases, which is compounded by the backlog in the High Courts, where a number of decisions of the commission are challenged.

- This happens invariably in cases concerning the high and the mighty. For example, the CIC's decision in 2007 to cover Indraprastha Gas Ltd. under the Act was stayed by the Delhi High Court, and the stay continues to operate.

Clogging of the system

- The clogging of the RTI system is also because a number of applicants, usually disgruntled employees of public institutions, ask frivolous queries.
- Their applications have unfortunately continued to exist alongside those of numerous RTI activists who have done commendable work, often risking their life and limb.
- Further, Section 4 of the RTI Act requires suo motu disclosure of a lot of information by each public authority. However, such disclosures have remained less than satisfactory.
- The CIC has had to repeatedly direct regulators of the banking sector to disclose information on the wrongdoings of banks, so as to enable the public to make informed choices about their dealings with various banks.
- In one case, the CIC had to direct the disclosure of the list of private persons who travelled with the Prime Minister, at government expense, during his foreign visits. Such information should have been disclosed suo motu by the government.
- The RTI Act continues to render yeoman service in providing information to citizens.
- Though its aim is not to create a grievance redressal mechanism, the notices from Information Commissions often spur the public authorities to redress grievances.

Conclusion

- Thirteen years of the Act's functioning have given us enough experience to hold a public debate on making it more effective.
- The recently proposed amendments to the Act would, instead of strengthening the hands of commissions, weaken them.
- Instead of holding a public debate on making the Act more effective, the government is seeking to dilute its provisions
- If the issues listed above are not addressed, this sunshine law will lose its promise, particularly in terms of ensuring transparency at higher levels of governance.

Connecting the dots:

- How far RTI Act 2005 has been successful? Elucidate. Also comment on lacunae in Act's implementation in true letter and spirit.

Understanding the basics: CBI and CVI

Part of: GS Prelims and Mains II – Indian Polity: Constitutional and Non Constitutional bodies, Statutory bodies and other bodies – their functions and roles

In news:

- Many reports have surfaced stating dishonesty and harassment of the public by those at top positions in the CBI.
- It is important to know basics – about CBI, its functions and role of CVC

About CBI

- CBI was established under the **Delhi Special Police Establishment Act, 1941**.
- It is the primary central government body responsible for policing.
- It comes under the **Department of Personnel and Training** which is under the PMO.
- Hence, the **head of the CBI reports directly to the PMO** as FBI reports directly to the President of the United States.
- CBI is **not a statutory body** as it was created by executive resolution.

In the last 65 years, the organisation has evolved from an anti corruption agency to a multi faceted, multi disciplinary central police law enforcement agency.

Today it has following divisions

- Anti Corruption Division
- Economic Offences Division
- Special Crimes Division
- Directorate of Prosecution
- Administration Division
- Policy & Coordination Division
- Central Forensic Science Laboratory

Do you know?

- Director, CBI as Inspector General of Police, Delhi Special Police Establishment, is responsible for the administration of the organisation.
- With enactment of CVC Act, 2003, the **Superintendence of Delhi Special Police Establishment vests with the Central Government except investigations of offences under the Prevention of Corruption Act, 1988, in which, the superintendence vests with the Central Vigilance Commission.**
- CBI has been provided security of two year tenure in CBI by the CVC Act, 2003.
- The CVC Act also provides mechanism for selection of Director, CBI and other officers of the rank of SP and above in CBI.

The CBI is subject to three ministries of the Government of India and Two Constitutional bodies:-

1. Ministry of Home Affairs: Cadre Clearance
2. DoPT: Administration, Budget and Induction of non IPS officers
3. Union Public Service Commission: Officers of and above the rank of Deputy SPECIES
4. Law and Justice Ministry: Public prosecutors
5. Central Vigilance Commission: Anti-corruption cases.

About CVC and its role with regard to CBI

- Central Vigilance Commission is a **statutory body under CVC Act** and serves as the apex anti-corruption body.
- CVC was established in 1964 under the **recommendations of Santhanam Committee**, it gained statutory authority in 2003 CVC Act.
- It **superintends the work of CBI** in corruption cases.
- CVC has no investigation wing of its own as it depends on CBI and the Chief Vigilance Officers of central organizations, while CBI has its own investigation wing.

Functions and powers of the Central Vigilance Commission under the Central Vigilance Commission Act, 2003

- Exercise superintendence over the functioning of the Delhi Special Police Establishment (CBI) insofar as it relates to the investigation of offences under the Prevention of Corruption Act, 1988; or an offence under the Cr.PC for certain categories of public servants – **section 8(1)(a)**;
- Give directions to the Delhi Special Police Establishment (CBI) for superintendence insofar as it relates to the investigation of offences under the Prevention of Corruption Act, 1988 – **section 8(1)(b)**;
- To inquire or cause an inquiry or investigation to be made on a reference by the Central Government – **section 8(1)(c)**;
- To inquire or cause an inquiry or investigation to be made into any complaint received against any official belonging to such category of officials specified in sub-section 2 of Section 8 of the CVC Act, 2003 – **section 8(1)(d)**;
- Review the progress of investigations conducted by the DSPE into offences alleged to have been committed under the Prevention of Corruption Act, 1988 or an offence under the Cr.PC – **section 8(1)(e)**;
- Review the progress of the applications pending with the competent authorities for sanction of prosecution under the Prevention of Corruption Act, 1988 – **section 8(1)(f)**;
- Tender advice to the Central Government and its organizations on such matters as may be referred to it by them – **section 8(1)(g)**;

- Exercise superintendence over the vigilance administrations of the various Central Government Ministries, Departments and Organizations of the Central Government – **section 8(1)(h)**

Crux:

- Remember Section 8 of the Central Vigilance Commission Act, 2003
- In simpler words, CBI works under the guidance of CVC when the matter is related to public corruption. CVC doesn't have any control or oversight over CBI as its officers are appointed, transferred and promoted by DoPT which comes under PMO.
- CBI investigates other high-profile cases other than the matters of public corruption while CVC's role is only limited to matters of corruption and probity in public life.



SOCIAL ISSUE/WELFARE PROGRAMMES

Centre begins work to widen pension cover under NSAP

Part of: GS Prelims and Mains II – Social Security schemes; Govt policies and schemes; Welfare

In news:

- Union government taking measures to double the number of people covered by its pension scheme (**National Social Assistance Programme**) from the current 3.09 crore to more than six crore.
- The measure is in line with proposals made in the last budget.

Do you know?

- In 2018 Budget, Government had announced higher allocation for Social Security and Protection Programmes.
- Government's estimated schematic budgetary expenditure on health, education and social protection for 2018-19 was Rs 1.38 lakh crore against estimated expenditure of Rs 1.22 lakh crore in BE 2017-18.
- Allocation on National Social Assistance Programme (NSAP) for this year had been kept at Rs 9975 crore.

About National Social Assistance Programme

- It is a **Centrally Sponsored Scheme**.
- It provides **financial assistance** to the elderly, widows and persons with disabilities in the form of social pensions.
- It is a welfare programme being administered by the **Ministry of Rural Development**.
- However, this programme is being implemented in rural areas as well as urban areas.
- **Article 41** of the Indian Constitution (Directive Principles of State Policy) **directs the State to provide public assistance** to its citizens in case of 'unemployment, old age, sickness and disablement and in other cases of undeserved want within the limit of its economic capacity and development'.

The National Assistance Program consists of five sub-schemes:

1. Indira Gandhi National Old Age Pension Scheme (IGNOAPS)
2. Indira Gandhi National Widow Pension Scheme (IGNWPS)
3. Indira Gandhi National Disability Pension Scheme (IGNDPS)
4. National Family Benefit Scheme (NFBS)
5. Annapurna

The Higher Education: Reading between the rankings

General Studies 2

- *Issues relating to development and management of Social Sector/Services relating to Education, Human Resources*

Introduction

- Two recent developments draw our attention to the state of India's universities.
- The first is the release of **the annual ranking of the world's universities by the Times Higher Education (THE)**.
- The other is **an announcement by the Prime Minister**, as reported in the press, which has an even closer bearing on the future of higher education here.

THE Ranking: The newcomers' signal

- The universities placed at the top all have breadth in the range of disciplines offered and have been recognised as centers of knowledge production for decades, if not for centuries.
- **In the ranking of India's universities, while the Indian Institute of Science topped, the list of Indian institutions that made it to the global top one thousand, three very new ones improved their ranking** considerably.
- These are **IIT Indore**, which finished ahead of most of its 'founding five' sisters, **the JSS University, Mysuru and the Amrita University, Coimbatore**.
- To get a definite idea of what contributed to the higher rankings of these universities we would **need to study the indicators chosen by the THE**.
- And **the reasons that, though located in smaller cities, they could lead the three** universities of Calcutta, Madras and Mumbai, set up in the mid-1800s and with a large number of students on their rolls.
- It would seem that there is something these three institutions in question are doing which leaves them ahead of a very large number of much older Indian universities.

'Conference on Academic Leadership on Education for Resurgence'

- There was held in Delhi the 'Conference on Academic Leadership on Education for Resurgence', jointly **organised by University Grants Commission, All India Council for Technical Education and the Indian Council for Social Science Research, among other institutions**.
- This event was attended by over 350 Vice Chancellors and representatives of the universities. This is a powerful grouping indeed.

- Delivering the **inaugural address**, the **Prime Minister** announced that the **government would make available Rs. 1 lakh crore for infrastructure in higher education by 2022.**
- The Prime Minister is also reported to have **emphasised the importance of the Indian Institutes of Management Bill of 2017** granting autonomy to the IIMs.
- He correctly pointed out that this **meant that the Ministry of Human Resource Development (MHRD) will no longer dictate their curricula.**
- Somewhat earlier the government had announced a list of **'institutions of eminence'**, the idea underlying which was that they are now free to set their own rules and regulations.
- While the freeing of universities from external control and increasing their resource base is for the better, the question is whether these moves can by themselves raise higher education in India to the desirable global level.

State of higher education in India

- There are **two aspects that need acknowledgement** from a survey of the state of higher education in India.
- **First, the rankings**, though imperfect, suggest that Indian universities are lagging in their research output.
- **Another aspect**, namely **the migration overseas** even at the undergraduate level, suggests that not even the dissemination of knowledge here is considered good enough by Indians.
- The estimated **flow of income overseas due to fees paid** to foreign universities is around **\$2 billion.**
- Surely, resources cannot be the barrier to providing world-class teaching in India?
- University teachers are paid well enough and the availability of material is no longer a problem, with highly affordable Indian editions of the best international textbooks.

University culture vs Excellence and autonomy

- The crucial factor is **the absence of the norms** internal to the Indian university that enable **desirable outcomes** with respect to teaching and research.
- **Among these norms** would be an **expectation of excellence** from both teachers and students and the **assurance of autonomy** to the former.
- This autonomy, it may be asserted, is to be expected **not only in relation to external agencies** such as the UGC or the MHRD **but also within the university**, including from peers.
- In India **the culture of university pervades beneath the mushroom cloud of UGC regulations**, governing everything from hours to assessment.

- There are **no norms making for the attainment of excellence or the empowerment of faculty** so that they deliver to their highest potential.
- On the other hand, **one often encounters established practices that reward mediocrity and restrict autonomy** of the faculty.
- It needs to be emphasised that **this 'culture' is mostly owed to the university itself**; it is not something that is imposed upon it.
- **The autonomy of a teacher** is both a value in itself and designed to **contribute to the larger goal of excellence** in the production and dissemination of knowledge.
- In India this value receives little recognition and its crystallisation is thwarted, irrespective of the ideological persuasion of the regime governing the university.
- It is not as if the idea of the university as a space of freedom and intellectual responsibility has received universal acceptance globally.
- However, the best regarded universities of the world today yet harbour some of the norms which ensure that they remain ahead.
- Culture may be difficult to measure but when its meaning is reduced to norms as the rules of the game, it is easy for us to see what is missing here.

Conclusion

- No amount of display of concerns over India's place in the world university rankings or pumping resources into infrastructure building can help if the culture is not conducive to creativity.
- Its culture is a university's most valuable resource. Feeding a repressive culture is a bad omen for the future of our universities and, therefore, India's place in the world of knowledge.
- Rightly we regret the fact that Nalanda, an international university that had flourished in India over a millennium ago, was destroyed through foreign invasion.
- Today our universities may be being destroyed by our own short-sightedness.

Connecting the dots:

- Autonomy and excellence are directly proportional, for competitive university education outcomes, do you agree? Elucidate with examples.

[IIT-Bombay tops in QS ranking](#)

Part of: GS Mains II – Education and associated reforms

In news:

- Indian Institute of Technology, Bombay, has topped the first-ever standalone ranking of Indian higher education institutions by QS.
- QS is a think tank that is famous for bringing out world rankings of institutions.
- Indian Institute of Science, Bengaluru, which tops Indian institutions in almost all rankings, stands second.
- The top 10 Indian institutions include seven IITs, with the IITs at Madras, Delhi, Kharagpur and Kanpur standing third, fourth, fifth and sixth, respectively, in the rankings.
- While the University of Hyderabad stands seventh, the University of Delhi stands eighth in the rankings.
- To improve global rankings of Indian institutions, the Centre is trying to facilitate more foreign faculty and foreign students' intake in Indian institutions.

Lip service to labour rights

General studies 2 & 3

- *Social justice and government policies for empowerment of vulnerable sections of the society*
- *Labour laws and related reforms*

Introduction

- Gujarat is one of the top States in India that receive migrant workers, largely temporary and seasonal, on a large scale.
- In Gujarat, they work in unskilled or semi-skilled jobs in a wide range of activities such as in agriculture, brick kilns and construction work, salt pans and domestic work, petty services and trades (food and street vending) as well as in textiles and garments, embroidery and diamond cutting and polishing, small engineering and electronics and also small and big factories.

Scant data

- These workers are from Rajasthan, Madhya Pradesh, Maharashtra and even from as far as Bihar, Uttar Pradesh, Andhra Pradesh, Odisha, Jharkhand, Chhattisgarh, Assam and Karnataka.
- Employers send contractors to distant unexplored places to gather labour at the lowest possible wage rate.
- For example, a new township in Gujarat being promoted by a large industrialist is to be built with workers from Assam.

- Surprisingly, the Gujarat government has no data on/estimates of migrant workers coming to Gujarat.
- Informally, the figures are estimated to be between 40 lakh to one crore.

Migrants' conditions

- Segmenting the labour market and creating a separate labour market for migrant workers — who are easy to exploit — has been a common strategy of employers across India.
- The pathetic conditions migrant workers face has been widely documented.
- They earn low wages, work very long hours without any overtime benefits, and are almost without any leave or social protection.
- Lakhs of unskilled and migrant workers live on worksites in makeshift huts (usually made of tin sheets) or on roads, slums and in illegal settlements not served by municipalities.
- They are neither able to save much to improve their conditions back in their home States nor save enough to live comfortably in Gujarat.
- They go back home only once or twice to celebrate festivals.
- Semi-skilled workers with some education and skills (such as those in diamond cutting and polishing units, power looms and factories) get slightly higher wages and earn some leave.
- However, these workers are also exploited in multiple ways and are mostly unprotected.
- Factory owners, employers and traders are only too happy with such a situation as they earn huge profits from wage labour exploitation.

Causes and effects of exodus from Gujarat

- Local workers resent the presence of migrant workers who they feel take away their jobs in factories and other places on account of being cheap labour.
- The recent attacks on migrant labour after an incident in Gujarat late last month, involving the sexual assault of a 14-month-old girl, allegedly by a migrant labourer from Bihar, appears to be have been a consequence of this resentment.
- Many migrant workers have now rushed out to their home States out of fear despite several local people having been taken into custody on the charge of inciting violence against migrant workers.
- There have been reports of an estimated 60,000 to more than a lakh workers leaving the State. Those who have stayed back now live under constant fear.
- Prosperity of the state over well-being of the migrants
- The exodus is cause for concern as it is bound to impact Gujarat's growth and create resentment among factory owners and other employers, especially at a time when the general election is drawing close.

- The concerns are that losing cheap labour will be at the cost of Gujarat's prosperity than out of genuine concern for the welfare of migrant workers.
- All this shows the utter indifference of States to the well-being of migrant workers and their rights.
- The Gujarat government wants normalcy to return so that migrant workers can toil for the prosperity of Gujarat.
- While the Bihar government, which is at its wit's end trying to manage the sudden inflow of returning migrants, wants migration to Gujarat to continue as before.

Only on paper

- Under the Inter-State Migrant Workmen Act and other labour laws (for unorganised workers), migrant workers in Gujarat are legally entitled to all their basic labour rights.
- These include minimum wages, regular wage payment, regular working hours and overtime payment, and decent working and living conditions which include taking care of the health and education of their children.
- Under the same Act, the governments of the States from where migrant workforce originate are expected to issue licences to contractors who take workers away, register such workers and also monitor their working and living conditions in other States.
- But most State governments remain indifferent to these laws. Gujarat has taken a few steps but these are far from adequate.
- In the political sphere, there has been hardly any mention about protecting the legal rights of migrant workers in India.
- The political impulse has been to maintain status quo — the continuation of the situation where migrant workers are exploited.

Employment for local workforce

- The Gujarat government passed a rule in the 1990s making it mandatory for industries and employers in Gujarat to give 85% of jobs to local people.
- This rule was never really implemented in reality, but watered down by the State government in its subsequent industrial policies, as new and large investors coming to the State did not like any such restrictions.
- Now there is a move in the State to introduce a law for industries and investors in Gujarat which reserves 80% of labour jobs for State domiciles and at least 25% for local workers.
- As long as there are huge surpluses from the labour of migrant workers, employers will have no incentive in hiring local workers.
- The objective of such a move is to perhaps contain the anger of local workers — at least till the 2019 election.

Conclusion: A way out

- In the end, the real solution to this issue would be to enforce all relevant labour laws for migrant workers so that segmentation of the labour market becomes weak, and workers (local and migrant) get a fair and equal deal in the labour market.
- This will also weaken unfair competition between local and migrant labour and enable migrant workers either to settle down in the place of destination or to go back home and make a good living there.
- State and Central governments should genuinely take interest in improving the conditions of workers in the economy.

Connecting the dots:

- The exodus of migrant labour from Gujarat highlights the indifference of States to their well-being and rights. Critically comment.

Ripe for prison reform**Introduction**

- In an acknowledgment that the more than a century-old system of prisons in India needs repair, **the Supreme Court formed a committee on prison reforms.**
- Headed by former Supreme Court judge, **Justice Amitava Roy**, it is to look into the entire gamut of reforms to the prison system.
- But this is not the first time that such a body is being set up, examples being the **Justice A.N. Mulla committee and the Justice Krishna Iyer committee on women prisoners (both in the 1980s).**
- While marginal reforms have taken place, these have not been enough to ensure that prison conditions are in tune with human rights norms.

Punish or reform?

- The formation of Roy committee comes at a time when controversy surrounds the Tamil Nadu government's recommendation that the seven convicts in the assassination, in 1991, of former Prime Minister Rajiv Gandhi be released.
- **This is the crux of the debate:** Confinement in any form is uncivilised, especially when it is so long-drawn-out, and when the **objective of criminal punishment should be one of reform rather than inflicting revenge on a perpetrator of crime.**
- Those pleading for clemency in this case are outnumbered, which is reflective of popular sentiment that a gruesome crime needs to be dealt with severely.

- It is also about the unresolved conflict in attitudes about incarceration — punishment or reform — which also explains the halfway jail reforms agenda seen in many countries.

Why delay in prison reforms?

- There are those who believe that if you keep improving prison conditions, there is likely to be an attendant impact on the incidence of crime.
- This accounts for the reluctance of many criminal justice administrators to employ or enlarge non-prison alternatives such as community service.
- The offshoot of all this is growing numbers of prisoners and the woeful incapacity of governments to build more and larger prisons.
- The question often asked by governments is, in these days of extreme fiscal stress, **why should state resources be diverted to a 'negative exercise, whose benefits are dubious'?**
- This is why jail officials are often asked to 'somehow manage' with existing modest facilities.

Packed to the gills

- The data on prison overcrowding are frightening. Except in parts of Europe, where crime is still low or at acceptable levels, overcrowding is rampant.
- In **the U.S.**, for example, which has a humongous crime problem, complicated by gun violence and a strident racist overtone in combating crime, the prison system is creaking under the stress of numbers.
- At any time, it is estimated, **there are more than two million prisoners** in state and federal prisons.
- **In the U.K.**, the latest available data (July 2018) show a current prison population of **approximately 92,500**.
- **In India**, the publication, Prison Statistics India, brought out by the National Crime Records Bureau will provide food for thought for the Justice Roy Committee.
- In 2015, there were nearly **4.2 lakh inmates in 1,401 facilities**, with an average occupancy rate of 114% in most.
- **About 67% of total inmates were undertrials**, a commentary on the speed and efficiency of India's criminal justice system.
- There is an obvious poverty of ideas in justice administration. While public officials and social workers are agreed upon the need to reduce overcrowding, there is hardly any convergence on how to go about this delicate exercise.
- There is also an obvious fear of backlash against any move to decriminalise what is now prohibited by statutes.

Handling white collar crimes

- There is a popular view that in order to reduce prison populations, **proven non-violent offenders** could be dealt with differently.
- But it is frustrating that no consensus has evolved across the world on this relatively uncomplicated issue.
- White collar crime has assumed monstrous proportions but there is no reason why we should continue to lock up offenders instead of merely depriving them of their illegal gains.
- **Devising swift processes of attachment of properties and freezing of bank accounts are alternatives to a jail term.**
- There are legal impediments here, but these can be overcome by ensuring certain fairness in the system, of the state taking over illegally acquired wealth.
- The argument that not all gains made by an economic offender are open is not convincing enough to opt for incarceration over punitive material penalties.
- **In India, progress has been made in freezing 'benami' holdings of major offenders even though it may not be a 100% effective step of cleaning up.**
- But these are the first steps towards making economic crimes unaffordable and unattractive for the average offender.

Prison officials and political will

- Another complaint against prisons is **the brutality and venality of prison officials**, again common across the world. A solution will be a point to ponder over for the Justice Roy Committee.
- **Finally, improving prison conditions has no political leverage.** Just as humane prisons do not win votes, the bad ones do not lose votes for any political party.
- As long as **there are no stakes here for lawmakers**, one can hardly hope for model prisons, where inmates are accommodated with due regard to their basic human needs and are handled with dignity.

Conclusion:

- More than a century-old system of prisons in India needs an urgent repair.
- Overcrowding, more number of undertrials than convicted prisoners, delayed justice, inhumane conditions, brutality and lack of basic human need facilities are some of the major issues in Indian prisons.
- Justice Amitava Roy committee is a ray of hope in the direction of prison reforms, but without political reforms in India's criminal justice system are impossible.

Connecting the dots:

- India's prisons and criminal justice system are in the dire need of reforms. Analyse.

Supreme Court and Justice Radhakrishnan committee on Road Safety

Part of: Mains GS Paper II- Social and Health issues; Role of Judiciary; Judicial Activism/Overreach?

Key pointers:

Supreme Court had directed that –

- All States and Union Territories should frame a Road Safety Policy.
- Should set up lead agencies to work as secretariats of State Road Safety Councils to coordinate on activities such as licensing issues like driving licences, registration of vehicles, road safety and features of vehicles.
- It is mandatory for States and Union Territories to establish Road Safety Fund, the corpus of which would come from traffic fines collected. The money would be used to meet the expenses for road safety.
- Framing Road Safety Action Plans by March 31 (2018) to reduce the number of road accidents, as well as the fatality rate.

Cause of concern:

- 90 per cent of the problem of deaths due to road accidents was the result of a lack of strict enforcement of safety rules on roads and strict punishment for those who do not obey rules.
- There was one death almost every three minutes due to road accidents. Only half the number of families of these victims were compensated.
- Many states are yet to frame Road Safety Action Plans and establish district road safety committees (as recommended by Radhakrishnan committee)

Justice Radhakrishnan committee on road safety:

- Set up after the Supreme Court intervention.
- The Justice Radhakrishnan panel would fix the responsibility and functions of the State road safety councils.
- These councils would periodically review the laws and take appropriate remedial steps wherever necessary.
- Similarly, lead agencies and district road safety committees should be established.

WOMEN ISSUE

[Panel to study issues raised by #MeTooIndia](#)

Part of: GS Prelims and Mains II – Women issue; Government policies and laws dealing with sexual harassment

In news:

- Ministry for Women and Child Development to constitute group of legal experts to examine the existing legal and institutional framework to deal with complaints of sexual harassment at the workplace
- The expert committee is expected to advise the Ministry to strengthen the existing framework

Do you know?

- The **Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013** is a legislative act in India that seeks to protect women from sexual harassment at their place of work.
- The Act came into force from 9 December 2013. This statute superseded the **Vishakha Guidelines** for prevention of sexual harassment introduced by the Supreme Court of India.
- The Act will ensure that women are protected against sexual harassment at all the work places, be it in public or private. This will contribute to realisation of their right to gender equality, life and liberty and equality in working conditions everywhere.
- The sense of security at the workplace will improve women's participation in work, resulting in their economic empowerment and inclusive growth.

[Reforms to sexual harassment law and Justice J.S. Verma Committee recommendations](#)

Part of: GS Prelims and Mains II – Women issue; Role of Judiciary

In news:

- We recently read that the Centre has planned to set up a panel of judges to look into the legal and institutional framework to curb sexual harassment at workplaces following the #MeToo campaign on social media.

- During 2013, Justice J.S. Verma Committee, in its landmark report on gender laws, had recommended **setting up of an employment tribunal instead of an internal complaints committee (ICC)** in sweeping changes to the Sexual Harassment at the Workplace Bill.
- However, the Bill was passed unchanged.
- Verma committee had termed the Sexual Harassment Bill “unsatisfactory” and said it did not reflect the spirit of the Vishakha guidelines — framed by the Supreme Court in 1997 to curb sexual harassment at the workplace.

Has ICC failed?

- The Verma committee report noted that an internal complaints committee as laid down under the then proposed law would be “counter-productive” as **dealing with such complaints in-house could discourage women from filing complaints.**
- Instead, the committee proposed forming an employment tribunal to receive and adjudicate all complaints.
- To ensure speedy disposal of complaints, the Justice Verma Committee proposed that the tribunal should not function as a civil court but may choose its own procedure to deal with each complaint.

Justice J.S. Verma Committee recommendations:

- The committee proposed forming an employment tribunal to receive and adjudicate all complaints. It also proposed that the tribunal should not function as a civil court but may choose its own procedure to deal with each complaint.
- The Committee said any “unwelcome behaviour” should be seen from the subjective perception of the complainant, thus broadening the scope of the definition of sexual harassment.
- Onus on employer - The Verma panel said an employer could be held liable if he or she facilitated sexual harassment, permitted an environment where sexual misconduct becomes widespread and systemic, where the employer fails to disclose the company’s policy on sexual harassment and ways in which workers can file a complaint as well as fails to forward a complaint to the tribunal. The company would also be liable to pay compensation to the complainant.
- The panel also made several suggestions to encourage women to come forward and file complaints. For instance, it opposed penalising women for false complaints and called it an “abusive provision intended to nullify the objective of the law”.
- The Verma panel also said that the time-limit of three months to file a complaint should be done away with and a complainant should not be transferred without her consent.

What Verma panel said

- Proposed forming an employment tribunal to receive and adjudicate all complaints
- Tribunal should be appointed by a collegium headed by the Chief Justice of the concerned High Court
- Should comprise two retired judges with at least one of them being a woman, two eminent sociologists and one social activist with experience in the field of gender-based discrimination



- To ensure speedy disposal of complaints, the tribunal should not function as a civil court but may choose its own procedure to deal with each complaint

Pic:

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Nipun Saxena Vs Union of India case: Compensation for sexual abuse victims

Part of: GS Prelims and Mains II – Women issue; Role of Judiciary

In news:

- T.N. State government notifies compensation for sexual abuse victims.
- The move is in line with the Supreme Court judgment delivered last month.
- A bench led by Justice Madan B. Lokur had approved the suggestion for compensation while hearing the Nipun Saxena Vs Union of India case and directed that the guidelines be made operational.

Do you know?

- Survivor of rape will get a cash support of ₹4 lakh minimum; gang rape survivor to get ₹5 lakh
- If the woman has lost her life, her dependant would be entitled to a compensation of ₹7 lakh.
- The maximum compensation that could be granted in cases of loss of life as well as gang rape is ₹10 lakh and the maximum compensation for rape could be ₹7 lakh, as per the scheme.

[Need to rethink Vishakha to include incidents from past: Its author Justice Manohar](#)

Part of: Prelims and Mains GS II – Justice, Social empowerment

In News

As India's own #MeToo gathers momentum, the lone woman Supreme Court judge, part of the three-judge bench that laid down the landmark Vishakha guidelines in 1997 to address sexual harassment at the workplace, said that "it is time to rethink" the law to address incidents in the past — from framing new norms to relooking penal provisions.

Vishakha guidelines

- In 1997 Supreme Court delivered the verdict laying down legally binding obligations on institutions regarding prohibition, prevention and redressal of sexual harassment at workplace.
- These guidelines, the foundation for the Sexual Harassment of Women at Workplace Act, 2013, came into force in connection with a PIL in the alleged gangrape of Bhanwari Devi, a social worker from Rajasthan.
- In 1992, she had prevented the marriage of a one-year-old girl, leading to her rape as an act of revenge.
- These guidelines were recommended for somebody who was harassed in the present. It had not considered incidents of sexual harassment that took place in the past — like those that have now been reported.

Need to rethink guidelines

- It is time to rethink how to deal with sexual harassment, especially in cases, where the incident has taken place in the past.
- In these circumstances, the Vishakha guidelines especially need to be re-examined with regard to the preventive and remedial measures for the woman.
- Justice Manohar said that laws "need to grade kinds of sexual harassment" and a redressal mechanism to deal with these different kinds of harassment.
- There is no limitation of time in statute. But the problem will come when the complainant has to establish the charge.
- There may not have any existing evidence regarding what happened years ago. But the courts will have to see who is stating the truth through examination and cross-examination.
- Justice Manohar said that Section 509 IPC (word, gesture or act intended to insult the modesty of a woman) needs to be re-looked and made "more specific".
- There is also need for "specialised sensitisation" at all levels of the judiciary that deal with these cases.

- Though National Commission for Women asking victims to approach them for redressal, but NCW has not been set up to handle any kind of an adjudicating process. They are only an advisory body.
- The judiciary can have programmes for them with the help of sociologists but remedies are important, everyone has to participate holistically.

[Haji Ali: Two years on, women entering inner sanctum freely](#)

Part of: Prelims and Mains GS II – Social Justice and empowerment

In News

- A little over two years since the Bombay High Court permitted women to enter the sanctum sanctorum of the Haji Ali shrine, fraught emotions and tension amid Mumbai litigation are now a thing of the past.
- The Haji Ali Dargah Trust, which initially resisted women's entry after a ban was put in place in 2011-12 and which filed an appeal before the Supreme Court, conceded in October 2016 that women can enter the sanctum.
- Like in the Sabarimala case, some of the resistance in the Haji Ali case came from women devotees who had said that even though the ban was lifted, they would not be comfortable accessing the sanctum sanctorum.
- The trust had told the Supreme Court on October 24, 2016, that it would require two weeks to ready the shrine for women devotees who would like to enter the sanctum.
- The court had given the trust a period of four months to complete the process.
- The petitioners had told the court that they had visited the sanctum in their childhood, and it was only since 2012 that they had been stopped from entering it.
- The PIL was filed by Naz and Zakia Soman, office bearers of the BMMA.
- The two had written to the trust's president in 2012, and also approached various state authorities requesting intervention, including the minorities commission, women's commission and charity commissioner, before approaching the High Court.

[Designing financial products for women](#)

General studies 2 & 3

- **Role of women and women related issues**
- **Financial inclusion**

Introduction

- Marketers from a growing range of industries have gone to great lengths to create consumer markets that are segmented along gender lines—from soaps to two-wheel vehicles to vacation packages.
- However, financial services providers (FSPs) remain largely oblivious to the needs of women.

Financial inclusion of women in India

- Across the globe, a billion women remain financially excluded, with a gender gap of 9% persisting stubbornly in developing countries.
- Further, the 2017 Global Findex survey conducted by the World Bank found that in India, while the gender gap in access to bank accounts has decreased to 6% from 20%, the percentage of women who are active users (35%) is less than that of men at 47%.
- Poor financial product design for women contributes to this.
- The micro-credit movement brought these women into the formal financial fold for the first time, with loans and passbooks issued in their names.

Challenges and concerns

- Women were not necessarily considered active consumers of financial services. Rather, they were often seen just as conduits to push credit into households with the hope of eventually lifting people out of poverty.
- There is limited evidence on the scale-up and success of women-led enterprises financed by micro-credit.
- Governments in developing countries institutionalised conditional cash transfers (CCTs) to link social transfer payments to women's bank accounts.
- But again, broadly, CCTs have been built with an emphasis on the social welfare of the family, rather than the economic benefit of individual women beneficiaries.
- In these financial services models—both of which are pioneering and landmarks in their own right—women have been conflated with 'family' and considered merely an avenue to pursue social welfare.
- Financial service providers have been surprisingly lackadaisical and unimaginative in sensing a business opportunity around the millions of poor women who have bank accounts at their retail branches.
- Innumeracy, distinctly apart from illiteracy per se, acts as a cognitive barrier and hinders women from developing familiarity with FSPs or their business correspondents (agents).
- Often, men take advantage of this handicap, using it as a pretext to deal with FSPs on 'behalf' of the women in the household, who, they claim, "would get duped or would be unable to transact".

- Evidence from India suggests that financial service providers haven't invested much resources in supporting women agents and their enterprises.
- An agent network Accelerator study conducted by MicroSave found just 8% women business correspondents in India.

Way forward

- There is an urgent need to consider women as a distinct segment with specific financial services requirements, without disguising male-focussed products as gender neutral.
- To enable this change, one needs to study the myriad social and behavioural impediments impacting women, and use this knowledge to design customized financial product offerings.
- There is a need to actively employ oral informational management tools such that these women can transact independently.
- Also, women prefer to learn and work with peers. A collaborative approach reduces financial risk within a peer group and helps pool resources like time and labour.
- FSPs must make use of this critical element, given the strong influence it has on the uptake of personal financial services by poor women.
- Behaviourally as well, women customers take more time to develop trust in a particular agent, requiring more interaction with him or her.
- The presence of women agents can help in this context, especially because women customers consider them more trustworthy and better at maintaining confidentiality.
- Studies have shown that women-owned enterprises have stronger repayment records with non-performing loans being 30-50% lower than male entrepreneurs.
- They also have a likelihood of availing more products (up to three times) than men. This is a significant business opportunity that FSPs fail to utilize.
- The FSPs can use big data analytics to make sense of gender-disaggregated data points. Specifically, they can assess and track the benefits of providing financial services to poor women, both in terms of repayment and social benefits to households.
- FSPs can also use proxies, such as adherence to cash transfer schemes, as a measure of financial discipline and stable cash flows.
- Furthermore, women-led micro enterprises expect much more than the delivery of financial products—especially in terms of business advisory support in managerial capacity-building, bookkeeping, technological upgradation, skill development, and legal procedures to scale-up their businesses.
- Also, women-led micro and small enterprises not only struggle to access capital, but also to formally register their enterprises.
- This restricts their business development activities and engagement with e-commerce distribution channels.

Conclusion

- By providing support on all these fronts, financial services providers will gain by getting access to a more credit-worthy customer segment.
- In turn, they will transform the lives of women entrepreneurs and reduce the gender gap in access to financial services—all this while positioning themselves as engineers of social change for good.
- An immediate push to bring gender-centricity as a lens and a mindset to the forefront of policy framework and product design can do wonders.
- It will bring about gender equality in the financial services space, adding a customer base vastly underserved women.
- FSPs have to be mindful of the impact that each design attribute will have on the lives of women.
- The twin advantages of pursuing this course will be to transform women's lives and offer a business value proposition for financial services providers.

Connecting the dots:

- Financial inclusion of women merely by opening a bank account will not be sufficient, women friendly financial products will economically empower women as an individual segment. Comment.

Centre sets up GoM on sexual harassment

Part of: GS Prelims and Mains II – Social/Women issue; Polity

In news:

- The Centre established a **Group of Ministers to recommend measures** to effectively implement the law against sexual harassment at the workplace and to strengthen the legal and institutional framework in response to the #MeToo campaign.
- The GoM to come up with a comprehensive plan within three months and devise ways to ensure its time-bound implementation.
- Earlier, the Centre had set up a panel of legal luminaries, recommended by Ms. Gandhi on the lines of the **Justice Verma Committee**, to do the above task. (However, now that panel has been quietly junked and task is transferred to GoM)

Important Value Additions

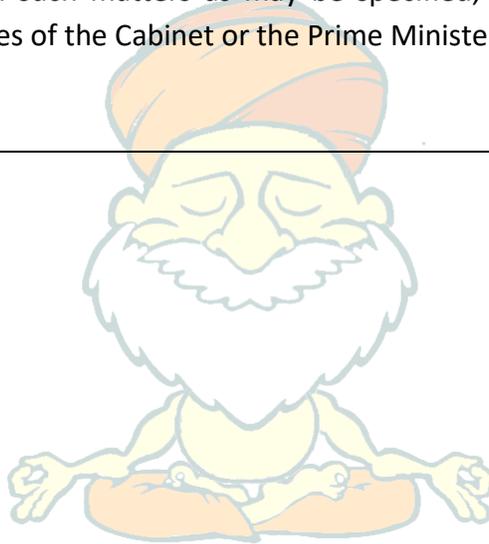
What is "Groups of Ministers (GoMs)" in relation to Indian Polity?

- Group of Ministers (GoM) are *ad hoc bodies* or *inter-Ministerial panel* formed to give recommendations to the cabinet on certain emergent issues and critical problem areas.

- During the UPA regime (from past two decades), the institution of GoMs had become a **viable and effective instrument of coordination among the ministries**. Ministers heading the concerned ministries were inducted into the relevant GoMs and when the advice is crystallised they were disbanded.
- The system of GoMs was intended to **operate as a single window clearance on crucial issues** related to various ministries with the objective of expediting policy making and good governance.

Do you know?

Both Group of Ministers (GoMs) and Empowered GoMs (EGoMs) get appointed under the **Government of India's Transaction of Business Rules 1961**, which at para 6 (4) provides that 'Ad hoc Committees of Ministers including Group of Ministers may be appointed by the Cabinet, the Standing Committees of the Cabinet or by the Prime Minister for investigating and reporting to the Cabinet on such matters as may be specified, and, if so authorised by the Cabinet, Standing Committees of the Cabinet or the Prime Minister, for taking decisions on such matters.'



CHILDREN ISSUE

International Day of Girl Child being observed today

Part of: GS Prelims and Mains II – Role of international organisation; Women Empowerment

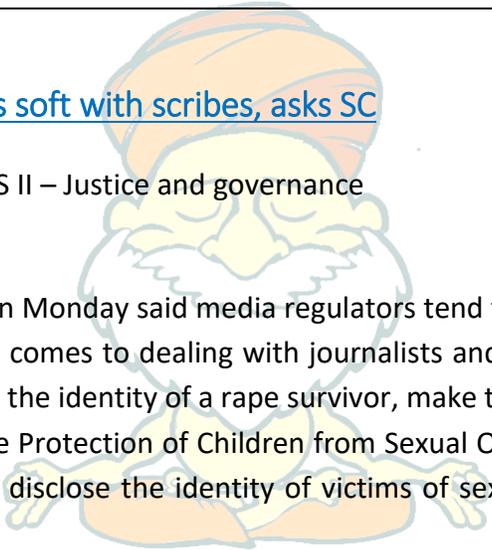
In news:

- International Day of the Girl Child is being celebrated today.
- The theme of this year's International Day of Girl Child is '**With Her: A Skilled Girl Force**'.
- The day is celebrated annually on 11 October.
- The main aims of the day are to promote girl's empowerment and fulfilment of their human rights while also highlighting the challenges that girls all over the world face.

Why are media regulators soft with scribes, asks SC

Part of: Prelims and mains GS II – Justice and governance

In News

- 
- The Supreme Court on Monday said media regulators tend to wear a “velvet fist inside a velvet glove” when it comes to dealing with journalists and media organisations whose actions, like revealing the identity of a rape survivor, make them criminally liable.
 - It is a crime under the Protection of Children from Sexual Offences (POCSO) Act and the Indian Penal Code to disclose the identity of victims of sexual abuse, especially if they are children.
 - The Supreme Court asked whether statutory bodies like the Press Council of India (PCI), Editors Guild of India, National Broadcasting Standards Authority (NBSA), and the Indian Broadcasting Federation (IBF) have no responsibility to inform the police when a journalist or a media outlet commits such a crime in the course of reportage.
 - The court gave three weeks to PCI, Editors Guild and IBF to respond.

Do you know?

POCSO

- In order to effectively address the heinous crimes of sexual abuse and sexual exploitation of children through less ambiguous and more stringent legal provisions, the Ministry of Women and Child Development championed the introduction of the Protection of Children from Sexual Offences (POCSO) Act, 2012.
- The Act defines a child as any person below eighteen years of age.

- Act regards the best interests and well-being of the child as being of paramount importance at every stage, to ensure the healthy physical, emotional, intellectual and social development of the child.
- It defines different forms of sexual abuse, including penetrative and non-penetrative assault, as well as sexual harassment and pornography, and deems a sexual assault to be “aggravated” under certain circumstances, such as when the abused child is mentally ill or when the abuse is committed by a person in a position of trust or authority vis-à-vis the child, like a family member, police officer, teacher, or doctor.
- People who traffic children for sexual purposes are also punishable under the provisions relating to abetment in the Act.
- The Act prescribes stringent punishment graded as per the gravity of the offence, with a maximum term of rigorous imprisonment for life, and fine.
- For more details: [National Commission for protection of children's Rights](#)

Children under 15 at serious risk from polluted air: WHO

Part of: GS Prelims and Mains II and III – Health issue; Pollution and Environment concerns

In news:

According to WHO –

- Every day about 93% of the world’s children under the age of 15 (1.8 billion children) breathe polluted air.
- Children could suffer neuro-development deficits.
- Air pollution also impacts neuro-development and cognitive ability and can trigger asthma, and childhood cancer.
- Children exposed to high levels of air pollution may be at greater risk for chronic diseases, such as cardiovascular disease later in life, the WHO said.

Silent killer

- Air pollution affects neurodevelopment and cognitive test outcomes, and negatively affects mental and motor development

- Damages children's lung function, even at low levels of exposure

- Globally, 93% children under 18 are exposed to PM2.5 levels above WHO guidelines

- This includes 630 million children under 5 years, and 1.8 billion children under 15



- In low- and middle-income countries, 98% of all children under 5 are exposed to PM2.5 levels above WHO air quality guidelines. In high-income countries, the figure is 52%

- About 6 lakh deaths across the world in children under 15 years were attributed to the joint effects of ambient and household air pollution in 2016

Pic:

https://d39gegkjaqduz9.cloudfront.net/TH/2018/10/30/DEL/Delhi/TH/5_07/e458b022_2492820_101_mr.jpg

Do you know?

- Delhi tops national charts in bad air quality.
- Fourteen out of the 20 most polluted cities in the world are in India.
- The report says India faces the highest air pollution-related mortality and disease burden in the world.



HEALTH ISSUE

Toilet-for-all: WHO calls for more investment

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

In news:

- Vice-President M. Venkaiah Naidu inaugurated the world's largest dome at the Maharashtra Institute of Technology (MIT)'s World Peace University (MIT-WPU) campus at Loni Kalbhor on the 150th birth anniversary of Mahatma Gandhi.
- The dome is built atop the MIT World Peace Library and the World Peace Prayer Hall, which are named after the 13th century poet-saint and philosopher **Dnyaneshwar** — a pivotal figure of the **Bhakti movement** in Maharashtra.
- World Health Organization (WHO) recently launched its first global guidelines on sanitation and health.
- WHO said that by adopting its new guidelines, countries can significantly reduce diarrhoeal deaths due to unsafe water and poor sanitation and hygiene.

Do you know?

- Worldwide, 2.3 billion people lack basic sanitation (with almost half of them forced to defecate in the open).
- They are among the 4.5 billion without access to safely managed sanitation services – in other words a toilet connected to a sewer or pit or septic tank that treats human waste.
- Sanitation is a fundamental foundation of human health and development and underpins the core mission of WHO and ministries of health worldwide.
- The WHO developed the new guidelines on sanitation and health because current sanitation programmes are not achieving anticipated health gains and there is a lack of authoritative health-based guidance on sanitation.

India ranked 5th in pictorial warning on tobacco products

Part of: GS Prelims and Mains II – Health issue

In news:

- India has been ranked fifth in the listing of countries that have pictorial health warning on tobacco products. → (According to 'the Cigarette Package Health Warnings: International Status Report', released recently by the Canadian Cancer Society)

- Country is making tremendous progress towards creating public awareness on the health hazards of tobacco abuse.
- The current pictorial warnings on both sides of all packets of cigarettes, bidis and all forms of chewing tobacco products in India came into effect in April 2016 on the direction of the Rajasthan High Court and, subsequently, the Supreme Court of India.

Do you know?

- East Timor is ranked first with 85% of the front and 100% of the back of the packaging being used for pictorial warnings.
- Nepal follows with 90% coverage on both sides.
- Indian packaging has the warning on 85% of both sides.
- The report found that 118 countries and territories have now made picture health warnings on cigarette packages mandatory, up from 100 in 2016.
- Canada was the first to insist on picture health warnings in 2001.
- India is the only SAARC country to have a Quit-Line number on tobacco products and the fourth in Asia after Thailand, Malaysia and Singapore.
- Government of India for the first time introduced Quit-Line number to be printed on all tobacco products.

National Nutrition Mission soon to become mass movement in India

Part of: GS Prelims and Mains II – National/Health issue; Govt policies and schemes

In news:

- NITI Aayog member, Dr Vinod Kumar Paul expressed the hope that the National Nutrition Mission will soon become a mass movement in the country.
- September 2018 was celebrated as Rashtriya Poshan Maah under POSHAN Abhiyaan.
- POSHAN Abhiyaan is India's flagship programme to improve nutritional outcomes for children, adolescents, pregnant women and lactating mothers by leveraging technology, a targeted approach and convergence.
- The Ministry of Women and Child Development is the concerned ministry.

Do you know?

- POSHAN Abhiyaan was launched on 8th March 2018 by the Prime Minister.
- The Abhiyaan targets to reduce stunting, under-nutrition, anemia (among young children, women and adolescent girls) and reduce low birth weight by 2%, 2%, 3% and 2% per annum respectively.

- The target of the mission is to bring down stunting among children in the age group 0-6 years from 38.4% to 25% by 2022.

Global Hunger Index 2018

Part of: GS Prelims and Mains II – Health issue

In news:

- 1 in 5 Indian children under the age of five are ‘wasted’, which means they have extremely low weight for their height, reflecting acute under-nutrition.
- Overall, India has been ranked at 103 out of 119 countries in the Index, with hunger levels in the country categorised as “serious”.

Main indicators

Four main indicators are used to calculate hunger levels in the report –

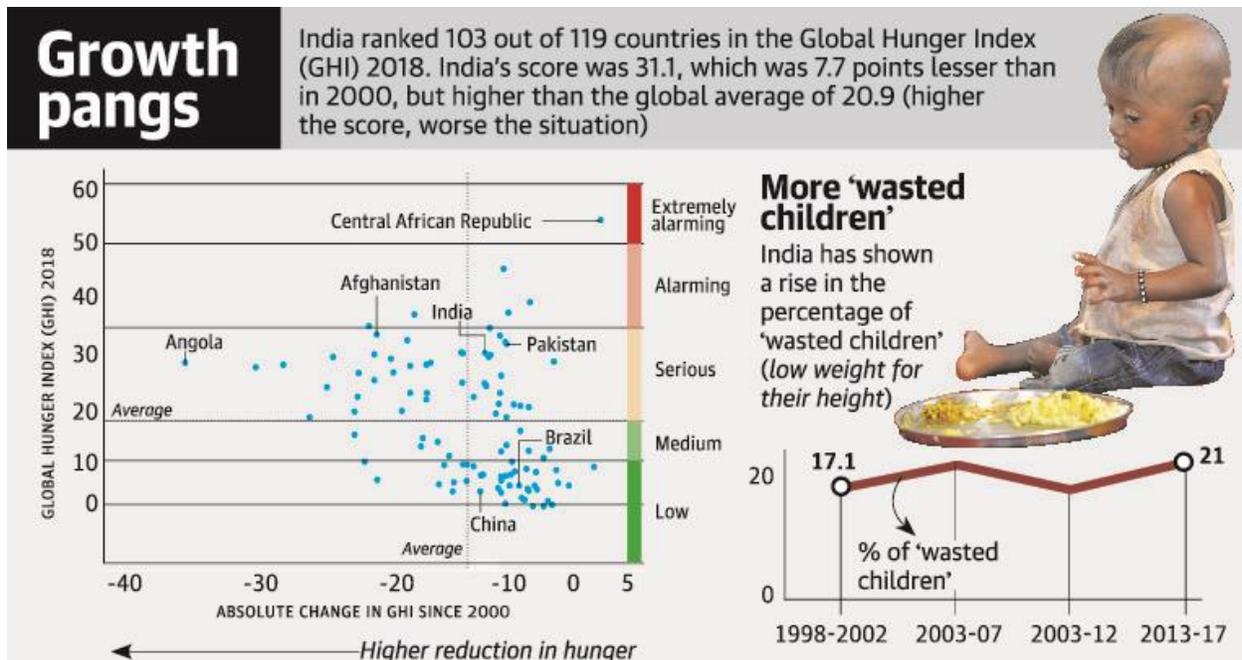
- (i) Undernourished population (1/3rd weight),
- (ii) Child wasting (1/6th weight),
- (iii) Child stunting (1/6th weight) and (iii) Child stunting (1/6th weight) and
- (iv) Infant mortality rate (1/3rd weight).

India has shown improvement in three of the indicators during 2013-2017

- The percentage of undernourished people in the population has dropped from 18.2% in 2000 to 14.8% in 2018.
- The child mortality rate has halved from 9.2% to 4.3%, while child stunting has dropped from 54.2% to 38.4% over the same period.
- However, the prevalence of child wasting has actually worsened in comparison to previous reference years.
- It stood at 17.1% in 2000, and increased to 20% in 2005. In 2018, it stands at 21%.

Do you know?

- The only country with a higher prevalence of child wasting is the war-torn nation of South Sudan. (28%)
- Child wasting is high across South Asia, constituting a “critical public health emergency”, according to UN organisations.
- Reports highlights the importance of attention to birth outcomes and breastfeeding.



Pic:

https://d39gegkjaqduz9.cloudfront.net/TH/2018/10/12/DEL/Delhi/TH/5_07/4aea9a5c_245325_2_101_mr.jpg

From food security to nutrition security

Introduction

- **October 16 is observed as the World Food Day** to mark the **creation** of the United Nation's **Food and Agriculture Organisation (FAO) in 1945**. The world body envisions a **"zero hunger world" by 2030**.
- Perhaps, the occasion is incomplete without remembering Nobel Peace laureate **Norman E Borlaug, whose "miracle seeds" of wheat** saved over a billion people from starvation.
- Borlaug also instituted the World Food Prize in 1986, which is sometimes described as the Nobel Prize in agriculture.
- It's important to understand the role of science and technology in ushering the Green Revolution, which ensured food security in India.
- **Today, similar innovations in biotechnology hold the promise to provide nutrition security.**

Background and beginning of green revolution

- In 1943, the Bengal Famine claimed 1.5 to 3 million lives. After independence, India faced the challenge of feeding 330 million people.
- The situation became grim when the country was hit by back-to-back droughts in the mid-1960s.
- Grain production plummeted from 89.4 million metric tonnes (MMT) in 1964-65 to 72.4 MMT in 1965-66.
- India became heavily dependent on the PL 480 food aid from the US. Self-sufficiency in foodgrains became the country's top policy priority.
- **In the early 1960s, India imported 18,000 tonnes of the semi-dwarf high yielding (HY) wheat variety, Lerma Rojo and Sonora 64.**
- **Developed by Borlaug and his team at the International Maize and Wheat Improvement Center (CIMMYT), Mexico,** these wheat varieties proved to be the harbinger of the Green Revolution.

Rice revolution

- Around the same time, **the HY miracle rice, IR8** — developed by Peter Jennings and Henry M Beachell of the International Rice Research Institute (IRRI) — was imported.
- About a decade later, **an improved variety, IR36** — developed by IRRI's Gurdev Khush — made its presence felt in the country's fields.
- The breeding programme under the All India Coordinated Research Project (AICRP) produced **Padma and Jaya, the first indigenous HY rice varieties.** These became the centerpiece of India's rice revolution.
- Breakthroughs in Basmati rice came with the development of **Pusa Basmati 1121 and 1509 from 2005 to 2013.**
- These rice varieties were developed by teams led by V P Singh, A K Singh and K V Prabhu at the Indian Agriculture Research Institute.
- Pusa Basmati gave Indian rice more value with less water and 50 per cent higher yields compared to the traditional basmati.

Where does India stand today in terms of wheat and rice?

- While the country's population has grown by more than four times, from 330 million in 1947 to 1.35 billion in 2018, India's wheat production has increased by over 15 times in roughly the same period — from about 6.5 MMT in 1950-51 to 99.7 MMT in 2017-18.
- **India contributes about 13 per cent of the world wheat production, next only to China whose share is about 17 per cent.**
- Rice production has shot up by about 5.5 times — from 20.6 MMT in 1950-51 to 112.9 MMT in 2017-18.

- **India has a 23 per cent share in world rice production, next only to China whose share is about 29 per cent.**
- **India is also the largest exporter of rice in the world** with about 12.7 MMT, valued at \$7.7 billion (Basmati at \$4.17 billion and Non-Basmati at \$3.56 billion) during 2017-18.

Nutritional security

- Notwithstanding its foodgrain surpluses, the country faces a complex challenge of nutritional security.
- FAO's recent publication, **The State of Food Security and Nutrition in the World, 2018** estimates that about **15 per cent of the Indian population is undernourished.**
- **More than 38 per cent of Indian children aged below five years are stunted and 21 per cent suffer from wasting.**
- **Several factors ranging from poor diet, unsafe drinking water, poor hygiene and sanitation, low levels of immunisation and education, especially that of women, contribute to this dismal situation.**
- But latest **innovations in biotechnology that fortify major staples with micro nutrients** like vitamin A, zinc and iron **can be game changers.**

Efforts on production level for nutritional security

- Globally, **the HarvestPlus programme of the Consultative Group on International Agricultural Research (CGIAR)** is doing lot of work in this direction.
- **In India, the group has released the iron-rich pearl millet.**
- **The Indian Council of Agricultural Research has independently released zinc and iron rich wheat (WB 02 and HPWB 01), rice (DRR Dhan 45), and pearl millet (HHB 299 and AHB 1200) in 2016-17.**
- This could possibly lead to the next breakthrough in staples, making them more nutritious.
- A research team at the National Agri-Food Biotechnology Institute in Mohali has innovated **biofortified coloured wheat (black, blue, purple)** through **crosses between HY Indian cultivars (PBW550, PBW621, HD2967) and coloured wheat from Japan and America.**
- These are rich in anthocyanins (antioxidants such those found in blueberries) and zinc (40 ppm compared to 5 ppm in white wheat).
- Farmers of the Borlaug Farmers Association from Punjab and Haryana have been roped in to multiply production of this wheat variety.

Conclusion

- This seems to be the beginning of a new journey, from food security to nutritional security. The best is yet to come.

- Innovations in biofortified food can alleviate malnutrition only when they are scaled up with supporting policies.
- This would require increasing expenditure on agri-R&D and incentivising farmers by linking their produce to lucrative markets

Connecting the dots:

- Biotechnology can be a game-changer in the battle against malnutrition in much the same way that the Green Revolution was in ensuring self sufficiency. Comment.

Illegal sale of antibiotics to grow farm animals - raise superbug risk

Part of: GS Mains II and IV – Health issues; Ethics; Unethical practices

In news:

- Zoetis, the world’s biggest animal drugs company, has been accused of double standards and of exposing consumers in India to “higher levels of risk” by selling antibiotics for purposes now banned in Europe and the U.S.
- Zoetis is supplying Indian farmers with antibiotics to help their animals grow faster.
- The practice should be banned worldwide, according to the World Health Organisation (WHO), because it increases the prevalence of resistant bacteria that can infect humans and cause deadly and untreatable infections.
- Zoetis publicly supported new laws in the U.S. banning this abuse of antibiotics as part of its “continued commitment to antibiotic stewardship”. However, Zoetis continues to sell antibiotics directly to Indian farmers with claims on the company’s Indian website that they will make animals grow bigger and faster.
- This is not currently against Indian law although the government has called for it to end and Maharastra banned the indiscriminate use of antibiotics in agriculture.

Do you know?

- WHO, the World Organisation for Animal Health (OIE) and the Food and Agriculture Organisation (FAO) have called for a worldwide ban on the use of antibiotics to fatten farm animals — a practice already banned in the EU and U.S. — in an attempt to stem the rising threat of resistance.

[C-section use doubled in India: Lancet report](#)

Part of: GS Prelims and Mains II – Health issue

In news:

- The use of caesarean section increased from 9% of births in 2005-6 to 18.5% in 2015-16 in India.
- While the surgery is still unavailable for many women and children in low-income countries and regions, the **procedure is overused** in many middle-and high-income settings
- Globally, C-section use has increased by 3.7% each year between 2000-2015 — rising from 12% of live births (16 million of 131.9 million) in 2000, to 21% of live births (29.7 million of 140.6 million) in 2015, researchers said.

Do you know?

- C-section is a life-saving intervention for women and newborns when complications occur, such as bleeding, foetal distress, hypertensive disease, and babies in abnormal position.
- However, the surgery is not without risk for mother and child, and is associated with complications in future births.
- It is estimated that **only 10-15% of births medically require a C-section** due to complications, suggesting that average C-section use should lie between these levels.
- **Concern:** In at least 15 countries, **C-section use exceeds 40%**, researchers said.

Given the increasing use of C-section, even when medically not required, there is a crucial need to understand the health effects on women and children

[22 Zika cases in Rajasthan](#)

Part of: GS Prelims and Mains II – Health issue

In news:

- Union Ministry of Health and Family Welfare has confirmed 22 positive laboratory-confirmed cases of Zika virus in Rajasthan's capital Jaipur.
- Zika virus disease is an emerging viral disease transmitted through the bite of an infected Aedes mosquito and also transmitted via sexual contact.
- AEDES= Zika, Dengue, Chikungunya, Yellow Fever and West Nile disease
- 1st identified: Uganda, 1947; was first isolated from Rhesus monkeys in Zika forest near Lake Victoria in Uganda (monitoring network of sylvatic yellow fever)

Do you know?

- The World Health Organization has recently declared the Zika virus and its suspected link to birth defects as an international public health emergency, a rare move that signals the seriousness of the outbreak and gives countries new tools to fight it.

Zika cases touch 80 in Rajasthan

Part of: Prelims and Mains GS II – Health issue

In News

- As the number of people infected with the Zika virus rose to 80 in Rajasthan, the Union Health Ministry directed the **National Centre for Disease Control** to monitor cases on a daily basis while urging people not to panic.
- While 80 cases have been reported from the State, 330 teams have already been deployed in the affected wards and a population of over 4 lakh brought under surveillance.
- Health workers undertook on-the-spot source reduction and treated containers with **temiphose** during the survey besides carrying out focal spray and fogging in the affected areas.

About National Centre for Disease Control (NCDC)

- India's National Centre for Disease Control (NCDC) assists Indian states with **infectious disease control** through assistance with multidisciplinary outbreak investigations, communicable disease surveillance, networking of public health labs, and capacity building.
- NCDC's goal is to expand to national surveillance of vaccine-preventable diseases, animal health/human health interface, and to build capacity through short-term training programs and long-term programs.
- NCDC was established to function as a national centre of excellence for **control of communicable diseases**.

Understanding Zika

Part of: Prelims and mains GS II – Health

In News

What is Zika?

- Zika, a flavivirus spread mainly by mosquitoes, belongs to the same genus as dengue and chikungunya.
- Some evidence that Zika has been in India for long comes from a 1954 survey, which found several Indians with Zika antibodies.
- However, this evidence wasn't conclusive, because other flaviviruses, like dengue, can also trigger Zikaneutralising antibodies.
- The first confirmed Indian case occurred in 2016 in Gujarat.
- Later, three more cases were detected, before the 2018 Rajasthan outbreak.
- Despite its long presence in Asia, Zika outbreaks in this region have been benign.
- This changed with a large French Polynesian outbreak in 2013 and a larger Brazilian one in 2015.

What are the symptoms?

- In Rajasthan, Zika is causing fever, rash, muscle and joint pain.
- But the French Polynesian and Brazilian outbreaks were linked to deadlier conditions such as microcephaly, in which the child of a Zikainfected mother is born with an abnormally small head.
- In rare cases, patients also developed GuillainBarre syndrome, which causes potentially fatal muscle weakness.
- Indian officials are watching out for these complications, since the Rajasthan strain is closely related to the Brazilian strain.
- If Zika has been in India since 2016, why is there a large outbreak only now?
- First, Rajasthan's residents may not have been exposed to Zika before, and thus lack immunity.
- American studies show that if 50-60% of a population is exposed to the virus, herd immunity develops and transmission stops.
- Another possibility is that mutations in the Rajasthan strain are helping it spread. More research is needed to identify such mutations.
- The third explanation is that even though Zika has been around, it is being detected only now because we are looking.
- Until 2016, when Zika was declared a WHO global health emergency, India wasn't testing for Zika.

How worried should you be?

- Not much, unless you are pregnant. Zika is usually shortlived. Pregnant women should be tested and should avoid travel to outbreak areas.

- Infection can be prevented through mosquito fogging and not allowing water to stagnate.
- There is no vaccine yet, but many vaccines are in trials, including one from Bharat Biotech.

Resisting resistance

Introduction

Even as antibiotics lose their efficacy against deadly infectious diseases worldwide, it seems to be business as usual for governments, private corporations and individuals who have the power to stall a post-antibiotic apocalypse.

A case of veterinary use of antibiotics

- The world's largest veterinary drug-maker, Zoetis, was selling antibiotics as growth promoters to poultry farmers in India, even though it had stopped the practice in the U.S.
- India is yet to regulate antibiotic-use in poultry, while the U.S. banned the use of antibiotics as growth-promoters in early 2017.
- So, technically, the drug-maker was doing nothing illegal and complying with local regulations in both countries.

Concerns

- **Antibiotic-resistance does not respect political boundaries.** Of course, the country that stands to lose the most from antibiotic resistance is **India**, given that its **burden of infectious disease is among the world's highest.**
- According to a 2016 PLOS Medicine paper, 416 of every 100,000 Indians die of infectious diseases each year.
- This is more than twice the U.S.'s crude infectious-disease mortality-rate in the 1940s, when antibiotics were first used there.
- If these miracle drugs stop working, no one will be hit harder than India.
- This is why the country's progress towards a tighter regulatory regime must pick up pace.

Antibiotics regulations in India

- There are **three major sources of resistance: overuse of antibiotics by human beings; overuse in the veterinary sector; and environmental antibiotic contamination due to pharmaceutical and hospital discharge.**

- **To tackle the first source**, India classified important antibiotics under **Schedule H1 of the Drugs and Cosmetics Rules 1945**, so that they couldn't be sold without prescriptions.
- Still, Schedule H1 drugs are freely available in pharmacies, with state drug-controllers unable to enforce the law widely.
- **As far as veterinary use goes, India's 2017 National Action Plan on Antimicrobial Resistance** did talk about restricting antibiotic use as growth promoters.
- Sadly, no progress has been made on this front yet, allowing companies to sell last-resort drugs to farmers over the counter.
- **The 2017 document also spoke about regulating antibiotics levels in discharge from pharmaceutical firms.**
- For instance, Hyderabad's pharmaceutical industry has been pumping massive amounts of antibiotics into local lakes, rivers and sewers. This has led to an explosion in resistance genes in these waterbodies.
- Still, India is yet to introduce standards for antibiotics in waste water, which means antibiotic discharge in sewage is not even being monitored regularly.

Conclusion

- As the country takes its time to formulate regulations, the toll from antibiotic-misuse is growing at an alarming rate.
- According to a 2013 estimate, around 58,000 newborns die in India each year due to sepsis from resistant bacteria.
- When these numbers mount, India will have no one to blame but itself.

Connecting the dots:

- India needs to strengthen and implement regulations on antibiotic misuse. Critically evaluate the steps taken by government.

More potent healers

Introduction

- **In 2017, tuberculosis (TB) affected over 10 million and killed more people than HIV/AIDS — an estimated 1.3 million fatalities worldwide.**
- With a quarter of TB cases and deaths, India's efforts are critical for the **global push to ending the epidemic by 2030.**

The problem

- Well-executed programmes that screen and effectively treat potential patients can stop TB in its tracks (China halved its TB prevalence rate between 1990 and 2010), but most such **programmes rely on a top-down public healthcare system.**
- **A largely unregulated private sector treats two-thirds of India's patients.**

Some solutions

- In 2014, the Central TB Division, in partnership with local governments and two NGOs (PATH and World Health Partners), put in place **a new programme in Patna and Mumbai** that sought to improve the quality of TB diagnosis and treatment in the private sector.
- A critical part of the programme was first **understanding how the private sector treated patients and the problems they faced.**
- A team initiated the **world's largest surveillance of TB care quality, using the gold-standard method of standardised patients (SPs).**
- SPs were trained professionals, recruited from local communities, who presented as patients with a pre-determined set of symptoms and responses to questions the doctors may ask.
- The standardisation of the case meant that the care they received could be benchmarked to standards of care, and accurately compared across providers.

Findings of the surveillance

- The programme showed **three key features characterised the "market" for TB care in these cities.**
- **First, only 35 per cent of patients choosing a healthcare facility at random would have been treated in a manner consistent with national and international guidelines.**
- Penalising providers for unnecessary (potentially harmful) tests and medications reduces that fraction to below 10 per cent.
- **Second, these numbers reflect the tremendous quality variation in both cities (Mumbai and Patna).**
- **Part of this variation is due to qualifications:** Close to half the providers in both cities were AYUSH or informal, with MBBS providers correctly managing 46 per cent of the cases compared to 23.5 per cent for AYUSH and informal providers.
- Within both groups, there were always some providers who managed every SP correctly and some who got every case wrong.
- **Third, it has been told again and again that the private sector over-medicates.** This is evident in data, but with some nuance.

- **The good news is that anti-TB medications were almost exclusively given by providers with the appropriate qualifications, and only after obtaining the necessary lab confirmations.**
- Neither pharmacists nor informal or AYUSH providers abuse anti-TB medications — a major concern in past TB control efforts.
- **The bad news is the frequent use of antibiotics** and, more worryingly, classes of drugs known as fluoroquinolones and steroids, both of **which can mask the symptoms of TB and make diagnoses harder.**

Enhanced steps

- In 2014-2015, the programmes incorporated these features of the market in their scale-up plans.
- Since then, both Mumbai and Patna have seen **significant improvements in TB notification rates among private sector providers, with greater use of microbiological tests and improved treatment completion rates.**
- Preliminary analysis on new data after the programme was in place suggests substantial improvements in case management.
- The government, supported by The Global Fund, is expanding this model of private sector engagement to several cities through its Joint Effort for Elimination of Tuberculosis.
- It is likely that they will face a comparable situation, with high-quality, dedicated doctors practicing amidst many indifferent and mediocre providers.

Way forward: A proposed strategy

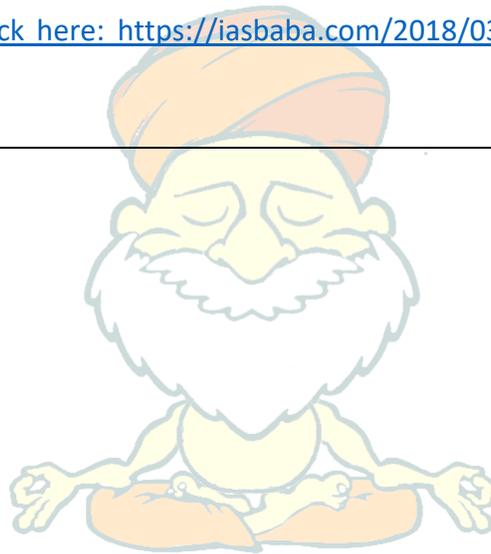
- **A strategy called IFMeT is proposed, that may be key to successful private-public partnerships to fight TB with four components: Identification, focusing, messaging and testing (IFMeT).**
- The strategy **identifies “champion” high quality providers** early in the programme to get quick and large returns by connecting patients with champion providers.
- **Focusing investments and training** on this smaller provider group, while leaving lower volume/quality providers untouched.
- This “provider focusing” approach decreases the scale of the programme while retaining virtually all its benefits.
- **The third component is targeted messaging.** Complex financial incentives that are hard to untangle in the private sector complicate efforts to reduce unnecessary medications.
- An alternate approach concentrates on one or two key behaviors. At this point, messaging only on the overuse of fluoroquinolones and steroids can have substantial impact on the patient’s health.

- Finally, **under-testing is the key problem in the private sector**. Doctors need to increase testing with more X-rays, sputum tests and GeneXpert tests for patients presenting with symptoms consistent with TB.
- The doctors given better diagnostic information like test results, made more appropriate decisions and gave fewer unnecessary medicines.
- Thus, IFMeT could take a large and seemingly intractable problem and reduce it to a series of actionable, manageable steps that can help end an epidemic that kills millions of Indians.

Connecting the dots:

- TB is still one of the major cause of deaths across the world. To eliminate this epidemic, understanding the private sector and designing the corresponding strategies is one of the important solutions. Elucidate.

(Note: For more on TB, [Click here: https://iasbaba.com/2018/03/india-radio-air-tuberculosis-free-india/](https://iasbaba.com/2018/03/india-radio-air-tuberculosis-free-india/))



GOVERNMENT SCHEMES

SATAT initiative

Part of: GS Mains Paper II – Government schemes and Policies

In news:

- SATAT is an initiative aimed at providing a **Sustainable Alternative Towards Affordable Transportation (SATAT)** as a developmental effort that would benefit both vehicle-users as well as farmers and entrepreneurs.
- It is a joint initiative of IndianOil, BPCL and HPCL to turn waste into green energy.
- Petroleum Ministry with PSU Oil Marketing Companies inviting Expression of Interest (Eoi) from potential entrepreneurs to set up Compressed Bio-Gas (CBG) production plants and make available CBG in the market for use in automotive fuels.

Benefits of Compressed Bio-Gas (CBG)

There are multiple benefits from converting agricultural residue, cattle dung and municipal solid waste into CBG on a commercial scale:

- Responsible waste management, reduction in carbon emissions and pollution
- Additional revenue source for farmers
- Boost to entrepreneurship, rural economy and employment
- Support to national commitments in achieving climate change goals
- Reduction in import of natural gas and crude oil
- Buffer against crude oil/gas price fluctuations

Do you know?

- The Government of India had launched the **GOBAR-DHAN (Galvanising Organic Bio-Agro Resources) scheme** earlier this year to convert cattle dung and solid waste in farms to CBG and compost.

Odisha launches own food security scheme

Part of: GS Prelims and Mains II – Centre State Relations; Government schemes and policies for welfare of people

In news:

- The Naveen Patnaik government launched its own food security scheme on the occasion of Gandhi Jayanti.
- The scheme is expected to benefit 25 lakh people who were left out of the National Food Security Act.
- The State government had decided to launch its own food security scheme after the Centre did not respond to its request to add additional beneficiaries under the NFSA.

[#Self4Society: A govt. app to rope in volunteers](#)

Part of: Prelims and Mains GS II – Governance and social service; Role of technology

In News

- Professionals keen on doing volunteer work in their free time will be provided a platform by the government through an app, **#Self4Society**, developed by MyGov.
- Prime Minister Narendra Modi to launch the app at a townhall-style event on October 24.
- A lot of companies run volunteering initiatives. This platform will help to create better synergies among so many initiatives and lead to a much better outcome of the efforts of professionals.
- Companies have observed that a spirit of service and volunteering improves employee satisfaction and reduces employee attrition.
- The app will have incentives, gamification and intra and inter-company competitions, and social networking.
- At first, this will be aimed at IT companies, with more joining in when it takes off.
- The volunteer time for the government's flagship programmes such as Swachh Bharat is expected to increase.

[Mission Antyodaya](#)

Part of: GS Prelims and Mains II – Rural development; Government schemes and Policies

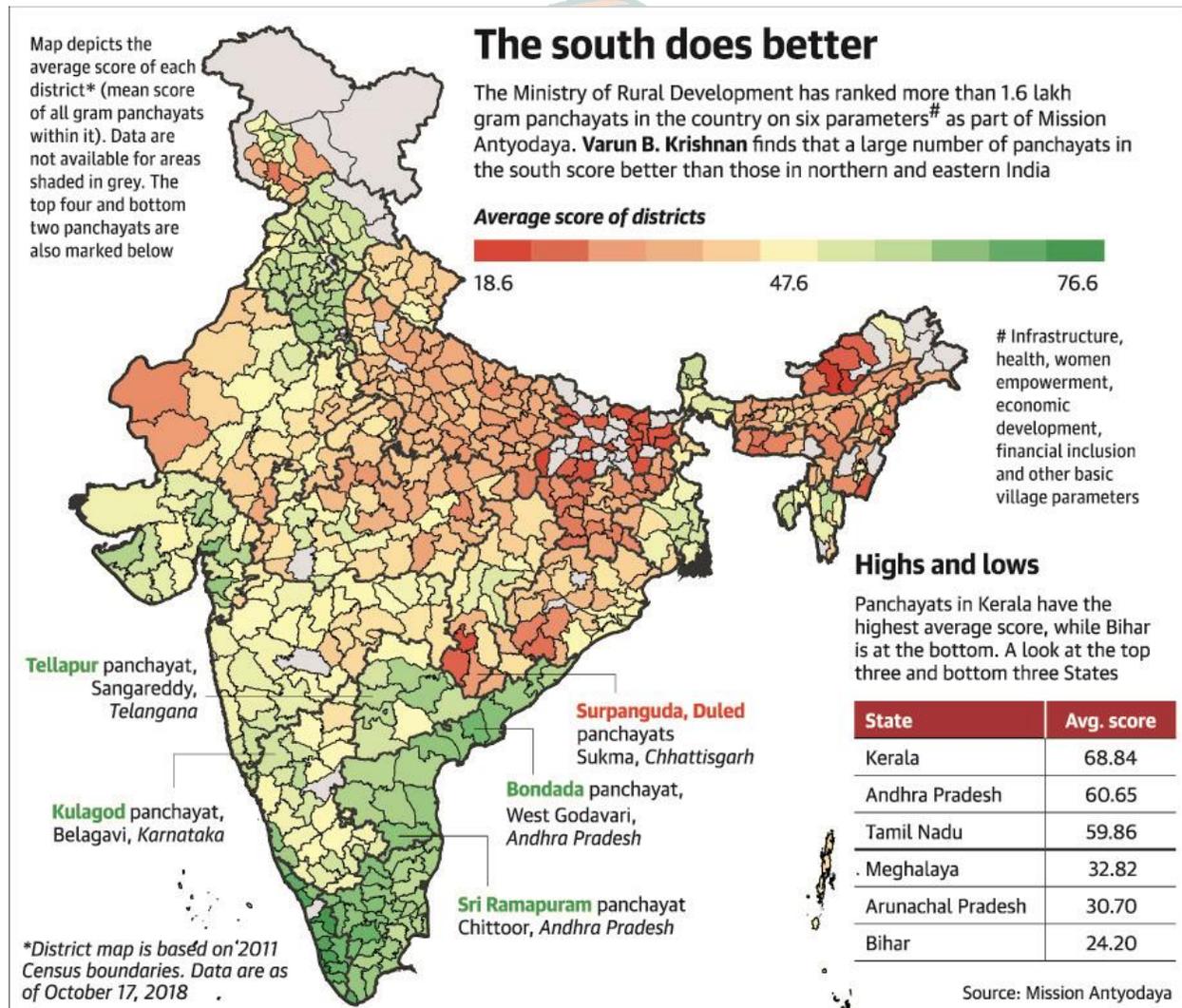
About Mission Antyodaya

- Mission Antyodaya is a convergence framework for measurable effective outcomes on parameters that transform lives and livelihoods.
- *'Real Difference comes about through Convergence'* as it alone simultaneously addresses multi dimensions of poverty. Professionals, Institutions and Enterprises make it possible.

- Poverty Free India by 2022

WHY MISSION ANTYODAYA?

- Evidence of convergence reducing poverty, raising incomes – IRMA Study.
- ‘Communitization’ through Women SHGs improves education, health, nutrition indicators.
- Saturation approach creates many more ‘islands of success’
- Leveraging Bank loans promotes an enterprise model.
- Many initiatives provide for universal coverage of the eligible beneficiaries – Ujwala, SBM, PMAY, Skills, Power, Roads, internet, Bank accounts.
- Integral positive co-relation among infrastructure, human development and sustainable economic well-being.
- 5000 islands of successful Rural Clusters over 1000 days will be transformational.



Pic:

https://d39gegkjaqduz9.cloudfront.net/TH/2018/10/24/CNI/Chennai/TH/5_11/627d9463_2477835_101_mr.jpg

Panel on sustainable development goals

Part of: GS Prelims and Mains II – Governance; Issues relating to development and management of Social services

In news:

- The Cabinet approved the setting up of a high-level steering committee chaired by the Chief Statistician of India and Secretary to the Ministry of Statistics and Programme Implementation to review if India was on track to achieving the **United Nations Sustainable Development Goals (SDG)**.
- The panel would decide if there was a **need to “refine” indicators by reviewing the National Indicator Framework** periodically.
- The committee would recommend measures to “mainstream” SDGs into ongoing national policies, programmes and strategic action plans to address the developmental challenges.

About SDG

- The SDGs are a list of 17 goals, including elimination of poverty, ending hunger, ensuring provision of quality education, clean water and sanitation, that countries must achieve by 2030.



Indian Institutes of Skills: Skill development centres on PPP Model

Part of: GS Prelims and Mains II – Skill development; Education, Human Resources development ; Government schemes and policies

In news:

- Government approves scheme for setting up Indian Institute of Skills
- The Centre has decided to set up skill development institutes on government land, in partnership with private players, across the country.
- The public-private partnership model will be adopted to set up the institutes — to be called the **Indian Institutes of Skills** — at select locations, based on demand and available infrastructure.

- The institutes are expected to help boost the global competitiveness of key industry sectors by providing high-quality skill training, applied research education and a direct and meaningful connection with the industry.

Do you know?

- Prime Minister Narendra Modi had laid foundation stone of the country's first Indian Institute of Skills (IIS) in Kanpur, Uttar Pradesh to make India the Skill Capital of the World.

About Indian Institute of Skills (IIS)

- The IIS is being opened by the **Union Skill Development Ministry** in partnership with the **Institute of Technical Education, Singapore**.
- The idea of IIS was conceptualised by PM Modi during his visit to Singapore's Institute of Technical Education.
- Its primary objective is to empower India's youth to be more employable and self-sustainable.
- The Union Skill Development Ministry has planned to set up six such institutes across country in coming years.

Centre's nod for ₹7,522 cr. fisheries fund

Part of: GS Prelims and Mains II and III - Welfare schemes for vulnerable sections; Infrastructure; Fisheries and Aquaculture

In news:

- The Centre has set up a ₹7,522-crore fund to create infrastructure facilities for the fisheries sector.
- The move is expected to boost annual fish production to 20 million tonnes by 2022-23 from the current production of 11.4 million tonnes.

Fisheries and Aquaculture Infrastructure Development Fund (FIDF)

- The establishment of the FIDF was approved by the Cabinet Committee on Economic Affairs.
- National Bank for Agriculture and Rural Development (NABARD), National Cooperatives Development Corporation (NCDC) and all scheduled Banks (hereinafter referred as Banks) shall be the nodal Loaning Entities.

Benefits:

- Creation of fisheries infrastructure facilities both in marine and inland fisheries sectors.

- To augment fish production to achieve its target of 15 million tonne by 2020 set under the Blue Revolution; and to achieve a sustainable growth of 8% -9% thereafter to reach the fish production to the level of about 20 MMT by 2022-23.
- Employment opportunities to over 9.40 lakh fishers/fishermen/fisherfolk and other entrepreneurs in fishing and allied activities.
- To attract private investment in creation and management of fisheries infrastructure facilities.
- Adoption of new technologies.

Do you know?

Under FIDF, loan lending will be over a period of five years from 2018-19 to 2022-23 and maximum repayment will be over a period of 12 years inclusive of moratorium of two years on repayment of principal.

Think small

Introduction

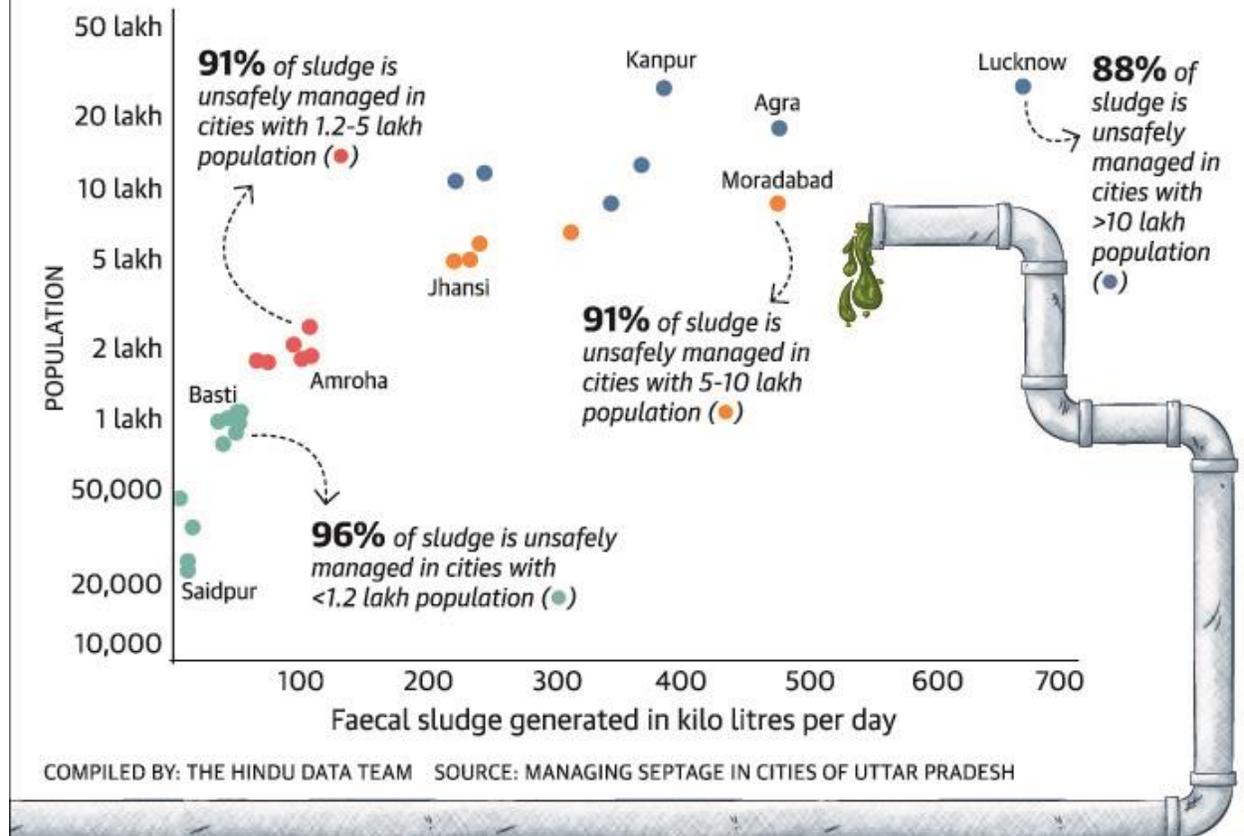
Bad sanitation is India's worst-kept secret, but recent data from **Uttar Pradesh** show that in spite of working in mission mode to expand sanitation, **87% of faecal sludge expelled from toilets in urban areas is untreated.**

Study conducted by Centre for Science and Environment

- The study in U.P. conducted by the Centre for Science and Environment has now exposed the grim situation.
- Viewed against the 2030 goal to achieve clean water and sanitation for all under the UN Sustainable Development Agenda, this depressing statistic shows how much work remains to be done.

Untreated sludge

A very high percentage of faecal sludge is disposed of without treatment in various cities in Uttar Pradesh, an analysis by Centre for Science and Environment shows. Graphs plot the amount of faecal sludge generated and the percentage treated in 30 U.P. cities



Pic:

https://d39gegkjaqduz9.cloudfront.net/TH/2018/10/23/DEL/Delhi/TH/5_07/d2b1bef2_2476469_101_mr.jpg

Steps taken by state and their effects

- State support for improved housing and planned development has never been strong, and the **National Urban Sanitation Policy of 2008 has not changed** that significantly.
- At the national scale, a **United Nations report of 2015 estimates that 65,000 tonnes of untreated faeces is introduced into the environment in India annually.**
- **The Swachh Bharat Abhiyan** promised a major shift, but it has focussed more on the basic requirement of household and community toilets in rural and urban areas.
- The study by CSE has exposed broken links, of **faecal sludge and septage being collected from household tanks and simply discharged into drains, open land and wetlands.**

- The problem of the waste not being contained collected without **manual labour**, transported and treated safely is becoming graver.

Need of new approach

- The CSE study is being followed up with a mapping exercise on the flow of faecal waste streams in individual cities.
- The collection efficiency for sludge in Varanasi, Allahabad and Aligarh and such cities ranges from just 10% to 30%.
- **It is now time for a new approach. This has to be decentralised and different from the strategy being used to clean the Ganga.**
- Clean Ganga strategy relies on large sewage treatment plants for riverside cities and towns.
- Immediate investments in **decentralised sludge management systems** would bring twin benefits: of **improving the environment and reducing the disease burden** imposed by insanitary conditions.

Way forward

- **One immediate intervention** needed is the **creation of an inter-departmental task force** to identify land to build small treatment systems for sludge, and to provide **easily accessible solutions to houses** that are currently discharging waste into open drains.
- The business of emptying faecal material using tanker trucks needs to be **professionalised and de-stigmatised**.
- It is unacceptable **that manual scavengers continue to be employed in violation of the law** to clean septic tanks in some places, and caste factors play out in the recruitment of workers even in the mechanised operations.
- **All aspects of the business of sanitation need reform** if India is **to meet Goal Number 6 of the Sustainable Development Goals** with egalitarian policies.
- A large State such as Uttar Pradesh provides the opportunity to demonstrate commitment to policy. Success here can transform lives.

Connecting the dots:

- Decentralised sludge management systems are vital to achieve clean water goals of SDG by 2030. Elucidate.

INTERNATIONAL RELATIONS

[Saudi Arabia to invest in oil refinery in Gwadar](#)

Part of: GS Mains II and III – International relations

In news:

- Saudi Arabia to invest in a new oil refinery in Pakistan's growing deep-sea port of Gwadar
- Gwadar's port is being developed as part of the \$60 billion China-Pakistan Economic Corridor (CPEC), an ambitious plan to build energy and transport links connecting the western Chinese region of Xinjiang with the Arabian Sea via Pakistan, as part of Beijing's broader Belt and Road initiative.
- Gwadar is part of Pakistan's mineral rich southwestern Balochistan province.

[17th CHG meeting of SCO to be held Tajikistan](#)

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

In news:

- 17th Council of Heads of Government (CHG) meeting of SCO to be held Dushanbe, Tajikistan.
- This will be the second CHG meeting since India became a full member of SCO in June 2017. Last year, CHG meeting was held in Sochi, Russia.
- The SCO CHG meeting is a forum that enables India to engage with SCO member countries and Observer states of Afghanistan, Belarus, Iran and Mongolia. It is the first major meeting since Kyrgyzstan took over as chair of the Organisation.
- The leaders will be discussing prospects for further development of SCO and will exchange in-depth views on current international and regional issues.

[India Elected To UN Human Rights Council With Most Number Of Votes](#)

Part of: GS Prelims and Mains II – International Affairs; Role of India - country's standing in the international community

In news:

- India got elected to the United Nations' top human rights body for a period of three years beginning January 1, 2019.
- India got 188 votes in the Asia-Pacific category, the highest number of votes among all candidates.
- The 193-member UN General Assembly held elections for new members to the UN Human Rights Council.
- The 18 new members were elected by absolute majority through a secret ballot. Countries needed a minimum of 97 votes to get elected to the Council.
- India's win reflects the country's standing in the international community.



Do you know?

- India had previously been elected to the Geneva-based Human Rights Council for the 2011-2014 and 2014-2017 term.
- Its last tenure had ended on December 31, 2017 and in accordance with the rules, it was not eligible for immediate re-election since it had already served two consecutive terms.

[Kandahar attack: Afghanistan Issue](#)

Part of: GS Prelims and Mains II - International Relations

In news:

- The recent attack on a high-level meeting inside the Governor's compound in southern Kandahar, killing top security officials, is yet another reminder of the **sharply deteriorating security situation** in Afghanistan.
- In recent years, the **Taliban** has shown its capability to infiltrate official meetings and attack any government building, notwithstanding claims by the authorities of heightened security.
- From the day the election dates were announced, the Taliban had warned those participating in the process.
- Over the past couple of months, the Taliban has repeatedly targeted election offices and gatherings, killing at least 10 candidates and dozens of their supporters.

Do you know?

- The attack is a setback for the U.S. plan for direct talks with the Taliban as a way out of the 17-year-long conflict.
- Both the U.S. and Afghan forces appear to be clueless about how to stop the Taliban's advances.

[U.S. to pull out of Russia missile pact](#)

Part of: GS Mains II – International Relations

In news:

- U.S. President Donald Trump confirmed that the U.S. would pull out of the Intermediate-range Nuclear Forces (INF) Treaty with Russia.

About Intermediate-range Nuclear Forces (INF) Treaty

- INF Treaty is a crucial **Cold War-era treaty** which led to banning the development, testing and possession of short and medium range ground-launched nuclear missiles with a range of 500-5,000 km.
- The treaty, signed in 1987, was central to ending the arms race between the two superpowers, and protected America's NATO allies in Europe from Soviet missile attacks.

The real issue:

- US has accused that Russia has developed and deployed Novator 9M729 missile, also known as the SSC-8, that could strike Europe at short notice. (However, Russia has repeatedly denied the allegation)
- The Russians denied the allegations and raised counter-allegations of the U.S. installing missile defence systems in Europe.

Consequences:

- A withdrawal will allow the U.S. new weapon options in the Pacific in its efforts to counter China's growing influence.
- There are also concerns that the treaty's end could mark the beginning of a new arms race between the U.S. and Russia.

[Bolton arrives in Russia for talks on nuclear treaty](#)

Part of: Prelims and mains GS II – International affairs and global peace

In News

- White House National Security Advisor John Bolton began meetings with senior Russian officials for its withdrawal from a Cold War-era nuclear weapons treaty.
- President Donald Trump announced that the U.S. was ditching the three-decade-old Intermediate-Range Nuclear Forces Treaty, known as the INF, a move Moscow has already denounced as “dangerous”.
- The treaty, banning intermediate-range nuclear and conventional missiles, was signed in 1987 by then U.S. President Ronald Reagan and Mikhail Gorbachev, the last Soviet leader.
- The INF resolved a crisis over Soviet nuclear-tipped ballistic missiles targeting Western capitals.
- Both, U.S. and Russian administration are blaming each other for violating the treaty.

[An African island’s troubled waters](#)

Part of: Prelims and mains GS III – International affairs: conflicts between countries

In News

- A rounded, rocky outcrop covered with metallic shacks, **Migingo Island** rises out of the waters of Lake Victoria like an iron-plated turtle. The densely populated island is barely a quarter of a hectare large.
- For over a decade, Migingo has been a source of tension between Uganda and Kenya, who have been unable to decide to whom it really belongs.

The ‘smallest war’

- They were once pushed to the brink of what some said would have been Africa’s “smallest war” over the island.
- While fishing communities around Lake Victoria have seen their catches slowly diminish over the years, the deep waters surrounding Migingo abound with catch such as Nile perch.
- It was in the early 2000s when the island was barely inhabited — then situated within Kenya on all maps — that it began drawing the attention of Ugandan authorities who sent officials to Migingo to tax fishermen and offer protection against pirates.

- Kenyan fishermen in return began complaining they were being shaken down by the Ugandans in their own waters and chased from the island.
- They called on Kenya's government, which deployed security forces to Migingo in a move that nearly brought the two nations to blows in 2009.
- Kenya and Uganda then decided to create a joint commission to determine where the watery border is relying on maps dating from the 1920s whose interpretation is a key point of contention.
- But nothing has come of the commission, and in the absence of any decisions on the boundary, the island is co-managed by both countries.
- Faced with mounting complaints from their constituents, local Kenyan politicians have called on Nairobi to ask the International Court of Justice to intervene and make a decision on the border — to no avail.

[Panel for adopting UN model on cross-border insolvency](#)

Part of: Prelims and mains GS II – International bodies and organisations

In News

- The Insolvency Law Committee (ILC), tasked with suggesting amendments to the Insolvency and Bankruptcy Code of India, has recommended that India adopt the United Nations' model to handle cross-border insolvency cases.
- The United Nations Commission on International Trade Law (UNCITRAL) Model Law of Cross Border Insolvency, 1997 provides for a comprehensive framework to deal with cross-border insolvency issues.
- The UNCITRAL Model Law has been adopted in 44 countries and, therefore, forms part of international best practices in dealing with cross border insolvency issues, the government said.
- The advantages of the model law are the precedence given to domestic proceedings and protection of public interest.
- The necessity of having a cross-border insolvency framework under the Insolvency and Bankruptcy Code arises from the fact that many Indian companies have a global footprint and many foreign companies have a presence in multiple countries, including India.

[China, Japan to partner in building Asia infrastructure](#)

Part of: GS Prelims and Mains II – International Relations

In news:

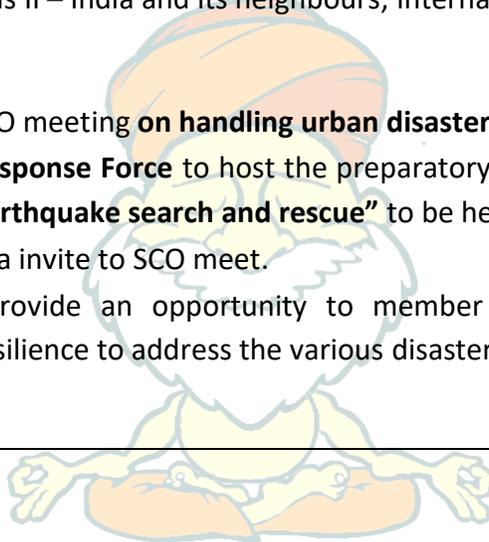
- Japan and China to partner in building Asia infrastructure
- 40th anniversary of the China-Japan treaty of friendship
- Both leaders are expected to seek areas of convergence between China's Belt and Road Initiative and Japan's concept of a free and open Indo-Pacific.

[10th SCO meet: disaster prevention](#)

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

In news:

- India to host 10th SCO meeting **on handling urban disaster**.
- **National Disaster Response Force** to host the preparatory meeting for the “**Joint mock exercise on urban earthquake search and rescue**” to be held next year in India.
- Pakistan accepts India invite to SCO meet.
- The exercise will provide an opportunity to member countries to validate their preparedness and resilience to address the various disaster related challenges.



INDIA AND THE WORLD

India-Pakistan: Concerns

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

In news:

- India called off the meeting with the Pakistan Foreign Minister in New York.
- New Delhi had cited the brutal killings of three policemen in Jammu and Kashmir.
- India also cited stamps issued by Pakistan to “glorify” Hizb militant Burhan Wani as a reason for cancellation.

India’s stand:

- India had never eyed someone else’s territory maliciously. This in itself was our commitment and dedication towards peace.
- India is one of the largest contributors to various United Nations Peace Keeping Forces in terms of sending its personnel. India’s brave soldiers wearing blue helmets have played a stellar role in ensuring maintenance of world peace.

China to sell 48 armed drones to Pakistan

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

In news:

- China to sell 48 high-end armed drones to its “all-weather ally” Pakistan
- Drone name - **Wing Loong II**
- It is a high-end reconnaissance, strike and multi-role endurance unmanned aerial system, capable of being fitted with air-to-surface weapons.
- It is roughly equivalent to the American MQ-9 Reaper drone.

Do you know?

- China is the largest supplier of weapon system to the Pakistan Army.
- Both countries also jointly manufacture **JF-Thunder** a single engine multi-role combat aircraft.
- The Trump administration has agreed to sell 22 **Sea Guardian drones** to India.
- India has received 10 advanced **Heron drones** from Israel as well.

India and China: “Wuhan spirit”

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

In news:

- After the Wuhan summit, mutual confidence between China and India was promoted.
- Experts and academicians feel – “China and India can cooperate under two-plus-one formula” to bring development in countries such as Maldives, Afghanistan and Nepal.
- The 2+1 mechanism (Wuhan Spirit) was proposed by China at Wuhan, where New Delhi and Beijing would coordinate their responses while engaging a third country in South Asia.
- The mechanism can enhance mutual trust between China and India and may also prevent other South Asian countries from being caught in between.

India sends relief material to Indonesia

Part of: GS Prelims and Mains Paper III- Disaster management; International Relations

In news:

- IAF aircraft and naval ships on the way to tsunami-hit Palu
- The Navy has diverted its ships **INS Tir, Sujata and Shardul** on deployment to Singapore to Palu in Indonesia.
- The IAF has deployed one C-130J and one C-17 transport aircraft to ferry medical teams and relief material.

Indians to be hit by U.K. immigration plan

Part of: GS Mains II – International Relations; India and the World

In news:

- Under the new system, immigrants will be able to bring their immediate families only if they are sponsored by employers
- The move would be the biggest shake-up of Britain’s immigration system in decades.
- Under the existing system, employees are able to bring family members with them if they meet certain criteria, including crossing a certain salary threshold.

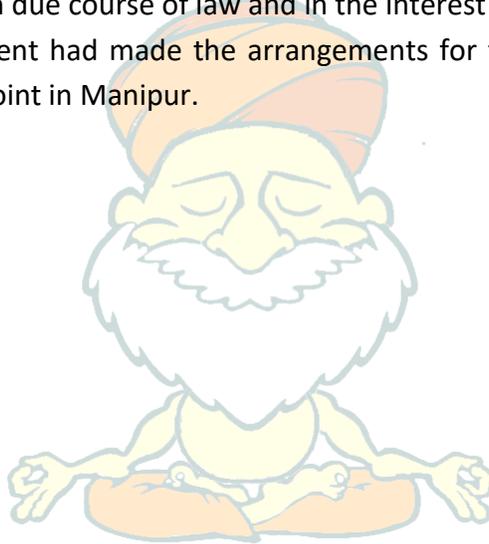
- The system is already extremely restrictive for workers from India and this is going to make it even more so.

[Rohingya handed over to Myanmar](#)

Part of: GS Mains II and III – International relations and Internal Security; India and its neighbours; Refugee issues

In news:

- Seven Rohingya Muslim men, arrested in 2012 for illegally entering Assam, were officially handed over to Myanmar authorities at Manipur's border town Moreh.
- The Centre told the Supreme Court that the action to repatriate the seven Rohingya Muslims was taken in due course of law and in the interest of the country.
- The Assam government had made the arrangements for their repatriation through an immigration check point in Manipur.



The road to deportation

Rohingya are an ethnic group, mostly Muslims, who are based in Rakhine province of West Myanmar. Myanmar has not granted them full citizenship and they are classified as "resident foreigners" or "associate citizens." They speak a dialect of Bengali and not Burmese. They left Myanmar in large numbers, first in 2012, during the first wave of organised attacks against them by the Army. The attacks revived last year when lakhs took shelter in the Cox's Bazaar area of Bangladesh. Around five lakh Rohingya have taken shelter in Saudi Arabia since 2012.

How many Rohingya are there in India?

■ The Home Ministry told Parliament that there are around 40,000 Rohingya in India, of which around 5,700 are in Jammu. Of these, only 16,000 are said to be registered with the United Nations. As per an affidavit filed in the Supreme Court on Thursday, there are at least 12 Rohingya in detention camps in Assam. In 2017, the Border Security Force apprehended 87 Rohingya along the Bangladesh border, and 76 were sent back to Bangladesh.

What is the process of deportation?

■ There are no separate rules for Rohingya. All illegal immigrants are detected, detained and deported under provisions of the Passport Act, 1920 or the Foreigners Act, 1946. The powers to identify and deport them have been delegated to the State governments/ Union Territories. Once a 'foreigner' has been apprehended by the police for staying here illegally, without any document, he or she is produced before the local court. The court, after

hearing the police and the alleged foreigner, examines the case. If the accused are found guilty, they can be imprisoned from three months to eight years.

Is there an advisory by the Union Home Ministry to States specific to the Rohingya?

■ On August 8, 2017, the Ministry wrote to all the States that "infiltration from Rakhine State of Myanmar into Indian territory, especially in recent years, besides being a burden on the limited resources of the country also aggravates the security challenges." It also said rise in terrorism in the last few decades had become a matter of concern for most nations and illegal migrants were more vulnerable to be recruited by terrorist organisations.

What happens after the completion of the sentence?

■ Once the accused have completed the jail sentence, the court orders their deportation and they are moved to detention centres till the country of origin verifies and accepts them. The State government writes

to the country concerned, and consular access is provided to the detainees.

Was the deportation of seven Rohingya on Thursday the first instance?

■ While deportations of foreigners staying illegally have taken place earlier, this is the first time when Myanmar accepted the Rohingya and issued them a certificate of identity two months ago. The seven persons were caught in 2012 in Assam. After they were moved to the detention centre from a prison, they wrote to the Myanmar Embassy in 2016, expressing their desire to return to their country. The process of establishing their identity started then.

Did they give any undertaking?

■ All the seven Rohingya gave individual undertakings. Mohammad Jamal, one of the Rohingya who was deported, said in the undertaking, "I was satisfied with the facilities and amenities of the jail authorities. I am thankful to the administration for safe and comfortable departure to my country of origin."

- Vijaita Singh



Sad plight: A file picture of Rohingya fleeing Myanmar, crossing Naf river, to enter Bangladesh. • GETTY IMAGES

Pic:

https://d39gegkjaqduz9.cloudfront.net/TH/2018/10/05/DEL/Delhi/TH/5_11/f73179ba_282083_13_mr.jpg

India, Russia sign S-400 missile deal

Part of: GS Prelims and Mains II and III – International Relations; Defence

In news:

- India and Russia concluded the contract for five S-400 ‘Triumf’ missile systems.
- S-400 is a long range surface to air missile.
- However, the two sides failed to conclude two other major deals, for stealth frigates and assault rifles.
- Meanwhile, U.S. issued a statement warning that any waiver for the S-400 deal would be considered on only a “transaction-by-transaction basis.”

Other ties:

- On education and people to people ties – Modi and Putin interacted with young talent drawn from India’s Atal Innovation Mission (AIM) and Russia’s SIRIUS educational centre.
- An MoU was also signed between AIM and SIRIUS to further their cooperation. Indian and Russian students visit other countries and together must think what can they do to make lives simpler for people, especially the poorest, to improve their way of living.

Oldest friends: India and Russia

Introduction

- India-Russia summits have traditionally been short on time and ceremony and big on productivity.
- Russian President’s 22-hour visit to Delhi last week was no exception.

Agreements signed during summit

- The two countries announced a number of agreements, including a \$5.43 billion S-400 Triumf missile system deal, a space cooperation arrangement to put an Indian in space, and an action plan for a new nuclear plant.

- Prime Minister Narendra Modi and Mr. Putin also addressed a business summit, in an attempt to diversify ties and increase bilateral trade, currently below \$10 billion.
- Much of the fresh momentum in bilateral engagement will come from the energy sector.
- Though the two sides didn't announce an agreement between ONGC Videsh and Gazprom as expected, several billions of dollars worth of investment and energy deals are in the pipeline.

Geopolitical implications

- Significantly, the agreements discussed during Mr. Putin's visit have geopolitical implications.
- The signing of the S-400 air defence system deal, for instance, is of far greater consequence than its size.
- It denotes India's desire to deepen defence cooperation with Russia; also that it is prepared to do this despite U.S. warnings that the deal could attract sanctions.
- This deal comes just a month after India signed the Communications Compatibility and Security Agreement (COMCASA) for better interoperability with the U.S. military.
- It is a sign that India will not be forced or even persuaded into putting all its eggs in one strategic basket.

Challenges ahead

- India's assertion of "strategic autonomy" and desire for multipolarity will be seriously tested in the coming months.
- India chose to sign the S-400 deal, but resisted concluding other major defence deals with Russia on helicopters, stealth frigates and assault rifles, which Moscow will no doubt push for.
- More defence deals with Russia will make it increasingly difficult for the U.S. to give India a waiver from sanctions under CAATSA, its legislation aimed at curtailing defence and energy dealings with Russia, Iran and North Korea.
- Washington has already reacted to the S-400 deal, making it clear that any waiver will not be on a "country" basis, but on a "transaction-by-transaction" basis.
- In any case, accepting a waiver will implicitly commit India to reducing its intake of Russian military hardware.

Way forward

- It is one thing to reinforce long-standing and close friendships with the Russia and with the Iran as well as with the U.S. President.
- The situation can be much more complex when friends expect you to choose between them.

- Both on CAATSA and on the U.S.'s proposed sanctions on Iran that go into force in November, India will need to make some tough decisions.
- India needs to stand firm on its deep engagement with Russia in coming months.

Connecting the dots:

- Critically examine the Russia-India relations. Considering the global geopolitical instabilities, what are the challenges before India?

Eyes on India

Introduction

- Asia is in a state of flux.
- China's Belt and Road Initiative is reshaping the region's geography, with roads and railways traversing Eurasia and new ports dotting the Indian Ocean basin.
- Beijing's militarisation of the South China Sea continues, despite negotiations towards a code of conduct.

Recent developments

- Japan has found itself in an unexpected leadership position, reviving the Trans-Pacific Partnership and concluding a trade agreement with the European Union.
- Tokyo is now contemplating constitutional revisions that would enable it to play a more overt military role.
- Amid these unfolding events, another series of developments risks being overshadowed.
- Japan, South Korea, Taiwan, and Australia have all unveiled strategies to diversify their economic interdependence, away from mainland China and towards Southeast Asia and India.

Why eyes on India?

- The most recent reason is the on-going trade and tariff war between the U.S. and China.
- A longer-term concern is Beijing's use of its economic muscle for political purposes, whether in suspending rare earth metal exports to Japan in 2010 or punishing a major South Korean corporation for Seoul's decision to install a missile defence system in 2017.
- China's limited market growth potential and questions of access and reciprocity are additional considerations.

Approach towards India

- Japan's Free and Open Indo-Pacific strategy is meant to diversify investments to more promising markets in Southeast Asia, India, and Africa.
- South Korean President Moon Jae-in has unveiled a New Southern Policy. Mr. Moon said that while the policy is focussed on Southeast Asia, it also "makes India Korea's key partner for cooperation".
- Similarly, Taiwan, a G20-sized economy whose political status is disputed, has announced a New Southbound Policy with significant accompanying investments in India by Taiwanese electronics manufacturers.
- Finally, Australia's government has commissioned an ambitious India Economic Strategy with the goal of making India its third-largest investment destination and export destination by 2035.

Conclusion

- While not driven by short-term necessities, political concerns are increasingly informing economic preferences.
- Politically, therefore, the stars are aligning in Asia for the acceleration of India's economic growth.
- Investors, increasingly backed by their governments, are increasingly focussed on the Indian market.
- But with more protectionist sentiments taking root, a legacy of poorly-negotiated trade deals, a general election around the corner, and uneven economic liberalisation, the likelihood of India taking full advantage of these opportunities remains slim.

Connecting the dots:

- Japan, South Korea, Taiwan and Australia have unveiled strategies to forge closer economic ties with India. Do you think that China's growing assertiveness has become a blessing in disguise for India? Critically comment.

India-Japan ties

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

In news:

- PM Modi to visit Japan and hopes are high for a greater synergy on security and connectivity issues
- Prime Minister of Japan, Shinzō Abe views India as the pivotal state in the Indian Ocean.

- *A strong India is in Japan's interest, just like a strong Japan is beneficial for India* – according to Abe.
- The Abe administration is focusing attention on two critical areas — **maritime security** and **strategic connectivity**.

Do you know?

- The 21st edition of **exercise “Malabar”** was held in the Bay of Bengal in July 2017.
- **Malabar** is an annual military exercise between the navies of **India, Japan and the U.S.** held alternately in the Indian and Pacific Oceans.

Japan's growing role in Asia

- During the 2017 exercise, the Japanese Navy deployed a maritime surveillance aircraft and a submarine, demonstrating a readiness for a strategic role in Asia's sensitive littorals.
- In a bid to raise its Indian Ocean profile, Japan recently deployed its state-of-the-art helicopter carrier-destroyer, Kaga, to South Asia.

India-Japan on balancing Chinese power

- Tokyo is keen that its military exchanges with India also include Army and Air Force exchanges.
- An **Acquisition and Cross-Servicing Agreement** — on the lines of the Logistics Exchange Memorandum of Agreement (LEMOA) with the U.S. — is in the offing, and there is also talk of joint collaboration in unmanned armoured vehicles and robotic systems.
- Japan also wants to assist India in improving the state of maritime domain awareness in the Indian Ocean, where India is keen to set up an 'information fusion centre'.
- Tokyo and New Delhi have been working together on infrastructure projects in the Northeast.
- They are also building the **Asia-Africa Growth Corridor**, whose four pillars — developmental projects, quality infrastructure, capacity building, and people-to-people partnership — make it an effective counterpoint to China's Belt and Road Initiative.

Trust and quality - Unlike China's Belt and Road projects, Japanese infrastructure initiatives are environmentally friendly and financially sustainable, with project managers laying particular stress on life cycle costs and asset resilience. Not only has Japanese development aid produced demonstrable results on the ground, Tokyo's insistence on transparency has generated enormous trust.

Convergence of interest – India's 'Act-East' outreach fit well with Mr. Abe's vision for a 'Free and Open Indo-Pacific'.

Regional order based on rules – Both countries want a regional order based on rules. However, neither country is keen to antagonise China. Japanese and Indian policymakers recognise the importance of balancing Chinese power in the Indo-Pacific.

However, to deter China's maritime aggression in their strategic backwaters, Japan and India have upped their defence engagement.

India and Japan: Touching base

Introduction

- **India and Japan institutionalised annual meeting since 2006**, since then both the countries have held a closely aligned world-view.
- In the forthcoming annual summit both the countries are expected to take stock of all the challenges they are facing, notably with regard to the U.S. and China.

Challenges before India and Japan

- **Trade tariffs applied by U.S., sanctions against Iran and Russia**, as well as **the U.S.'s exit from several multilateral and security regimes** are impacting both countries in different ways.
- For **India**, the impact is more direct, as the economy has been hurt by **new American tariffs, review of its GSP (trading) status, and restrictions on visas for professionals**.
- The possible **U.S. sanctions over Indian engagement with Iran** as well as **defence purchases from Russia** pose a looming challenge.
- For **Japan** too, **U.S. trade tariffs** are a concern and Washington's **exit from the Trans-Pacific Partnership** is corralling Southeast Asian countries into a free trade regime under **Chinese domination**.
- **The U.S.'s on and off nuclear negotiations with North Korea** is cause of concern for Japan.
- The other **common concern is managing an increasingly influential China**.

To resolve multilateral issues

- India and Japan must closely cooperate on how to manage these challenges while maintaining their growing security ties with U.S., as members of the trilateral and quadrilateral formations in the Indo-Pacific.
- India and China had decided to compare notes on the way forward with their common neighbour, especially on building and financing alternatives to China's Belt and Road projects for countries along the "Asia-Africa growth corridor".

Bilateral negotiations

- **The Shinkansen bullet train project (Bullet train between Mumbai and Ahmadabad)** has gathered speed with respect to finances but it could still run into delays over land acquisition issues.
- **India and Japan have stepped up military exchanges**, and will begin negotiations on a landmark acquisition and cross-servicing logistics agreement.
- The purchase of **ShinMaywa US-2 amphibian aircraft** proceedings are still pending.
- In bilateral trade, **level of trade between both the countries has declined** as compared to what was there five years ago.

Conclusion

- India and Japan are facing many similar challenges but none of these issues is insurmountable.
- The larger concerns of how to navigate uncharted and stormy geopolitical terrain, while maintaining strong positions on the international rules-based order, are likely to dominate this annual summit.

(This news is in early stages, larger picture will be clear after the conclusion of summit.)

Connecting the dots:

- In the changing world order, India and Japan has a bigger role to play for sustaining rule based global order. Discuss.

India-Japan: 13th annual summit

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

Key highlights:

- Both the countries outlined a vision for strengthened bilateral relations.
- Main focus - enhanced strategic and defence cooperation.
- Unwavering commitment towards **“free and open Indo-Pacific”**.
- Invest in upholding the rule of law and democratic values.
- Both countries to “expand concrete cooperation with the U.S. and other partners”.
- Announced the start of negotiations on an **Acquisition and Cross-servicing Agreement**, a logistics-sharing pact, that would allow Japanese ships to get fuel and servicing at Indian naval bases.
- A new **Foreign and Defence Ministerial Dialogue**, termed **2+2**, was also announced to supplement an already formidable array of bilateral dialogue mechanisms that include

the Annual Defence Ministerial Dialogue, Defence Policy Dialogue and the National Security Advisers Dialogue.

- On the **economic front**, the two countries have agreed to a **Bilateral Swap Arrangement** that would allow their central banks to exchange local currencies for **up to \$75 billion**.

Freedom of navigation

- Both the countries also referred to the necessity of ensuring the freedom of navigation and the importance of upholding the **UNCLOS (United Nations Convention on the Law of the Sea)**, a set of conventions that China has been accused of flouting in the South China Sea.

[India-Italy ties: India-Italy Technology Summit 2018](#)

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

In news:

- Prime Minister of Italy Prof. **Giuseppe Conte** to visit India
- He will participate in the 24th edition of the **DST-CII India-Italy Technology Summit 2018**.
- The Technology Summit is organized by the **Department of Science and Technology (DST)**.
- This edition of the Summit will focus on **seven areas**—Clean tech, Renewable, ICT, Healthcare, Aerospace, Education and Cultural Heritage.
- The objective of the Summit is to facilitate technology transfers, joint ventures, Research and Development, and market access between industry and research institutions in India and Italy.
- The visit will be part of the ongoing celebrations to commemorate **70th anniversary** of establishment of diplomatic relations between India and Italy.

[India-U.S. tri-services exercise](#)

Part of: GS Prelims and Mains II – International Relations; India and the World; Defence

In news:

- The first India-U.S. tri-services exercise is likely to take place in 2019.
- Talks are on to include the special forces of the two countries in the drill.

Do you know?

- The three forces of each country already take part in bilateral exercises separately —
 - (i) their Armies participate in an annual drill called **Yudh Aabyaas**, whose latest edition took place in September, and
 - (ii) the Air Forces take part in a bilateral drill called **Cope India**
 - (iii) The Navies participate in an exercise called **Malabar**, involving Japan.

But this will be the first time, the three services of India and the U.S. will participate in a drill together.

The Indian Army has **Para SF**, the Navy has **Marcos** while the Air Force has the **Garud** as their respective special forces.

India- Saudi Arabia ties

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

In news:

- Saudi Arabia promises to meet India's oil needs.
- Saudi Arabia to increase investment in India as well. (Example - Saudi Aramco's investment of \$44 billion in the **Ratnagiri refinery, Maharashtra**)

India, France in talks to conduct tri-service exercise

Part of: GS Prelims and Mains II – International Relations; India and the World; Defence

In news:

- India and France are in discussions for a bilateral tri-service military exercise.
- Both the countries are also exploring ways to operationalise the logistics agreement.

Do you know?

- If India and France concludes on tri-service exercise, it will be India's third such joint exercise.
- The first joint tri-service exercise was held with Russia in October last year and India has finalised one with the U.S. to be held next year. (We read in yesterday's news - [India-U.S. tri-services exercise](#))
- India and France signed a logistics pact in March this year which gives access to their militaries to each other's bases for logistics support.

- New Delhi can access French bases in the Indian Ocean — Reunion Island, Djibouti and Abu Dhabi.
- These three bases would give the Indian Navy and the Air Force operational turnaround to the far end of the Indian Ocean, improving its monitoring and surveillance of the region, in the backdrop of increased Chinese presence in the Indian Ocean Region (IOR).

India and France currently hold bilateral exercises between individual services –

- Shakti : : Army version
- Varuna : : Navy
- Garuda : : Air Force

Developed versus Developing Countries on Global Warming and Climate Change

In news:

- Ahead of climate talks (December 2018 Climate Change COP 24 - Katowice, Poland) India in touch with 40 countries.
- India is having discussions with 40 countries, including China, to forge alliances and compel developed countries to make good on promises, made over the years, to provide enough finance and technology to stem runaway global warming.

Do you know?

- Over the years, developed countries have promised to provide **\$100 billion annually to developing countries** to check such warming.
- The '**Like Minded Developing Countries**' (India, China, Venezuela and Iran) and **BASIC** (Brazil, South Africa, India, China) are networks that are formed to lend weight to developing country concerns.



[India and Africa: Bonding with Africa, in partnership](#)

Introduction

- **Chinese President Xi Jinping grabbed headlines last month after announcing a hefty \$60 billion package for Africa.**
- African leaders have been naturally ecstatic after Mr. Xi's announcement in Beijing at the inaugural of the Forum on China-Africa Cooperation (FOCAC).

Meeting of the Forum on China-Africa Cooperation (FOCAC)

- At the **FOCAC, a triennial assemblage of African and Chinese leaders**, the 50-plus African leaders and their Chinese hosts charted big plans to build roads, power plants, and railways and much more in Africa.
- Mr. Xi's mega announcement should trigger celebrations not only in Africa, but also among heads of the emerging economies, especially those of other nations in the BRICS grouping.
- That is, if they reject the media-hyped argument that China, eyeing Africa's natural resources, is seeking to trap the continent into another round of political serfdom through carefully laden "debt traps".
- In this narrative, the Chinese Goliath, inching towards global domination, must be stopped in its tracks, before it is too late.

Approaches of India and china towards Africa

- Like China, **India also hosts its own triennial conclave with African leaders, which was last held in 2015.**
- Though headline numbers show that in dollar throughput, it is distant from China, India's contribution to Africa's development is nonetheless significant.
- **If China and India are serious about the rise of Africa, the key is to co-link their development strategies on a continental scale.**
- The good news is that both countries seem to have done some spadework, in finding an imaginative coordinating mechanism that could benefit them, as well as Africa.
- Ahead of the BRICS summit in Johannesburg in July, the Chinese Foreign Ministry put out the message that New Delhi and Beijing should vigorously pursue the '**China-India Plus One**' or '**China-India Plus X**' model in engaging with Africa.
- The mandarins in Beijing were referring to the mechanism yielded by the Wuhan informal summit, where it was decided that China and India would coordinate their approaches for engaging a third country or set of countries in South Asia and beyond.
- The Chinese also described Beijing and New Delhi as "**like-minded partners**" in Africa.
- Meanwhile Russia has already launched an initiative to bond with Africa.

Conclusion

- South Africa, the host of the recent BRICS summit and co-chair of FOCAC in Beijing, will always remain the natural gateway for a vibrant emerging economy engagement with Africa.
- A post-Wuhan India must pick up the threads and weave a potent emerging economy narrative for bonding with Africa, triggering a structural shift of global significance.

Connecting the dots:

- Rather than competing with each other, India and China need to link their development plans for the continent. Do you agree?

[El Salvador eyes Indian investors](#)

Part of: Prelims and Mains GS II and III – International relations and Economy

In News

- El Salvador is keen to attract investments from Indian companies in the energy, ITeS, pharma, manufacturing and textiles sectors.
- The country was looking to diversify its energy sources to fulfill its growing needs for more energy. They are looking at possibilities, also have geothermal energy because there are more than 40 volcanoes in El Salvador, they are working on it.
- The Ambassador said the country was looking at different forms of energy such as solar, wind, and biomass.
- Indian companies investing in El Salvador would be provided concessions including on land, tax exemptions, and duty-free import of equipment.
- The Ambassador also spoke of El Salvador's ties with 'Manjula', an Indian elephant that was sent to the country in the 1950s through Germany and died in 2010.
- She became an icon in El Salvador, it was the only elephant in the country. The day Manjula died, people got really sad...there was national mourning.

[India, China and the INF Treaty](#)

Introduction

- **US** President Donald Trump's recently announced about American **plans to withdraw from the three-decade-old missile treaty with Russia**.
- The decision marks the **end of an era of disarmament** that India was so engaged with since its Independence.
- As one of the nine known nuclear-weapon powers, India has to adapt to the erosion of traditional methods of managing arms races.
- Geopolitical developments, emergence of new technologies and the declining domestic political support among the great powers are contributing to the demise of arms control.

- Implications of this withdrawal are important for Indian security — especially on the military balance with China, its traditional defence cooperation with Russia and the new possibilities for high-technology cooperation with the US, Europe and Japan.

The INF treaty

- The Intermediate Range Nuclear Forces (INF) Treaty **concluded in 1987 by Presidents Ronald Reagan and Mikhail Gorbachev.**
- It has been hailed as one of the most important arms control agreements between both the countries.
- Under the INF treaty, the US and Soviet Union **agreed not to develop, produce, possess or deploy any ground-based ballistic and cruise missiles that have a range between 500 and 5,500 km.**
- **It exempted the air-launched and sea-based missile systems in the same range.**
- The agreement came in the wake of huge public outcry in Europe in the 1980s at the Russian deployment of the SS-20 ballistic missiles and the US response with Pershing-2 rockets.
- **The INF treaty helped address the fears of an imminent nuclear war in Europe.**
- It also built some trust between Washington and Moscow and contributed to the end of the Cold War.

Drawbacks of the treaty

- The treaty had loopholes that have now come to haunt America and Russia.
- This **bilateral treaty** left the **other nuclear weapon powers free to develop** ground-based intermediate range forces.
- Since then, **many countries have developed missiles** in the range of 500 to 5,500 km, including India, Pakistan and North Korea.
- It is **China that has dramatically expanded** its missile arsenal in the last three decades.
- According to American officials, nearly 90 per cent of China's vast missile armoury — estimated at around 2,000 rockets — is in the intermediate range and would be illegal if Beijing were to be a part of the INF treaty.

Reasons behind withdrawal

- Although the **US cites Russian violations** of the INF treaty as the immediate cause for the withdrawal, **coping with China's massive rocket force appears to be the more important reason** for the decision.
- According to **U.S.'s national security adviser**, even without the alleged Russian violations, **the INF treaty was a bad idea since it left China and North Korea free to undermine** the security of the US and its allies in Asia.

- The expansive Chinese land-based intermediate range missile forces threaten the American naval ships deployed in the Western Pacific and target US military bases in Japan.
- The vulnerability of American military presence in the Pacific to Chinese missiles, in turn, undermines the credibility of American security commitment to its Asian allies.
- The US military leadership has long sought to lift the limitations imposed by the INF treaty on US missile forces in Asia.

Is there any possibility of revival of INF treaty?

- In announcing the intent to withdraw, **Trump said the only way to sustain the treaty is for Russia to stop the violations and China to join the INF treaty.**
- Many arms control activists have long called for a genuinely universal INF treaty — that is all countries will give up intermediate range missiles.
- **China has already rejected the proposition.** It has always refused to join the US-Russian arms control agreements.
- If the US deploys a new INF in Asia, to enhance its capacity to deter China, Beijing is bound to react.
- **The focus of a potential new arms race appears to be less on traditional nuclear armed missiles,** but precise hypersonic missiles (which travel at least five times the speed of sound) equipped with conventional warheads.
- **Moscow and Beijing have already invested in the development of hypersonic systems.**

India's Position

- **India too will have little interest in joining a treaty** that would take away its current nuclear deterrent in the form of **medium-range Agni missiles.**
- India's problem is less with the arms control diplomacy than the nature of its missile programme.
- While it has no reason to shed tears for the INF treaty, it will have to seriously examine the implications of the next steps by the major powers.
- **India has an effort underway on hypersonic missiles** — part indigenous and part in collaboration with Russia to build on **the supersonic Brahmos missiles** that travel more than twice as fast as sound.
- As the US conflict with Russia deepens, India's partnership with Russia on advanced military systems will come under increasing scrutiny and pressure.
- The recent controversy over the acquisition of S-400 from Russia is just the beginning of a trend.
- Russia's increasing military relations with China also casts a shadow over defence ties between India and Russia.

Conclusion

- India has to think long and hard about its missile programme by focusing on the urgent need to ramp up the domestic effort as well as diversify its international collaboration on hypersonic weapons.
- India needs a significant force of hypersonic missiles to better control escalation to the nuclear level if there is another Doklam-like military confrontation with China.
- Delhi will also have to cope with the inevitable proliferation of hypersonic systems in its neighbourhood.

Connecting the dots:

- The US withdrawal from the three-decade-old disarmament pact with Russia presents both a challenge and opportunity for India. Analyse.



ECONOMY

IL&FS Crisis and role of National Company Law Tribunal (NCLT)

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

About:

- IL&FS Group sent shock waves through credit markets when it began missing debt repayments.
- The IL&FS, India's leading infrastructure finance company, is facing a serious liquidity crisis and has failed to make over a dozen payments.
- IL&FS' problems could threaten India's economic growth as lenders cut exposure to non-banking finance companies (NBFCs) or shadow banks.
- More concerning is that potential defaults at so-called shadow banks could cripple many mutual funds that are heavily invested in their commercial paper.

In news:

- Government intervenes in the IL&FS crisis.
- The government moved National Company Law Tribunal (NCLT) to supersede the IL&FS board and change the company management.
- The company is listed as “systemically important” by the Reserve Bank of India, and with over ₹1,15,000 crore of assets and ₹91,000 crore of debt, it is too big to fail.
- The interlinkages between IL&FS and other financial sector entities such as banks, mutual funds and infrastructure players are too strong and the company would have taken them all down with it if it were allowed to fail.

About National Company Law Tribunal (NCLT)

The Central Government has constituted National Company Law Tribunal (NCLT) under section 408 of the Companies Act, 2013 (18 of 2013) w.e.f. 01st June 2016.

NCLT is a quasi-judicial body, exercising equitable jurisdiction, which was earlier being exercised by the High Court or the Central Government. The Tribunal has powers to regulate its own procedures.

The establishment of the National Company Law Tribunal (NCLT) consolidates the corporate jurisdiction of the following authorities:

1. Company Law Board
2. Board for Industrial and Financial Reconstruction.

3. The Appellate Authority for Industrial and Financial Reconstruction.
4. Jurisdiction and powers relating to winding up restructuring and other such provisions, vested in the High Courts.

Powers of NCLT

The NCLT has been empowered to exercise the following powers:

1. Most of the powers of the Company Law Board under the Companies Act, 1956.
2. All the powers of BIFR for revival and rehabilitation of sick industrial companies;
3. Power of High Court in the matters of mergers, demergers, amalgamations, winding up, etc.;
4. Power to order repayment of deposits accepted by Non-Banking Financial Companies as provided in section 45QA of the Reserve Bank of India Act, 1934;
5. Power to wind up companies;
6. Power to Review its own orders.

The NCLT shall have powers and jurisdiction of the Board for Industrial and Financial Reconstruction (BIFR), the Appellate Authority for Industrial and Financial Reconstruction (AAIFR), Company Law Board, High Courts relating to compromises, arrangements, mergers, amalgamations and reconstruction of companies, winding up etc. Thus, multiplicity of litigation before various courts or quasi-judicial bodies or forums have been sought to be avoided. The powers of the NCLT shall be exercised by the Benches constituted by its President.

[Sensex tumbles](#)

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

In news:

- The bears continue to tighten their grip on the markets, and the BSE Sensex and NSE Nifty both opened with heavy losses.

Below are some of the factors that are spurring on market volatility:

- Fall in the rupee
- Surging oil prices
- Rising bond yields
- Foreign capital outflows - Overseas investors pulling out
- Highly fragile investor sentiment

More liquidity for lending

What are SLR, CRR, and LCR?

- SLR, or statutory liquidity ratio, is a measure of the reserves that commercial banks are required to hold in the form of government bonds, gold, and similar liquid assets.
- CRR, or cash reserve ratio, is a measure of the reserves that banks need to hold in the form of cash.
- LCR, or liquidity coverage ratio, is a measure of highly liquid assets which can easily be converted into cash that banks are required to hold.
- All three are policy tools used by the Reserve Bank of India (RBI) to influence the total amount of reserves held by banks at any point in time.
- These reserve requirements, in turn, influence the amount of loans that banks can extend to borrowers.
- So when the RBI tightens reserve requirements, banks are forced to cut down lending and this causes money supply in the economy to shrink. Money supply rises when reserve requirements are eased by the RBI.

Why are they in the news?

- The RBI last week allowed banks to classify an additional 2% of the value of their SLR investments in government bonds as high-quality liquid assets (HQLAs).
- The move, which could increase the overall amount of assets that can be classified as highly liquid reserves by banks, can increase bank lending and ease the availability of funds in the economy.
- It is estimated that the latest easing of SLR norms by the RBI can release ₹2.5 lakh crore into the economy.
- The decision to reclassify SLR assets is part of the RBI's emergency measures to improve the availability liquidity in the economy.
- Borrowers like non-banking financial companies (NBFCs) have had to to borrow at higher rates after investors turned cautious after infrastructure lender IL&FS's default.
- The RBI hopes that increased bank lending can help ease the crisis.

Do you know?

- The high-quality liquid assets include only those with a high potential to be converted easily and quickly into cash, with no significant loss of value.
- For example Govt. securities are considered as HQLA, because they can be quickly converted into cash, and there is no significant loss in the value of G-secs.

- LCR or liquidity coverage ratio is designed to ensure that banks hold a sufficient reserve of high-quality liquid assets (HQLA), to allow them to survive a period of significant liquidity stress lasting 30 calendar days.

Can they solve the liquidity crisis?

- The injection of fresh money through the banking system can help boost aggregate demand in the economy.
- It, however, remains to be seen whether banks are willing to risk lending money to NBFCs and other financial companies in the current environment.
- The move to ease reserve requirements is unlikely to have any effect until this happens.
- Money market rates, however, did witness an immediate drop after the RBI's emergency measures suggesting that the RBI may be enjoying some success in calming the nerves of investors.

Connecting the dots:

- What are the policy tools used by the Reserve Bank of India (RBI) to influence the total amount of reserves held by banks at any point in time? How these reserve requirements, in turn, influence the amount of loans that banks can extend to borrowers?

Avoiding the currency basket case

General Studies 3

- *Indian Economy and issues relating to mobilization of resources, growth, development*

Introduction

- The current global events have affected rupee value negatively, which started a debate on internationalisation of rupee.
- The Indian rupee was once a multilateral currency, its usage prevalent across the Indian Ocean in places as varied as Java, Borneo, Macau, Muscat, Basra and Zanzibar.
- The historic dhow trade ensured that the Gulf had a familiarity with the rupee for over five centuries, with Oman utilising the 'Gulf rupee' till 1970.

Colonial rupee

- The accession of George V to the throne in 1911, enshrining his rule of the British Raj, led to the issuance of a new rupee coin.

- The colonial rupee leveraged the Mughal rupee's popularity, facilitated by trading communities, migration and the Raj's hegemony.
- The annexation of Sindh, Ceylon and Burma further encouraged the primacy of the rupee in these areas.
- A number of Indian merchant communities had established themselves in such regions, aiding in its convertibility.

After independence

- Even after Independence, Dubai and other Gulf states were using RBI-minted Gulf rupees until 1966.
- Between the 1950s and 1970s, gold smuggling was rampant on the Konkan coast, with a number of Gulf businesses buying gold cheaper in the Gulf in rupees and smuggling it to India.
- Only the devaluation of the Indian rupee in 1966, after the 1965 war, led to such nations switching to their own currencies.
- Now, only Nepal and Bhutan regularly conduct bilateral trade with India in rupees.

Rupee's Valuation and its reasons

- The value of the rupee itself has varied over the years too, the rupee was never equal to the U.S. dollar.
- In 1947, the rupee-dollar rate was at Rs. 3.30. The aforementioned devaluation in 1966 raised it to Rs. 7.50, reaching Rs. 32.4 by 1995.
- This decline was precipitated by a variety of factors – wars with Pakistan and China, the adoption of Five Year Plans requiring foreign loans, political instability and the Oil Price Shock of 1973.
- Of late, the rupee has been declining given higher oil prices and FII outflows from stocks and bonds.
- The ongoing U.S.-China trade war, Iran sanctions and further upward movement in oil prices will continue to test the rupee's valuation.
- Somehow, the rupee always ends up falling just prior to an election – data shows that rupee had depreciated just prior to the election date six times in the past seven elections.

What can be done to control rupee value?

- In situations, the Reserve Bank of India and the Ministry of Finance do have a number of options for stabilisation, including overtly intervening in the forex market, selling non-resident Indian bonds and conducting a sovereign bond issuance.

- To reduce the rupee's dependency on the U.S. dollar, India should consider formalising the rupee payment mechanism with friendly countries such as Russia, with a focus on reducing its overall current account deficit.
- We must continue to guard against fiscal profligacy (reckless extravagance), with any slippage viewed negatively by the currency markets, further encouraging investors to flee Indian markets.
- Industrial growth should be a priority; without having goods to sell, rupee swaps (say with Iran) will be difficult to institutionalise.
- A lower rupee is a recipe for a higher import burden, spiralling eventually into a currency crisis.

Black money strategy

- India's black money strategy should consider **four pillars — it should encourage tax rate rationalisation, reform vulnerable sectors, support a cashless economy and create effective and credible deterrence.**
- Tax rate rationalisation, with lower tax rates as an end goal, would increase the tax base and increase compliance with tax returns.
- Administrative agreements with countries like the U.K. and Switzerland which can offer mutual tax sharing should be encouraged.
- It is important to create a remittance database detailing company transfers out and NGO transfers into India, all reporting to the Financial Intelligence Unit (FIU).
- The Direct Tax Administration's Directorate of Criminal Investigation should be provided the right IT training, infrastructure and funding to become an effective deterrent.
- The audit cycles for income tax, service tax and excise tax departments should be aligned, helping the Large Taxpayer Unit (LTU) become more effective, increasing the scope of simultaneous scrutiny and examination.

Internationalisation of rupee

- Finally, the internationalisation of the rupee is a worthwhile goal to aim for.
- While the Chinese yuan is increasingly being positioned for an alternative reserve currency through a variety of multilateral trades, institutions (the Belt and Road Initiative, the Asian Infrastructure Investment Bank) and swaps, the Indian rupee remains woefully behind in internationalisation.
- China campaigned hard for the inclusion of its currency in IMF's benchmark currency basket in 2015, introducing a range of reforms to ensure that the yuan was considered as "freely usable".

- The RBI, meanwhile, has adopted a gradualist approach – allowing companies to raise rupee debt offshore, enabling the creation of “masala bonds” and allowing foreigners to invest in rupee debt onshore.

Conclusion

- The rupee has transformed from a largely non-convertible pegged currency before 1991 to a managed float.
- The rupee is currently not even in the top 10 traded currencies.
- There is no magic wand to making the rupee appreciate. But institutional resistance against rupee convertibility should be overturned.
- To restore the rupee’s multilateral nature, we must unshackle its usage.

Connecting the dots:

- What is SDR basket? What are the potential benefits for India if rupee gets a place in SDR basket

Focus on inflation — on RBI interest rate

Introduction

- On the basis of an assessment of the current and evolving macroeconomic situation, the Monetary Policy Committee (MPC) has decided to keep the policy rate under the liquidity adjustment facility (LAF) unchanged at 6.5 per cent.
- The decision to stand pat comes even as the central bank changed its policy stance from “neutral” to “calibrated tightening”, indicating that rates could either go up or stay steady in the coming months.

Challenges before RBI

- It was expected that the RBI would raise rates considering the domestic (rising inflation) and global (raising fuel prices and rupee depreciation) economic scenario.
- Bond yields have been on a steady rise since last year as investors have been spooked by fears over the fiscal deficit and the shift in global interest rates.
- Going forward, the biggest challenge facing the RBI will be the prospect of further rate hikes by the U.S. Federal Reserve and central banks in other developed economies, which could force the central bank to look beyond its inflation mandate.

Inflation targeting

- The RBI has chosen to stick to its primary mandate of keeping domestic inflation just around 4%, notwithstanding other risks facing the economy.
- Its dedication to strict inflation-targeting was further reiterated during the press conference after the review meeting where RBI officials termed inflation control as their legal mandate.
- With its strict focus on inflation, the challenge now will be whether the RBI can simultaneously manage the various other risks to financial stability.

Effects of RBI decision

- The rupee weakened past the 74-mark to the U.S. dollar for the first time ever after the news of the RBI holding rates steady hit the markets.
- Stocks, which have been on a downtrend since September, also took a hit on Friday while bond yields fell.

Rationale behind unchanged rates

- The RBI's decision could be termed prudent, particularly after two consecutive increases since June, it can be perceived as a strategy to keep the powder dry just in case external risks get out of hand.
- The decision to keep rates steady might also work in favour of the government, which will prefer to borrow at cheaper rates in the run-up to the general elections next year.
- The RBI's decision to not raise rates may lift the sentiments of consumers and businesses at a time when the economy enters the busy season and festival demand kicks in.
- The RBI seems to prefer piecemeal measures, such as easing foreign investment norms and mild intervention in the forex market, to address the financial risks posed by the weakening rupee.

Do you know?

Monetary Policy Framework

- The Government of India and Reserve Bank of India signed a Monetary Policy Framework Agreement in 2015.
- The objective of monetary policy framework is to primarily maintain price stability, while keeping in mind the objective of growth.
- As per the agreement, RBI would set the policy interest rates and would aim to bring inflation below 6 per cent by January 2016 and within 4 per cent with a band of (+/-) 2 per cent for 2016-17 and all subsequent years.

Monetary Policy Committee (MPC):

- Monetary Policy is announced by MPC which has been setup based on recommendations of Urjit Patel committee.
- MPC consist of six members, 3 from RBI and 3 appointed by the Government.
- Members from RBI are governor of RBI, a deputy governor and one officer of RBI.
- Members from government are appointed on the recommendations of a search cum selection committee headed by cabinet secretary.

Monetary Policy tools:

- **Liquidity Adjustment Facility (LAF):** The LAF consists of overnight as well as term repo auctions.
- The aim of term repo is to help develop the inter-bank term money market, which in turn can set market based benchmarks for pricing of loans and deposits, and hence improve transmission of monetary policy.
- The Reserve Bank also conducts variable interest rate reverse repo auctions, as necessitated under the market conditions.
- **Repo Rate:** The (fixed) interest rate at which the Reserve Bank provides overnight liquidity to banks against the collateral of government and other approved securities under the liquidity adjustment facility (LAF).
- **Reverse Repo Rate:** The (fixed) interest rate at which the Reserve Bank absorbs liquidity, on an overnight basis, from banks against the collateral of eligible government securities under the LAF.
- **Marginal Standing Facility (MSF):** A facility under which scheduled commercial banks can borrow additional amount of overnight money from the Reserve Bank by dipping into their Statutory Liquidity Ratio (SLR) portfolio up to a limit at a penal rate of interest.
- This provides a safety valve against unanticipated liquidity shocks to the banking system.

Conclusion

- The unstable global economic scenario and further rate hikes by the U.S. Federal Reserve and central banks in other developed economies are going to affect Indian economy.
- The RBI will clearly have to juggle multiple challenges in the coming months.

Connecting the dots:

- What is Monetary Policy framework Agreement? Write a short note on Monetary Policy Committee and its functions.

Overhaul GDP norms: MPs

Part of: GS Prelims and Mains III – Indian Economy and issues associated with it

In news:

Report by Estimates Committee of Parliament says –

- The current manner in which the GDP is measured **needs an overhaul** as it provides an **incomplete estimation of economic activity**.
- The current GDP and Gross Value Added measures have also been questioned by Opposition leaders and economists alike. The Opposition even accused the Narendra Modi government of fudging the figures.
- The committee noted that the **GDP calculation did not measure the depletion of natural resources**, a point several economists, including former Chief Economic Adviser Arvind Subramanian, have pointed out.
- The report said the current measure of **GDP did not incorporate the economic contributions of women in running households and maintaining accounts**; nor did it have any measure of whether an increase in GDP resulted in an increase in **happiness**.

Need for change

Why the committee insists that the measurement of India's Gross Domestic Product needs an overhaul? A look at the reasons cited:

- It does not measure the depletion of natural resources
- It ignores the economic contribution of women in running households
- It does not factor the change in the output quality

- due to technological advances
- It does not factor the impact of artificial intelligence in employment
- It does not measure whether GDP adds to happiness of the citizens



Pic:

https://d39gegkjaduz9.cloudfront.net/TH/2018/10/13/DEL/Delhi/TH/5_09/9a2e7e22_245564_3_101_mr.jpg

Nobel in Economics: An economics fix

Introduction

American economists William D. Nordhaus and Paul M. Romer were jointly awarded the 50th economics Nobel prize this week in recognition of their work on economic growth and its long-run sustainability.

Contribution of these two economists

- The Nobel committee noted that the duo's work "brought us considerably closer to answering the important question of how we can achieve sustained and sustainable economic growth".
- The committee's praise is fitting as **both economists devoted their careers to the study of the various "externalities" or "spillovers" that affect economic growth in a market economy.**
- **Mr. Nordhaus**, for one, has been a pioneer in the movement towards **quantifying the impact of economic growth on the climate and, in turn, the impact of climate change on economic growth.**
- To correct this problem, he recommended **imposing appropriate carbon taxes** to curb pollution that was detrimental to growth in the long run.
- **Mr. Romer**, on the other hand, **studied the importance of technology in achieving economic growth.**
- He **proposed the endogenous growth model** where technological progress is seen as the outgrowth of businesses and other entities investing in research and development.
- At the same time, he **recognised ways in which the market economy may undersupply technological innovations.**
- Consequently, he **recommended the use of subsidies, patents and other forms of government intervention to encourage economic growth through increased investment in technology.**
- In essence, the Nobel committee's decision is recognition of economic research concerning market failure.

Criticism

- It may often be **impossible to arrive at an objective measure of the carbon tax rate or the ideal amount of pollution to allow in a developing economy.**
- It is equally troublesome when one needs **to determine how much subsidy, or other forms of government support, should be allotted** towards research and development.
- Even **though mathematical models have been devised** to address these problems, they are only as good as the data fed into them.

- **Further, such decisions** regarding the perfect carbon tax rate or the ideal subsidy allocation are **likely to be determined by political considerations** rather than simply pure economics.
- So **the threat of government failure** may have to be taken as seriously as **the effects of market failure**.
- These concerns lead to questions about the real-world impact of the policies supported by the pair.

Conclusion

- Nonetheless, many would argue that **Mr. Nordhaus and Mr. Romer's works are an improvement from the past** in that they try to use the **market mechanism itself to address its failures.**
- The Nobel committee has done well to **recognise important work on issues that are particularly relevant to the developing world.**

Connecting the dots:

- The environmental “externalities” or “spillovers” that affect economic growth in a market economy are greatest problems before developing countries like India. Elucidate

Need for proper definition of Shell companies

Part of: GS Prelims and Mains III – Indian Economy; basic economic terminologies

About:

Concern with definition of Shell Companies

- As multiple agencies and regulators probe the suspected use of **‘only-on-paper’ firms** for financial irregularities, the government is looking to put in place a proper definition for ‘shell companies’ so that investigations are not hampered and prosecution can withstand scrutiny in courts of law.
- The issue had come up after the government cracked down on dummy companies that were used for round-tripping of funds and money laundering.

Current definition for ‘shell companies’ — a term generally used for companies that are set up for financial manoeuvrings only or are kept dormant for some future use.

Officials express that these companies generally **exist only on paper** and may be used for nefarious activities. Therefore, definition of shell companies should be in line with OECD definition –

- OECD defines a shell company as ‘being formally registered, incorporated or otherwise legally organised in an economy but which does not conduct any operations in that economy other than in a pass-through capacity’.

[UPI to facilitate interoperability among prepaid payment instruments](#)

Part of: Prelims and mains GS III – Banking, inclusive growth, financial inclusion

In News

- The Reserve Bank of India has released the guidelines for interoperability between prepaid payment instruments (PPIs) such as wallets and cards.
- It will effectively allow users of popular payment wallets such as Paytm, Freecharge, Mobikwik, PhonePe and PayZapp, among others, to transfer money from one wallet to another.
- In a circular, the RBI said that wallets could implement interoperability through the Unified Payment Interface (UPI).
- The RBI also allowed PPIs to issue cards using authorised card networks such as Mastercard, Visa or RuPay.
- PPI issuers shall adhere to all the requirements of card networks/UPI, including membership type and criteria, merchant on-boarding, adherence to various standards, rules and regulations applicable to the specific payment system such as technical requirements, certifications and audit requirements, governance, etc.
- The guidelines, while boosting the e-wallet segment, would also ensure the safety and accuracy of the transfer of money by individuals from one wallet to another.
- It is a progressive move for nonbank players and would lay the foundation to reach the under-banked and unbanked segment with a powerful payment product.

[Wealth per adult in India at \\$7,020, China at \\$47,810: Credit Suisse report](#)

Part of: Prelims and Mains GS III – Growth and development; inclusive growth

In News

- India’s wealth has trended upward strongly since the turn of the century, although there was a setback in 2008 due to the global financial crisis and currency fluctuations.
- Globally, Switzerland remains the richest nation in the world in terms of wealth per adult, followed by Australia, with Singapore ranking ninth among major economies.

- India created a whopping 7,300 more millionaires during the 12 months to mid-2018, taking the total number of dollar-millionaires to 343,000, who are collectively worth around \$6 trillion.
- However, the wealth per adult stayed flat at \$ 7,020 (around Rs 515,970) as against \$47,810 in China (Rs 35.14 lakh).
- Annual growth of wealth per adult averaged 8 per cent over 2000–18. While wealth has been rising in India, not everyone has shared in this growth.
- The country has 404,000 adults in the top one per cent of global wealth holders, which is a 0.8 per cent share.
- According to Credit Suisse Wealth report, personal wealth in India is dominated by property and other real assets, which make up 91 per cent of estimated household assets.
- Over the 12 months, non-financial assets grew by 4.3 per cent, accounting for all of the wealth growth in India.
- House-price movements are a proxy for the non-financial component of household assets, which reached a high of 9 per cent for India, it said.

[Direct tax base widens sharply over 4 years, compliance rises](#)

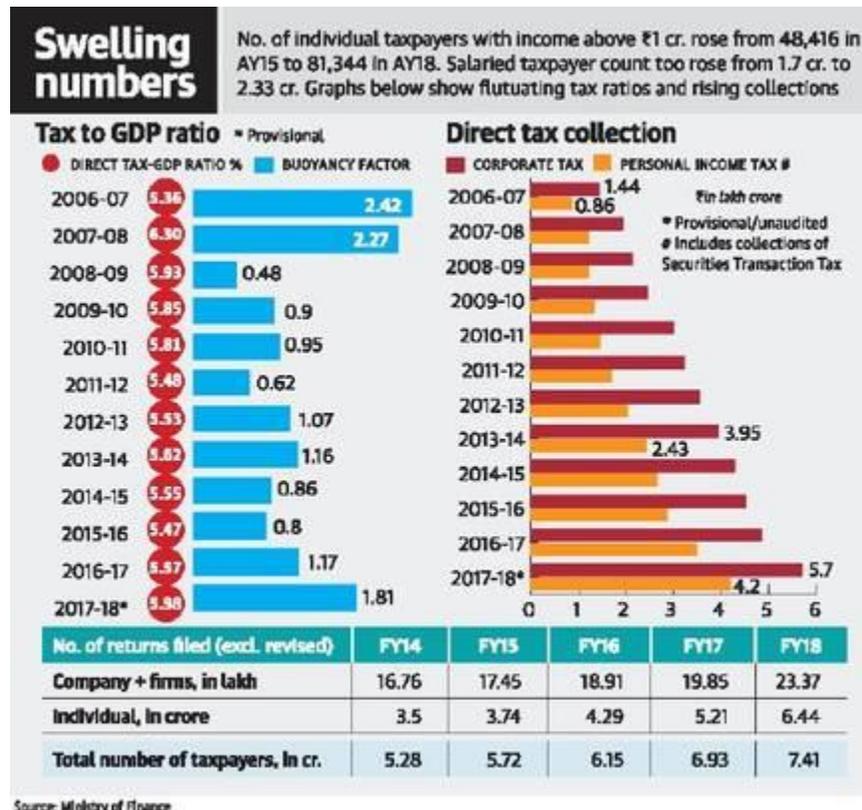
Part of: Prelims and mains GS III – Indian economy: Tax base

In News

- The direct tax base has significantly widened in the last few years, according to new back series data released by the government.
- The data showed a growth of more than 80% in the number of returns filed in the last four financial years from 3.79 crore in financial year (FY) 2013-14 to 6.85 crore in FY 2017-18.
- Further, the number of persons filing income tax returns also increased by about 65% during this period from 3.31 crore in FY 2013-14 to 5.44 crore in FY 2017-18.
- The data is showing higher level of compliance resulting from various legislative and administrative measures taken by the government, including effective enforcement measures against tax evasion.
- Some of the measures; One, the effect of demonetisation, two, the increase in the use of information being collected digitally and being used by the tax department. Three, the movement towards digital assessment and decrease in the number of cases being

picked up for scrutiny, and four, the ease of getting refund, majorly by small and medium taxpayers.

- The data also showed that the direct tax-GDP ratio rose to 5.98% in FY 2017-18, the highest it has been in the last 10 years.



Liquidity squeeze hurts NBFCs

Introduction

- Recently, shares of non-banking financial companies (NBFCs) have witnessed a steep fall in recent weeks after concerns over whether they can successfully meet their short-term dues.
- Housing finance companies (HFCs) in particular were worst affected.
- The current crisis began with the default of Infrastructure Leasing and Financial Services (IL&F) on several of its dues last month.
- The Union government subsequently decided to step in and assure lenders to the company that their money would be paid back safely without any default.

DO you know?

NBFC

- **A Non-Banking Financial Company (NBFC) is a company registered under the Companies Act, 1956** engaged in the business of loans and advances, acquisition of shares/stocks/bonds/debentures/securities issued by Government or local authority or other business institutions.
- It does **not include any institution whose principal business is that of agriculture activity, industrial activity**, purchase or sale of **any goods** or providing **any services** and activities related to **immovable property**.
- A non-banking institution which is a company and has principal business of receiving deposits under any scheme or arrangement in one lump sum or in instalments by way of contributions or in any other manner, is also a non-banking financial company (Residuary non-banking company).
- NBFCs lend and make investments and hence their activities are **similar to that of banks; however there are a few differences as given below:**
- NBFC cannot accept demand deposits;
- NBFCs do not form part of the payment and settlement system and cannot issue cheques drawn on itself;
- Deposit insurance facility of Deposit Insurance and Credit Guarantee Corporation is not available to depositors of NBFCs, unlike in case of banks.
- For more about NBFCs [frequently asked questions on NBFCs](#)

How did they get into trouble?

- Many NBFCs use short-term loans borrowed from the money market to extend long-term loans to their customers.
- This leads to a mismatch in the duration of their assets and liabilities and exposes NBFCs to the substantial risk of being unable to pay back their lenders on time.
- NBFCs usually resort to rolling over, or refinancing, their old short-term debt with new short-term debt to compensate for the mismatch in duration.
- But even though NBFCs usually manage to roll over their short-term debt smoothly, there are times when they may fail to do so.
- Such risk is high particularly during times of crisis when lenders are affected by fear.
- In such cases, they may have to resort to sale of their assets at distress prices to meet their dues.
- This can turn a liquidity crisis into a more serious solvency crisis, wherein the total value of the assets of a company falls below the value of its total liabilities.
- Further, NBFCs also face the risk of having to pay higher interest rates each time they refinance their short-term debt.

- As interest rates rise across the globe, equity investors believe that the cost of borrowing of NBFCs will rise and affect their profit margins.
- Investors may be pricing in the prospect of falling profits for NBFCs in the coming quarters.

Way forward

- It is hoped that banks will offer a helping hand to NBFCs to meet their short-term dues to lenders like mutual funds.
- Many further believe that a widespread financial panic may not be on the cards as the government will act as a lender of last resort. Such bailouts create the risk of moral hazard in the wider financial system.
- NBFCs, for instance, may continue to borrow short-term to extend long-term loans to their customers because they expect the government to bail them out if they get into trouble.
- In fact, some believe that financial institutions in general have traditionally resorted to borrowing short-term to finance long-term loans simply because there is an implicit guarantee extended by the government.
- As the cost of borrowing funds rises, NBFCs may have to settle for lower profits unless they find a way to pass the burden of higher rates on to borrowers.

Connecting the dots:

- What are NBFCs? Explain their role in stability of Indian economy.

In the net: on direct tax base

Introduction

- Government released the new back series data, according to it, **the direct tax base has significantly widened in the last few years.**
- The steps taken by the Union government over the last few years to widen its tax base may finally be yielding some rewards.

Do you know?

Tax to GDP ratio:

- The tax-to-GDP ratio is a ratio of a nation's tax revenue relative to its gross domestic product (GDP).
- The tax-to-GDP ratio drops, when a country's tax revenues grow at a slower rate than the GDP,.

- As tax revenue grows quicker than the GDP, the ratio will increase.
- The government's ability to spend on socioeconomic development depends on the tax to GDP ratio.

Tax buoyancy:

- Tax buoyancy is an indicator to measure efficiency and responsiveness of revenue mobilization in response to growth in the Gross domestic product or National income.
- A tax is said to be buoyant if the tax revenues increase more than proportionately in response to a rise in national income or output.

Analysis of data released by the Central Board of Direct Taxes:

- The total number of tax returns filed in the country increased by over 80% over the last four financial years, from 3.79 crores in 2013-14 to 6.85 crores in 2017-18.
- Further, the direct tax to GDP ratio rose to 5.98% in 2017-18, the highest it has been in the last 10 years.
- The average income reported by individual and corporate taxpayers also witnessed a significant rise in the last three years.
- The total direct tax collection is estimated to be over ₹10 lakh crore in 2017-18, an increase of about 18% from the previous year.
- With tax growth rate surpassing the growth in GDP, the tax buoyancy factor rose to 1.81.
- Reason behind rise in tax compliance
- This rise in tax compliance has been attributed to the various measures taken by the Union government to increase compliance.
- It includes better gathering of information about sources of income, ease of getting refunds, and lowering of various other tax compliance costs.

Criticism

- The widening of the tax base is clearly good news for a government which, from the very beginning of its tenure, has declared its intent to improve tax collections.
- But the contribution of direct taxes to the total amount of taxes collected by the government, which is currently 52.29%, is still below what it was in 2013-14.
- In fact, the share of direct taxes has fallen every single year since 2013-14, except this year.
- It is also far too low when compared to its peak of over 60% in 2009-10.
- In other words, most of the rise in the total tax collection in the last few years has come from indirect tax collections.
- This year, direct tax collection increased at a higher rate compared to the collection of indirect taxes.

Way forward

- A further increase in the share of direct taxes will help the government to lower regressive indirect taxes that impose a significant burden on the poor.
- Direct taxes are also a better choice from the standpoint of economic efficiency as they help avoid the severe distortionary effects of indirect taxes such as the Goods and Services Tax.
- Amidst increasing global tax competition, India is likely to face pressure to bring down corporate tax rates if it wants to maintain its stature as an attractive investment destination.
- Efforts to draft a new direct tax cod are caught in the net bureaucratic delays. There is need to address this issue.

Connecting the dots:

- Even though there is significant increase in direct tax base, there is need to bring the Direct Tax Code. Discuss.

A.P. ranked first, with 10.5% growth

Part of: GS Prelims and Mains III – Indian Economy; Development and Growth

In news:

- Andhra Pradesh has achieved the number one rank in the country with an average growth of 10.5% during the last four years.
- It has surpassed many developed States such as Maharashtra and Gujarat following a “focused approach” and setting high targets for itself.

Key facts:

- Andhra Pradesh is the only State to clock the double-digit growth rate.
- Telangana has slipped to the second place, Maharashtra is ranked sixth. Punjab is placed 14th and Karnataka third.
- Telangana, which registered 6.8% growth in 2014-15 could achieve 10.4% in 2017-18.

AGRICULTURE

Fields of concern — on MSP for kharif crops

General Studies 3

- *Agriculture and issues related to it*
- *Indian economy*

Introduction

- The government approved an increase in the MSP offered for rabi crops.
- The latest hikes are generous, even if they are moderate compared to those fixed for the kharif crop.
- The hikes were announced a day after thousands of angry farmers descended on New Delhi, stopped only by the use of water cannons and teargas.
- This is the latest in a long string of instances that signals the existence of underlying agrarian distress.

Some stats

- By way of comparison, the highest increase over the previous kharif season's MSP was 52.5% for the cereal ragi.
- Now the highest season-on-season hike for the rabi crops is 20.6% for safflower.
- The MSP for wheat has been raised 6.1%, or ₹105 a quintal.
- For mustard, gram and masur dal, the increases are between 5% and 5.3%.
- The government says that with these prices, it has delivered on its promise that farmers will get a price at least 150% above their cost of production, and that their incomes will be doubled over time.

Concerns

- It is not merely the lack of adequate prices for farm output that has led to restiveness — the rise in costs of inputs such as fertilizers and diesel is also a reason for this.
- India's farm sector has multiple stress points, and ground-level procurement often does not take place at stipulated support prices.
- Barring paddy and, to a lesser extent, wheat, the MSP formula doesn't work for most crops in the absence of substantial direct procurement by the government.
- Market prices for cotton are currently close to the MSP, but this is largely because of traders betting that export demand will rise due to the U.S.-China trade war.

Way forward

- A robust mechanism that actually helps farmers get the declared MSP for a crop is being pursued through a price deficiency payment scheme and a private procurement plan.
- This mechanism is still in a nascent stage and is not adequate.
- There needs to be a holistic reboot of the agriculture sector, particularly to address the restrictive trading policies and excessive government interventions that deter productivity enhancements.

Connecting the dots:

- Higher minimum support prices often do not translate into better returns for farmers. Elucidate.

Drought: govt. asks farmers to go for short duration crops

Part of: Prelims and Mains III – Agriculture and related issues

In news:

- Some of the state governments have suggested its farmers to cultivate short duration crops to save themselves against impact of drought.
- Short duration crops include varieties like jowar, horsegram, cowpea, korra, red, green and black gram.
- Due to the drought conditions and deficient rainfall in some states, the farmers have lost four months of kharif season. Hence, long duration crops like paddy, cotton and red gram are not practical.
- Even if a farmer goes for long duration variety, the yield cannot be expected. Hence, the push for millets and pulses.

Role of Zeba

- As part of drought mitigation measures, **the Zeba, a chemical product**, is being used to enhancing the moisture retention capacity of soil on a pilot basis in selected districts of the Andhra Pradesh state.
- It is being given to the farmers under 100% subsidy during kharif.
- The Zeba is expected to help during water-stress periods and overcome the problems caused by deficit rainfall.

[A flower awaits its place under the sun](#)

Part of: GS Prelims and Mains III – Agriculture, Biomedicine

In news:

- For farmers frustrated by the vagaries of monsoon, **Tamil Nadu's State flower, *Gloriosa superba*** is a gold mine waiting to be exploited.
- The plant, which contains 24 types of alkaloids (nitrogenous organic compounds) and 10 non-alkaloidal medicinal compounds, is widely used in native medicinal compositions and in the treatment of gout and as a pain killer in allopathic medicine.
- Its cultivation, though confined to a few pockets in Tamil Nadu, has started to spread in the recent years.

The story of cultivation of *Gloriosa superba*

- The cultivation of *Gloriosa superba* by farmers is an interesting story.
- T. P. Rajendran, a farmer from Sivakasi, who stumbled upon a tuber in his farm in 1970, about which he was clueless, sent it to the Tropical Products Institute, London, for analysis.
- There it was confirmed that this was a plant whose extract was used by the pharmaceutical industry.
- A few months later, he came across a tall plant near Oddanchatram in Dindigul district in the wild.
- When an Italian pharmaceutical company offered to buy *Gloriosa* tuber for ₹250 a kg in 1972, he started to grow the plant under contract farming in several places of Dindigul and the present Tirupur districts.
- In 1980, its export was banned as *Gloriosa* entered the list of endangered species. The same year, export was allowed only for seeds cultivated in farms.
- Enthused by the returns, more farmers took to its cultivation. It is now grown in a few thousands of acres in Dindigul and Tirupur districts among others.
- The average per acre yield is 100 kg but there are farmers who reap 500 kg of seeds. The price has also gone up from ₹250 a kg 30 years ago to ₹3,430 now.

Challenges and concerns

- A major problem in the cultivation of this species is pollination. The peculiar structure of the flower impedes pollination rate.
- Mr. Rajendran has come up with a novel method to tackle this by resorting to 'touch pollination' or manual pollination of implanting pollen grains.
- The other problem is the high cost of raising the plant. But the returns are huge as there is no need to plant it again and again.

- Tamil Nadu farmers contribute the major share of global consumption of 800 to 1,000 tonnes per annum and the demand goes up by 10 to 15% every year.
- Even in the absence of proper marketing facility for Gloriosa, this is the only produce for which the farmer can decide the price.

Helping the invisible hands of agriculture

Introduction

- **October 15** is observed, respectively, as **International Day of Rural Women by the United Nations** and **National Women's Farmer's Day (Rashtriya Mahila Kisan Diwas)** in India.
- In 2016, the Ministry of Agriculture and Farmers' Welfare decided to take the lead in celebrating the event, duly **recognising the multidimensional role of women at every stage in agriculture** — from sowing to planting, drainage, irrigation, fertilizer, plant protection, harvesting, weeding, and storage.
- **This year, the Ministry has proposed deliberations to discuss the challenges that women farmers face** in crop cultivation, animal husbandry, dairying and fisheries.
- **The aim is to work towards an action plan** using better access to credit, skill development and entrepreneurial opportunities.

Data and reality

- According to Oxfam India, **women** are responsible for **about 60-80% of food and 90% of dairy production**, respectively.
- The **Agriculture Census (2010-11)** shows that out of an estimated 118.7 million cultivators, **30.3% were females**.
- Similarly, out of an estimated 144.3 million **agricultural labourers, 42.6% were females**.
- In terms of **ownership of operational holdings**, according to Agriculture Census (2015-16), Out of a total 146 million operational holdings, the percentage **share of female holders is 13.87%** (20.25 million), a nearly one percentage increase over five years.
- **The work by women farmers, in crop cultivation, livestock management or at home, often goes unnoticed.**
- Attempts by the government to impart them training in poultry, apiculture and rural handicrafts is trivial given their large numbers.
- In order to sustain women's interest in farming and also their uplift, there must be a vision backed by an appropriate policy and doable action plans.

- While the “feminisation of agriculture” is taking place at a fast pace, the government has yet to gear up to address the challenges that women farmers and labourers face.

CONCERNS AND THEIR SOLUTIONS:

Issue of land ownership

- **The biggest challenge is the powerlessness of women** in terms of claiming ownership of the land they have been cultivating.
- In Census 2015, **almost 86% of women farmers are devoid of this property right in land** perhaps on account of the **patriarchal** set up in our society.
- Notably, **a lack of ownership of land does not allow women farmers to approach banks for institutional loans** as banks usually consider **land as collateral**.
- Land holdings have doubled over the years with the result that the **average size of farms has shrunk**.
- Therefore, a majority of farmers fall under the small and marginal category, having less than 2 ha of land — a category that, undisputedly, includes women farmers.
- A declining size of land holdings may act as a deterrent due to lower net returns earned and technology adoption.

Solutions

- **Provision of credit without collateral** under the micro-finance initiative of the National Bank for Agriculture and Rural Development should be encouraged.
- **Better access to credit, technology, and provision of entrepreneurship abilities** will further boost women’s confidence and help them **gain recognition as farmers**.
- Research worldwide shows that women with access to secure land, formal credit and access to market, **have greater propensity in making investments in improving harvest, increasing productivity, and improving household food security and nutrition**.
- As of now, women farmers have hardly any representation in society and are nowhere discernible in farmers’ organisations or in occasional protests.
- They are the invisible workers without which the agricultural economy is hard to grow.
- The possibility of **collective farming** can be encouraged to make women self-reliant.
- **Training and skills** imparted to women as has been done by some **self-help groups and cooperative-based dairy activities** (Saras in Rajasthan and Amul in Gujarat). These can be explored further through farmer producer organisations.
- Moreover, **government flagship schemes** such as the National Food Security Mission, Sub-mission on Seed and Planting Material and the Rashtriya Krishi Vikas Yojana **must include women-centric strategies and dedicated expenditure**.

Gender-friendly machinery

- It is important to have gender-friendly tools and machinery for various farm operations. **Most farm machinery is difficult for women to operate.**
- Female cultivators and labourers generally perform labour-intensive tasks (hoeing, grass cutting, weeding, picking, cotton stick collection, looking after livestock).
- In addition to **working on the farm**, they have household and **familial responsibilities**.
- Despite more work (paid and unpaid) for longer hours when compared to male farmers, women farmers can neither make any claim on output nor ask for a higher wage rate.
- An increased work burden with lower compensation is a key factor responsible for their marginalisation.

Solutions

- **Manufacturers should be incentivised to come up with better solutions.**
- **Farm machinery banks and custom hiring centers promoted** by many State governments can be roped in to **provide subsidised rental services to women farmers.**

Access to resources

- When compared to men, **women generally have less access to resources and modern inputs (seeds, fertilizers, pesticides)** to make farming more productive.
- The Food and Agriculture Organisation says that equalising access to productive resources for female and male farmers could increase agricultural output in developing countries by as much as 2.5% to 4%.

Solution

- **Krishi Vigyan Kendras in every district can be assigned an additional task to educate and train women farmers about innovative technology along with extension services.**

Conclusion

- As more women are getting into farming, the foremost task for their sustenance is to assign property rights in land.
- Paying lip service to them is not going to alleviate their labour work and hardships in the fields.
- Once women farmers are listed as primary earners and owners of land assets, acceptance will ensue and their activities will expand to acquiring loans, deciding the crops to be grown using appropriate technology and machines, and disposing of produce to village traders or in wholesale markets, thus elevating their place as real and visible farmers.

Connecting the dots:

- With the ‘feminisation of agriculture’ picking up pace, the challenges women farmers face can no longer be ignored. Analyse the challenges faced by women farmers in India and suggest some measures to alleviate them.

Nutrition on My Plate

Introduction

India’s flagship programme to improve nutritional outcomes for children, adolescents, pregnant women and lactating mothers, the National Nutrition Mission (NNM) or the Poshan Abhiyan, reflects an amalgamation of scientific principles, political fortitude and technical ingenuity.

National Nutrition Mission (NNM) or the Poshan Abhiyan

- The Abhiyan highlights a strong focus on convergent actions from the national to the village level.
- The key nutrition interventions and strategies, which form the core of NNM, contribute to the targets of the World Health Assembly for nutrition and the Sustainable Development Goals (SDGs), dedicating Goal 2 to the challenge of meeting “zero hunger”.

Why Nutritional security?

- Good nutrition is critical to avert the irreversible cumulative growth and development deficits.
- It contributes towards improving maternal and child health, learning outcomes, adult productivity and strengthening gender equality.
- Nutrition security is inextricably linked to food and agriculture, yet, the agriculture sector does not clearly fall within the scope of the Abhiyan.
- However, there are areas where the sector could support the Abhiyan and help to achieve its objectives.

Agricultural production and nutritional security

- For long, the agriculture sector focused on increasing food production — particularly staples, which led to lower production and consumption of indigenous traditional crops/grains, fruits and other vegetables, impacting food and nutrition security in the process.
- Today, globally, 821 million people suffer chronic undernourishment of which 196 million reside in India, according to ‘The State of Food Security and Nutrition in the World 2018’ report.

- The twin burden of malnutrition — that is, undernutrition, along with overweight and obesity, coexists in many countries and its cost to the global economy is equivalent to \$3.5 trillion a year.

Nutritional production in India: changing trends

- The momentum towards a reverse trend, however, is slowly gaining ground, which is reflected in the production record of not only horticulture crops and fruits, but milk too.
- In 2017-18, milk production in India rose to 165 million tonnes from about 35 million tonnes in 1980, also making it one of the largest employers of rural people, especially women.
- India ranks second in fruits and vegetables production in the world, after China.
- As per the National Horticulture Database (2015-16), India produced 90.2 million metric tonnes of fruits and 169.1 million metric tonnes of vegetables.
- The area under cultivation of fruits stood at 6.3 million hectares while vegetables were cultivated at 10.1 million hectares.

Way forward

- The time is opportune for agricultural interventions such as increasing the production of targeted nutrition-rich crops (nutri-cereals), homestead gardens, and diversification of the agricultural production system towards fruits, vegetables and aquaculture, to address the adverse effects of malnutrition.
- Further, with the Poshan Abhiyan advocating the “Triple A” approach, that is building the capacity of ASHA, Anganwadi Worker (AWW) and Auxiliary Nurse Midwife (ANM) workers, there is an opportunity to leverage the agriculture extension services in the country.
- The extension workers have a direct and ongoing contact with smallholder farmers.
- They can be the agents of change for nutritional intervention by leveraging modern technologies to impart nutrition-linked messages for bringing about sustainable behaviour change towards food and nutrition.
- UN agencies such as FAO can provide support to develop and plan targeted activities for capacity building of the agriculture extension agents, so they can promote nutrition-sensitive agriculture.
- The support can help to foster research on areas such as bio-fortification of crops, enhancing production diversity including the coarse grains/millet and food safety.

Conclusion

- The Poshan Abhiyan presents an opportunity for inter-sectoral collaboration that can amplify collective actions to improve nutrition indicators and achieve the goal of “zero hunger” in the country.

- Agriculture is not merely an activity to make “food” available to the people but an indispensable ingredient in this recipe of achieving “sampoorna poshan” for the citizens of this country.
- In line with the Zero Hunger vision, the Food and Agriculture Organisation (FAO) of the United Nations can support ongoing NNM efforts related to dietary diversity through agricultural diversification and sustainable intensification, thus making the agriculture and food system more nutrition-sensitive, climate-resilient and socio-economically viable simultaneously.

Connecting the dots:

- Dietary diversity can make food system nutrition-sensitive, climate-resilient. Elucidate.



ENVIRONMENT

Up in the air

Introduction

- The onset of the winter season has come to be associated with toxic atmospheric pollution in north India.
- This year will be a crucial test for a scheme piloted by the Union government to address the winter haze.

Causes of winter pollution in Delhi

- The road dust and pollution from heavy vehicles are primarily responsible for the noxious pall that sets on Delhi and other urban centres.
- The burning of paddy stubble by farmers to clear their fields for the next crop is considered to be responsible for 20% of the smog.
- Given Delhi's geography, low wind speeds and a spike in local pollution (from vehicles, biomass burning, firecrackers, etc.) raise the particulate matter count dramatically during winter.

Government Steps

- To address this, and under directions from the Supreme Court-constituted Environment Pollution (Prevention and Control) Authority, or EPCA, the Centre is partnering with Punjab, Haryana and Uttar Pradesh to provide farmers with a range of mechanised implements to clear their fields of paddy crop residue to prepare for sowing wheat.
- There is a 50% subsidy to farmers, and a 75% waiver to cooperative societies, agencies that rent out equipment, farmers' interest groups or gram panchayats to buy such machines.
- States have got nearly Rs. 650 crore to help farmers buy subsidised equipment such as Happy Seeder, paddy straw choppers and Zero Till Drill.
- Punjab, which of the three States has the largest acreage under paddy, has a target of procuring 24,315 machines by October 15.
- A task force, headed by the Principal Secretary to the Prime Minister and comprising Environment Ministry officials and Chief Secretaries of these States, have been meeting since January to prepare for the winter.

Concerns

- Reports suggest that many farmers, particularly those with land holdings of less than 5 acres, remain sceptical of the efficiency of these machines.
- Among their concerns is whether these machines will affect productivity. Many have told officials that they are worried there could be damage to the soil.
- Ironically, it was technology that contributed to the problem in the first place.
- The rising cost of labour nudged farmers to adopt mechanised equipment that, while efficient, left behind much longer stalks of paddy than what the traditional practice of removing them by hand did.

Way forward

- Just making technological tools available may not be enough; there needs to be proactive engagement to both persuade and reassure farmers.
- The greater availability of machines and the zero-tolerance policy need to be seen as works in progress to derive lessons on how to refine the crop-clearing process in an ecologically sound manner.
- There must also be a sense of proportion, as 80% of the atmospheric pollution in Delhi in winter draws from sources other than burning stubble.
- To be effective, the fight against pollution must necessarily be broad-based.

Connecting the dots:

- What are the causes of air pollution in Delhi, during winter season? Suggest measures to control it, also mention steps taken by central and local administration.

International Sanitation Convention

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

In News:

- PM Modi addressed an international sanitation convention on the fourth anniversary of the cleanliness mission.
- He said - India was taking the lead on the UN's Sustainable Development Goal on sanitation and was on course to fulfil its commitments 11 years early.
- More than 94% of rural households across the country have now been declared open defecation free in comparison to just 39% when the mission was launched four years ago.
- Mr. Modi also said that the membership of the International Solar Alliance (ISA) — so far restricted to countries between the Tropics of Cancer and Capricorn — would be expanded to include all member countries of the United Nations.

- He urged world leaders to move towards a future of ‘one world, one sun, one grid’ in which countries around the world would share electricity so that none is without it.

About Sustainable Development Goals (Fast Recap)

17 SDGs were adopted by UN member nations in 2015. The deadline to meet them is 2030.



Link:

https://upload.wikimedia.org/wikipedia/en/thumb/2/27/Sustainable_Development_Goals_chart.svg/787px-Sustainable_Development_Goals_chart.svg.png

How to remember all 17 Goals?

I Can HELP

Yes, “I Can HELP” is your answer

| | |
|------------------|--|
| I ² | Industry, Innovation and Infrastructure Inequality |
| Can ⁵ | Clean water and Sanitation Clean Energy Climate Change Cities and Communities Consumption and Production |
| H ² | Hunger Health |
| E ³ | Education Equality |

| | |
|----------------|--|
| | . Economic Growth, Decent Work |
| L ² | . Life below water . Life on land |
| P ³ | . Poverty . Peace and Justice . Partnerships for the Goals |

Champions of the Earth Award

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

In news:

- United Nations Environment Programme honours PM Modi with **United Nation's Top Environmental Award - Champions of the Earth**
- The UN recognised Modi with its highest environmental honor in the policy leadership category for his efforts to **eliminate all single use plastic in India by 2022**.
- President of France, Emmanuel Macron has also been awarded in the same category for his work on the Global Pact for the Environment.
- They were selected for their pioneering work in championing the International Solar Alliance.

Do you know?

- India and France had together launched the ISA on sidelines of the UN climate conference (COP21) in Paris in 2015.
- The ISA is an inter-governmental body of solar rich nations whose objective is to galvanise actions for increasing solar power footprints in 121 potential member countries across the globe.
- The ISA is headquartered in Gurugram near New Delhi in India.
- India's Cochin International Airport - the world's first fully solar-powered airport - is also selected for the award. It is selected in the Entrepreneurial Vision category for its leadership in the use of sustainable energy.
- The annual 'Champions of the Earth' prize is awarded to outstanding leaders from government, civil society and the private sector whose actions have had a positive impact on the environment.

PM Narendra Modi & Environment Conservation: Vision, Actions & Mission



International Solar Alliance

India heralded a global coalition of nations to tackle climate change by leveraging the power of solar energy.



Elimination of single-use plastic in India

Government of India's initiatives towards making the country free of single use plastics have been appreciated by the United Nations.



Contribution to Environment Conservation as the Chief Minister of Gujarat

- Initiatives towards water conservation to provide water security.
- Multi-modal interventions helped Ahmedabad reduce pollution drastically.
- Pro-environment policies led Gujarat to become a hub of renewable energy production.



India's efforts and leadership during COP21 were deeply appreciated globally.



Renewable Energy

Under PM Modi's leadership, India has registered unprecedented growth in the production of energy through renewable sources.



Going a step ahead of discussing climate change, PM Modi is an advocate of climate justice, which places a collective responsibility on the entire humankind to ensure that our future generations inherit a clean and green planet. He has also authored 2 Books on Environment Conservation & Climate Change.

Do you know?

- Mr. Modi said that the membership of the International Solar Alliance (ISA) — so far restricted to countries between the Tropics of Cancer and Capricorn — would be expanded to include all member countries of the United Nations.
- He urged world leaders to move towards a future of 'one world, one sun, one grid' in which countries around the world would share electricity so that none is without it.

In harmony with Mother Nature

Introduction

- The United Nations honoured PM Narendra Modi with the Champions of the Earth Award.
- He feels that this award is not for an individual. Instead, it is recognition of the Indian culture and values, which have always placed emphasis on living in harmony with Mother Nature.
- It was a proud moment for every Indian to see India's proactive role in mitigating climate change being acknowledged and appreciated by the United Nations.

Human and Nature

- Human beings and nature have a very special relationship. Mother Nature has nurtured and nourished us. The first civilisations were established on the banks of rivers. Societies that live in harmony with nature flourish and prosper.
- Today, human society stands at an important crossroads.

- The path that we take hereon will not only determine our well-being but also that of the generations who will inhabit our planet after us.
- The imbalances between our greed and necessities have led to grave ecological imbalances.
- We can either accept this, go ahead with things as if it is business as usual, or we can take corrective actions.

Positive change: Three things will determine how we as a society can bring a positive change.

The first is internal consciousness.

- For that, there is no better place to look than our glorious past. Respect for nature is at the core of India's traditions.
- The Atharvaveda contains the Prithvi Sukta, which contains unparalleled knowledge about nature and the environment.
- It is beautifully written in Atharvaveda: Salutations to Mother Earth. In Her is woven together Ocean and River Waters; in Her is contained Food which She manifests when ploughed; In Her indeed is alive all Lives; May She bestow us with that Life.
- The ancients write about the Panch Tatvas – Prithvi (Earth), Vayu (Air), Jal (Water), Agni (Fire), Akash (Sky) – and how our life systems are based on the harmonious functioning of these elements.
- The elements of nature are manifestations of divinity.
- Mahatma Gandhi wrote extensively on the environment and even practised a lifestyle where compassion towards the environment was essential.
- He propounded the Doctrine of Trusteeship, which places the onus on us, the present generation, to ensure that our coming generations inherit a clean planet.
- He called for sustainable consumption so that the world does not face a resource crunch.
- Leading lifestyles that are harmonious and sustainable are a part of our ethos.
- Once we realise how we are flag bearers of a rich tradition, it will automatically have a positive impact on our actions.

The second aspect is public awareness.

- We need to talk, write, debate, discuss and deliberate as much as possible on questions relating to the environment.
- At the same time, it is vital to encourage research and innovation on subjects relating to the environment.
- This is when more people will know about the pressing challenges of our times and ways to mitigate them.

- When we as a society are aware of our strong links with environmental conservation and talk about it regularly, we will automatically be proactive in working towards a sustainable environment.

Proactiveness is the third facet of bringing a positive change.

- We see this proactiveness in the Swachh Bharat Mission, which is directly linked to a sustainable future.
- With the blessings of the people of India, over 85 million households now have access to toilets for the first time.
- Over 400 million Indians no longer have to defecate in the open.
- Sanitation coverage is up from 39% to 95%. These are landmark efforts in the quest of reducing the strain on our natural surroundings.
- We see this proactiveness in the success of the Ujjwala Yojana, which has significantly reduced indoor air pollution due to unhealthy cooking practices that were causing respiratory diseases.
- Till date, over five crore Ujjwala connections have been distributed, thus ensuring a better and cleaner life for the women and their families.
- India is moving at a quick pace in cleaning its rivers.
- The Ganga, which is India's lifeline, had become polluted in several parts.
- The Namami Gange Mission is changing this historical wrong. Emphasis is being given to proper treatment of sewage.
- At the core of our urban development initiatives such as AMRUT and the Smart Cities Mission is the need to balance urban growth with environmental care.
- The over 13 crore soil health cards distributed to farmers are helping them make informed decisions that will boost their productivity and improve the health of our land, which helps the coming generations.
- We have integrated objectives of Skill India in the environment sector and launched the schemes, including Green Skill Development Programme for skilling about seven million youth in environment, forestry, wildlife and climate change sectors by 2021.
- This will go a long way in creating numerous opportunities for skilled jobs and entrepreneurships in the environment sector.
- Our country is devoting unparalleled attention to new and renewable sources of energy. Over the last four years, this sector has become more accessible and affordable.
- The Ujala Yojana has led to the distribution of nearly 31 crore LED bulbs. The costs of LED bulbs have reduced and so have the electricity bills and the CO2 emissions.
- India's proactiveness is seen internationally. India remained at the forefront of the COP-21 negotiations in Paris in 2015.

- In March 2018, world leaders of several countries converged in New Delhi to mark the start of the International Solar Alliance, an endeavour to harness the rich potential of solar energy and bring together all nations that are blessed with solar power.

Climate justice

- While the world is talking about climate change, the call for climate justice has also reverberated from India.
- Climate justice is about safeguarding the rights and interests of the poor and marginalised sections of society, who are often the biggest sufferers from the menace of climate change.

Conclusion

- Our actions today will have an impact on human civilisation much beyond our time. It is up to us to take on the mantle of global responsibility towards a sustainable future.
- The world needs to shift to a paradigm of environmental philosophy that is anchored in environmental consciousness rather than merely in government regulations.
- All those individuals and organisations who are working assiduously in this direction, deserve compliments. They have become the harbingers of a monumental change in our society.

Connecting the dots:

- Indian culture and values have always placed emphasis on living in harmony with Mother Nature. Elucidate.

India faces threat of deadly heat waves

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

In news:

According to recent UN climate report –

- India to face threat of deadly heat waves
- If the average global temperature rises by more than one degree Celsius from the present, India could “annually” expect conditions like the 2015 heat wave that killed at least 2,000
- The report stated that capping the rise in temperature to 1.5 degrees Celsius would require “rapid and far-reaching” transitions in land, energy, industry, buildings, transport and cities.

The 1.5°C challenge

Introduction

- The Intergovernmental Panel on Climate Change releases its 'special report' on keeping warming to under 1.5°C as compared to pre-industrial times.
- The 2015 agreement, which has become the cornerstone of climate change mitigation efforts worldwide, proposed to keep the increase in global average temperature to below 2°C above pre-industrial levels.
- But the report that was released on recently has found this threshold to be inadequate.

What is IPCC?

- The Intergovernmental Panel on Climate Change (IPCC) is the international body for assessing the science related to climate change.
- The IPCC was set up in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.
- More on: [IPCC Fact Sheet](#)

Observations of the report

- The IPCC believe that complete decarbonisation is not an impossible goal.
- In a break from its tradition of not recommending policy prescriptions, the global body has called for up-scaling low-carbon technologies and increased energy efficiency.
- But such interventions will not be enough and investments will have to move towards afforestation and technology-centred approaches, including ones that involve sucking the greenhouse gas before it reaches the atmosphere.
- The report also emphasises adaptation methods.

Warnings by report

- The world is already 1°C hotter than what it was 150 years ago.
- It could witness greater frequency of droughts and floods, more intense tropical cyclones and increased ocean acidification and salinity if the planet heats by a further 0.5°C. That could happen anytime between 2030 and 2050.
- A more than 1.5°C warming will be precarious, and a 2°C rise would be catastrophic.
- This means that current mitigation efforts — calibrated to stave off calamitous events by 2075 — will require drastic up-scaling.

Concerns

- What is worrying is that the world is not even on course to meet the comparatively conservative demands of a 2°C-rise-in-temperature scenario.
- One of the criticisms of the Paris Accord-mandated Nationally Determined Contributions (NDCs) is that they are insufficient to meet these demands.
- Another major concern is about climate financing, which has remained unresolved.

Climate financing

- The imperative of making communities resilient in the face of global warming and the focus on novel technologies require that urgency is accorded to shoring up climate finances.
- Unfortunately, funding has been the Achilles' heel (a weakness or vulnerable point) of global climate change negotiations.
- As of December 2017, the Green Climate Fund (GCF) — the main instrument of fulfilling the developed countries' collective promise of putting \$100 billion annually into the hat by 2020 — had disbursed less than 10 per cent of its commitment.
- And in July, a meeting of the fund's board ended without a decision on how to bolster the agency's pool.
- The rulebook of the Paris Climate Accord, that is slated to be finalised by the end of the year, is mandated to take care of these concerns.
- It will now also need to factor in the challenges laid out by the IPCC report.

What is Green Climate Fund (GCF)?

- GCF was set up by the countries who are parties to the United Nations Framework Convention on Climate Change (UNFCCC) in 2010, as part of the Convention's financial mechanism.
- It aims to deliver equal amounts of funding to mitigation and adaptation, while being guided by the Convention's principles and provisions.
- GCF helps developing countries limit or reduce their greenhouse gas (GHG) emissions and adapt to climate change.
- When the Paris Agreement was reached in 2015, the Green Climate Fund was given an important role in serving the agreement and supporting the goal of keeping climate change well below 2 degrees Celsius.
- The Fund's investments can be in the form of grants, loans, equity or guarantees.
- More on: [Green Climate Fund](#)

Conclusion

- If there is one message from the latest report of the Intergovernmental Panel on Climate Change (IPCC), it's this: Checking global warming will require major changes in the Paris Climate Pact's targets.

Connecting the dots:

- Checking global warming will require major changes in the Paris Climate Pact's targets. Do you agree? Elucidate.

Another warning on warming

Introduction

- The Intergovernmental Panel on Climate Change (IPCC) has just released a special report on global warming of 1.5°C, over pre-industrial temperatures.
- It provides details on how the global response to climate change needs to be strengthened within the broader context of sustainable development and continuing efforts to eradicate poverty.
- The impacts of 1.5°C of warming and the possible development pathways by which the world could get there are its main focus.

Background

- In 2015, at the Paris climate conference, the global community made a pact to pursue efforts to limit warming to within 1.5°C — half a degree below the previous target of 2°C.
- With the increase in extreme events and the very survival of small islands at stake, the lower limit was greeted then with surprise and enthusiasm.

What is the difference: 1.5°C and 2°C?

- For most people, the difference between 1.5°C and 2°C may seem trivial when daily temperatures fluctuate much more widely. However, the reference here is to global average temperatures.
- Different regions of the earth will warm at different rates. For instance, the Arctic is already experiencing warming that is many times higher than the global average.
- Half a degree of warming makes a world of difference to many species whose chance of survival is significantly reduced at the higher temperature.
- At 1.5°C warming, ocean acidification will be reduced (compared to 2°C warming), with better prospects for marine ecosystems.

- There will likely be less intense and frequent hurricanes, not as intense droughts and heat waves with smaller effects on crops, and the reduced likelihood of an ice-free Arctic in summers.
- Studies conservatively estimate sea levels to rise on average by about 50 cm by 2100 in a 2°C warmer world, 10 cm more than for 1.5°C warming.
- But beyond 2100, the overall assurance of much higher sea level rise is greater in a 2°C world.
- The risks to food security, health, fresh water, human security, livelihoods and economic growth are already on the rise and will be worse in a 2°C world.
- The number of people exposed to the complex and compounded risks will also increase and the poorest, mostly in Asia and Africa, will suffer the worst impacts.
- Adaptation, or the changes required to withstand the temperature rise, will also be lower at the lower temperature limit.
- The danger of crossing tipping points, or thresholds beyond which the earth's systems are no longer able to stabilise, becomes higher with more warming.
- Such tipping points include melting of Greenland ice, collapse of Antarctic glaciers (which would lead to several metres of sea level rise), destruction of Amazon forests, melting of all the permafrost and so on.

Pathways and policies: The IPCC report identifies two main strategies.

- The first stabilises global temperature around the 1.5°C mark with limited overshoot and the second permits temperatures to exceed 1.5°C temporarily before coming back down.
- The consequences of the temporary overshoot would cause worse impacts than the first approach.
- To limit warming to around 1.5°C with no or limited overshoot, global net carbon dioxide (CO₂) emissions need to decline by about 45% from 2010 levels by 2030 and reach net zero around mid-century.
- In comparison, to limit warming to just below 2°C, the reductions needed are about 20% by 2030 and reach net zero around 2075.
- There are several mitigation pathways illustrated to achieve these reductions and all of them incorporate different levels of CO₂ removal.
- Emissions need to peak early within the next decade or so, and then drop.
- These different methods will themselves involve various risks, costs and trade-offs. But there are also many synergies between achieving mitigation targets and fulfilling Sustainable Development Goals.

- To stay below 1.5°C, the transitions required by energy systems and human societies, in land use, transport, and infrastructure, would have to be rapid and on an unprecedented scale with deep emission reductions.

Challenges ahead

- How is the remaining carbon budget, that is the room available in the atmosphere to safely contain more CO₂, going to be shared among different countries?
- This is a difficult question to address, given the contentious nature of the negotiations.
- For instance, that the U.S. has been obstructionist in the deliberations in Incheon, South Korea, at the recent meeting to determine the final text of the report.
- The U.S. also reiterated its intent to pull out of the Paris Agreement.
- Contributions from the U.S. and other rich countries to the Green Climate Fund and other funding mechanisms for the purpose of mitigation and adaptation are vital even to reach the goals of the Nationally Determined Contributions (NDCs).
- Even if all the NDCs are implemented, the world is expected to warm by over 3°C.

Conclusion

- Disputes over the implementation of the Paris Agreement at numerous meetings depict the deep divides among rich countries, emerging economies and least developed countries.
- This special report poses options for the global community of nations, which they will have to contend with in Poland — the next Conference of the Parties.
- Each will have to decide whether to play politics on a global scale for one's own interests or to collaborate to protect the world and its ecosystems as a whole.

Connecting the dots:

- Disputes over the implementation of the Paris Agreement depict the deep divides among countries but the window of opportunity to take action is very small and closing fast. Comment in the light of IPCC report on keeping warming to under 1.5°C as compared to pre-industrial times.

[Pollution forecast system unveiled](#)

Part of: GS Prelims and mains III – Environment issues; Pollution; Role of technology

In news:

- The Central government announced a pollution forecast system that can alert, three days in advance, about the likelihood of extreme pollution events and dust storms.

- The National Centre for Medium Range Weather Forecasting, the IMD and the Indian Institute of Tropical Meteorology, Pune, are involved with developing the application.
- The system is expected to be made available to the public soon via the CPCB and the Environment Pollution Control Authority.

Unclogging our oceans

General studies 3

- **Environment: Water Pollution and its mitigation**
- **Biodiversity**
- **Fisheries**

Introduction

- In March 2018, fishermen hauled 400 kg of fishing nets out of the sea in a few locations off Kerala's south coast.
- There are many such reports of divers regularly making underwater trips just to extract nets that have sunk to the ocean floor off India's coasts, ranging from Tamil Nadu to Maharashtra.
- The problem of ghost gear (any fishing equipment that has been lost, discarded or abandoned in water bodies) has grown from fishing fallout that people had not heard of to one that is now difficult to ignore.

Some findings

- Between 2011 and 2018 alone, the Olive Ridley Project, a U.K. registered charity that removes ghost nets and protects sea turtles, recorded 601 sea turtles being entangled in ghost gear near the Maldives, of which 528 were Olive Ridleys.
- Olive Ridleys are the same species that come in thousands to Odisha's coasts to nest. Other casualties worldwide include whales, dolphins, sharks and even pelagic birds.
- In 2016, when a team of marine biologists reviewed 76 publications and other sources of literature on ghost gear from across the world, they found that over 5,400 marine animals belonging to 40 different species were recorded as entangled in ghost gear, or associated with it.
- This analysis also showed a huge gap in data from the Indian, Southern and Arctic Oceans, prompting the team to recommend that future studies focus on these areas.
- Yet, two years later, there are still no data pertaining to the extent of prevalence of ghost gear off India's coast.

- And data is crucial here, for the detrimental effects of these nets also spillover into other countries and oceans.

Consequences of marine debris

- The effects of ghost nets are evident and tug at heartstrings.
- Images of turtles tangled in nylon and of beautiful blue oceans blemished by a mist-like white net floating about highlight the plight of marine life and prompt immediate action.
- But the consequences of overfishing, using nets of the smallest mesh size, and illegal fishing are far less visible, though more worrying.
- Entire fishing communities are affected by these actions, especially in developing countries like India where the demand for fish keeps rising.
- Ghost nets are often 'ghost fishers'. Ocean currents carry them for thousands of km across the ocean floor, ensnaring, injuring and drowning marine life and damaging live corals along the way.
- Discarded Indian and Thai fishing nets, for instance, have been fished out of Maldivian coasts, reports a study that examined 74 separate ghost net collections between 2013 and 2014.

What is being done to control the situation?

- Scientists at Kochi's Indian Council of Agricultural Research-Central Institute of Fisheries Technology studied ghost nets in Gujarat, Andhra Pradesh, Kerala and Tamil Nadu.
- According to the scientists, the government is also currently preparing a national ghost net management policy.
- While that would be an extremely welcome and timely move to tackle the growing ghost gear phenomenon, a larger question remains.
- When bigger violations, such as large vessels fishing where they are not supposed to, are not checked, there is less possibility that a policy on the management of ghost nets would be implemented.

Transforming used nets

- To address the problem of ghost gear there are numerous innovative solutions to tackle it, if we can learn from projects across the world.
- In countries like Canada and Thailand, fishermen retain their used nets; these are recycled into yarn to craft socks and even carpet tiles.
- For the first time in a developing country, a gear-marking programme is being tested in Indonesia so that the trajectory of gear, if it drifts away, can be studied better.
- Outreach and education among fishing communities would be crucial along with policy level changes.

- In one instance in India, ghost nets hauled from Kerala's Kollam have been used to pave roads.

Conclusion

- India can emulate innovative solutions from across the world to tackle the problem of ghost gear.
- More efforts to make the process more organised across the over 7,500 km of India's coasts, as well as inland water bodies, are the need of the hour.

Connecting the dots:

- Due to a long coast line and a large population dependent on fishing, ocean debris is one of the most challenging problems for India. Analyse.

[Delhi: PM 1 concentration in air increasing, scientists say trend cause for worry](#)

Part of: Prelims and mains GS III – Environment and ecology: Pollution

In News

- The new air quality monitoring station at Chandni Chowk, which measures the concentration of Particulate Matter (PM) 1, has thrown up worrying results.
- According to the data collected by the Ministry of Earth Science's System of Air Quality and Weather Forecasting and Research (SAFAR), the concentration of the particle, which is under 1 micron in size, touched 54.32 micrograms per cubic metre on October 16.
- This was the highest this season so far.
- There are no national or international acceptable standards for PM1 concentration in the air, unlike those for PM2.5 and PM10.
- But studies across the world have indicated a link between the pollutant and cardiovascular disease.
- Currently, PM1 is considered part of PM 2.5 pollutant, but after building adequate infrastructure to measure the concentration of bigger particles, the Centre and the state have started to build equipment to measure smaller particles as well.
- Delhi has close to 40 air quality monitoring stations, all of which measure the concentration of PM 2.5 and PM 10 along with that of gases like ozone, nitrogen dioxide and carbon monoxide.
- The SAFAR station at Chandni Chowk is the only one measuring PM1, trends show that PM 1 is a significant part of the PM 2.5 that is being measured at most other stations.

Fines fail to deter stubble burning

Part of: GS Mains III – Environment concerns; Pollution

In news:

- Between September 27 and October 14, the Punjab Pollution Control Board (PPCB) imposed ₹8,92,500 as fines — or “environmental compensation cess” as it is officially called — on farmers burning paddy stubble. However, they collected only ₹3,05,000, according to figures from the organisation.

Do you know?

- The Centre and the States — Punjab, Haryana and Uttar Pradesh — have declared a “zero tolerance” policy on the burning of stubble for farmers.
- Stubble burning contributes anywhere from 17% to 78% to the particulate matter-emission load in the city during winter.
- Government has disbursed ₹591 crore to the above States to sell subsidised farm implements that can do away with stubble without having to burn them.
- Study shows that - fines fail to deter stubble burning.

Where Ganga meets the Bay of Pollution

Part of: Prelims and mains GS I & III – Culture, Environment and ecology

In News

- An exponential increase in the number of pilgrims coming to the Ganga Sagar Mela, which takes place at the Sagar Island every year during Makar Sankranti, has been responsible for the worsening water pollution, prompting scientists to raise serious concerns about the likely outbreak of several diseases.
- The number of pilgrims descending on the Sagar Island to take a dip at the place where the Ganga meets the Bay of Bengal, has risen from 2 lakh in 1990 to 20 lakh in 2018.

Health concerns

- It is found that diseases like cholera, dysentery, and skin disease were predominant in the post-Ganga Sagar Mela period.
- It was noted that the focus of the administration is mostly on managing the mela, and that it should also manage the pollution with sustainable strategies.
- Several studies have shown that the island is at the frontline of climate change, facing serious erosion due to rising sea level and tidal surges.

Do you know?**Sagar Island:**

- Sagar island is an island in the Ganges delta, lying on the continental shelf of Bay of Bengal about 100 km (54 nautical miles) south of Kolkata.
- Although Sagar island is a part of Sunderban Administration, it does not have any tiger habitation or mangrove forests or small river tributaries as is characteristic of the overall sunderban delta.
- This island, also known as Gangasagar or Sagardwip, is a place of Hindu pilgrimage. Every year on the day of Makar Sankranti (14 January), hundreds of thousands of Hindus gather to take a holy dip at the confluence of river Ganges and Bay of Bengal and offer prayers (puja) in the Kapil Muni Temple.
- The Gangasagar fair and pilgrimage is held annually on Sagar Island's southern tip, where the Ganges enters the Bay of Bengal. This confluence is also called Gangasagar or Gangasagara.
- Near the confluence is the Kapil Muni Temple. The Gangasagar pilgrimage and fair is the second largest congregation of mankind after the triennial ritual bathing of Kumbha Mela.

Neelakurinji flowers fail tourists

Part of: Prelims and mains GS III – Biodiversity

In News

- Large number of tourists who could reach Mullayyana Giri and Seethalayyana Giri hoping to catch a glimpse of the flowers returned disappointed.
- Neelakurinji flowers, a shrub belonging to the genus Strobilanthes, blossom once in 12 years.

'In urban U.P., 87% of waste from toilets goes to rivers, farmlands'

Part of: Prelims and mains GS III – Environment and ecology: Pollution

In News

- While urban Uttar Pradesh has 80% coverage of toilets, inefficient sanitation systems ensure that almost 87% of the excreta being generated by these toilets is being dumped

in water bodies or agricultural lands, according to a new analysis of 30 cities by the Centre for Science and Environment.

- With 2019 just round the corner, the number of toilets and onsite sanitation systems being built in the State are all set to increase exponentially — if not managed scientifically and sustainably, the amount of faecal sludge that these new toilets will generate will swamp the State.
- The report argues that building more toilets will only worsen the environmental, sanitation and manual scavenging situation, unless sewerage connections increase from the current 28% of households in the 30 cities studied.
- Onsite sanitation systems — such as septic tanks or pit latrines — are far more prevalent, and are used by 47% of households.

Manual scavengers

- Without a sewerage system, the effluent from the septic tank, along with greywater from the kitchen and bathroom flows out into stormwater drains and open drains or nullahs.
- The faecal sludge, on the other hand, has to be periodically emptied from the septic tank, either manually or mechanically using vacuum trucks or tankers.
- CSE's analysis found that half of all emptying work in these cities is done manually, despite the legal prohibition of the employment of manual scavengers.
- Over a six month period, researchers mapped excreta flow diagrams for 30 cities divided into four clusters by population.
- In cities with a population over 10 lakh, such as Lucknow, Kanpur and Agra, the sewerage system covers 44% of the population.
- However, only 28% of that wastewater is safely treated. A third of the population is dependent on septic tanks connected to open drains, while 4% of the population still defecate in the open.
- Overall, 44% of the waste generated is safely treated and managed.

Worse in small cities

- The situation is much worse in smaller cities. In cities with a population between five and 10 lakh, more than 70% of the population is dependent on tanks connected to open drains, and only half of them would actually qualify as septic tanks.
- Of the five cities in this cluster, only Jhansi has a designated disposal site. Overall, only 18% of waste and sludge is safely managed.
- In cities with a population between 1.2 lakh and five lakh, only 9% of waste and sludge are safely managed, while in the fourth cluster of cities whose populations are less than 1.2 lakh, that figure drops to a mere 4%.

SC moves to make festivals less noisy

Part of: GS Mains II and III – Health issue; Pollution; Environmental concerns

In news:

- The article deals with **right to public health**.
- Supreme Court held that **only green or improved crackers** would be used during religious festivals and other occasions, including weddings.
- It has **fixed time limit** - for bursting crackers during Deepavali and other festivals to two hours: between 8 p.m. and 10 p.m.
- For Christmas and New Year, the time slot allowed is half-an-hour, between 11.55 p.m. and half-past midnight.
- CPCB (Central Pollution Control Board) and PESO to make collaborative efforts for setting up of standards with regard to air pollution caused by the bursting of fire-crackers.
- The judgment said though the right to health was part of the fundamental right to life under Article 21 and assumed “greater importance,” the “endeavour” of the court right now was to strive for a balance between the right to public health and the right to occupation of the industry.

Less bang for the buck

TIME LIMIT: Deepavali: 8 p.m.-10 p.m.
Christmas, New Year's eve: 11.55 p.m.-12.30 a.m.

■ Petroleum and Explosives Safety Organisation (PESO) to clear all firecrackers

■ PESO will review the composition of fireworks to test for presence of banned chemicals like lithium, arsenic, lead and mercury; to submit report in 2 weeks

■ Blanket ban on online sale of firecrackers

■ Ban on barium salts in crackers

■ Ban on series crackers or 'laris'

■ In case of violations, the Station House Officer will be liable for contempt of court



Pic:

https://d39gegkiaqduz9.cloudfront.net/TH/2018/10/24/DEL/Delhi/TH/5_01/298c4cf2_247857_1_101_mr.jpg

Important Value Additions:

About Petroleum and Explosives Safety Organisation (PESO)

- PESO is the apex department to control and administer manufacture, storage, transport and handling of explosives, petroleum, compressed gases and other hazardous substances in India.
- It functions under the Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry.
- It is headed by Chief Controller of Explosives
- It is headquartered at Nagpur, Maharashtra.
- It is responsible for the administration of a host of laws pertaining to the regulation of explosives. These include the Explosives Act, 1884; the Inflammable Substances Act, 1952 and the Explosives Rules, 2008.
- The PESO has been testing samples of crackers only for adherence to the sound limit of 125 decibels at a distance of four meters.

SC to ban sale of BS-IV vehicles from 2020

Part of: GS Prelims and Mains III – Environmental concerns; Pollution

In news:

- The Supreme Court banned the sale and registration of motor vehicles conforming to the emission standard Bharat Stage-IV in the entire country from April 1, 2020.
- It said - 'No compromise on public health'
- The country will have to shift to the cleaner Bharat- VI fuel from April 1, 2020.

About Bharat Stage (BS) emission norms

- BS norms are standards instituted by the government to regulate output of air pollutants from motor vehicles.

Do you know?

- The BS-IV norms have been enforced across the country since April 2017. In 2016, the Centre had announced that the country would skip the BS-V norms altogether and adopt BS-VI norms by 2020.

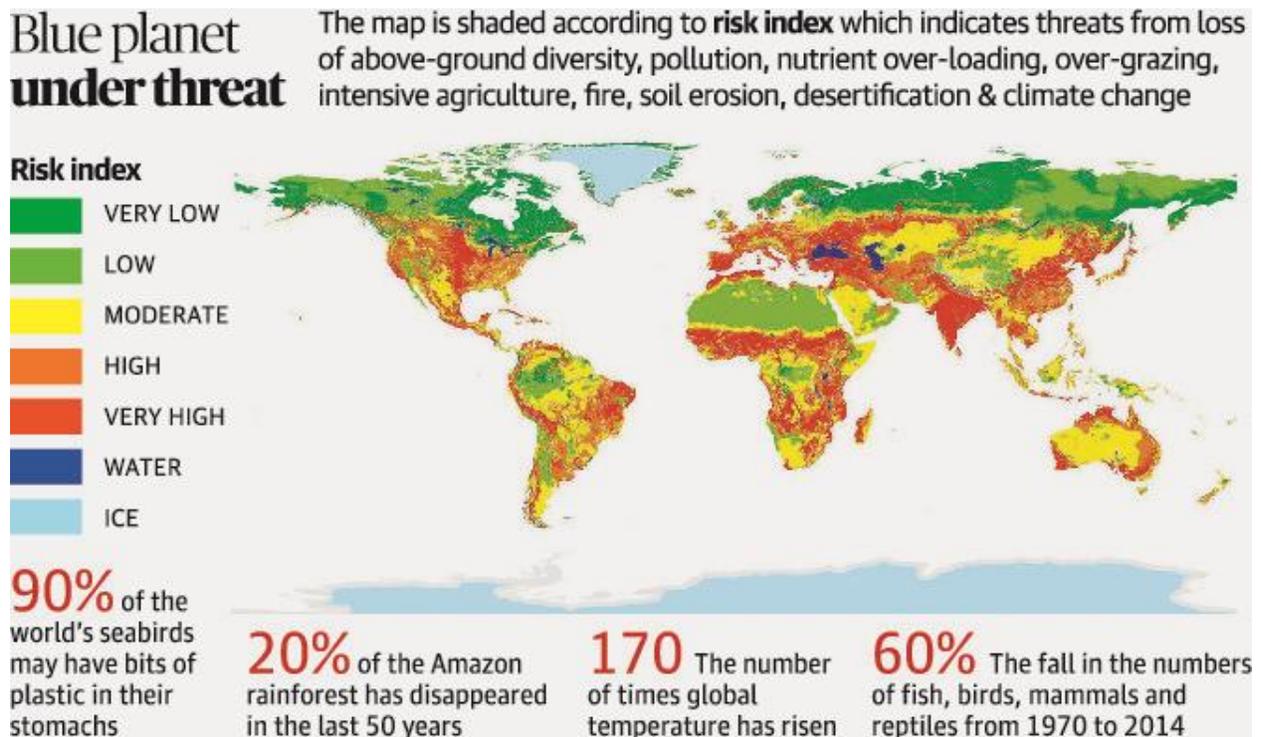
[WWF report on India's declining soil biodiversity and pollinators population](#)

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

In news:

According to the **Global Soil Biodiversity Atlas** prepared by the **European Commission Joint Research Centre** –

- India among nations whose soil biodiversity faces the highest level of risk.
- India, Pakistan, China, several countries in Africa and Europe, and most of North America - have been coloured red on the Atlas



Pic:

https://d39gegkjaqduz9.cloudfront.net/TH/2018/10/31/DEL/Delhi/TH/5_07/1a73f8d1_2494995_101_mr.jpg

Do you know?

- Soil biodiversity encompasses the presence of micro-organisms, micro-fauna (nematodes and tardigrades for example), and macro-fauna (ants, termites and earthworms).
- The WWF's 'risk index' for the globe — indicates threats from loss of above-ground diversity, pollution and nutrient over-loading, over-grazing, intensive agriculture, fire, soil erosion, desertification and climate change.

According to the **Living Planet Report (LPR) 2018** prepared by the **World Wide Fund for Nature**

- Human activities pushing the planet to the brink.
- There has been a 60% decline in the size of populations of mammals, birds, fish, reptiles, and amphibians in just over 40 years.
- There has been drastic decline in populations of pollinators. (For instance, while 150 million bee colonies were needed to meet the pollination requirements of about 50 million hectares of agricultural land in India, only 1.2 million colonies were present.)

The above two recent studies have focused on the dramatic reductions in bee and other pollinator numbers and on the risks to soil biodiversity, critical to sustain food production and other ecosystem services.

The two key drivers of biodiversity loss were the over exploitation of natural resources and agriculture.

While India's per capita ecological footprint was less than 1.75 hectares/person (the lowest band among countries surveyed), its high population made it vulnerable to an ecological crisis, even if per-capita consumption remained at current levels, the WWF warned.

Do you know?

- The majority of flowering plants are pollinated by insects and other animals. It has been estimated that the proportion of animal-pollinated wild plant species rises from an average of 78% in temperate-zone communities to 94% in tropical communities.

[World Wildlife Fund "Living Planet" report 2018](#)

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

The WWF Living Planet Index tracks more than 4,000 species spread across nearly 17,000 populations.

Below are the key findings:

Crashing populations

- From 1970 to 2014, the number of animals with a backbone — birds, reptiles, amphibians, mammals and fish — plummeted across the globe, on average, by about 60%.
- For freshwater vertebrates, losses topped 80%. Geographically, South and Central America have been hit hardest, with 89% less wildlife in 2014 than in 1970.

Disappearing species

- The index of extinction risk for five major groups — birds, mammals, amphibians, corals and an ancient family of plants called cycads — shows an accelerating slide towards oblivion.
- Depending on which categories are included, the current rate at which species are going extinct is 100 to 1,000 times greater than only a few centuries ago, when human activity began to alter the planet's biology and chemistry in earnest.
- By definition, this means that Earth has entered a mass extinction event, only the sixth in half-a-billion years.

Breaching boundaries

- In 2009, scientists weighed the impact of humanity's expanding appetites on nine processes — known as Earth systems — within nature. Each has a critical threshold, the upper limit of a "safe operating space" for our species.
- The do-not-cross red line for climate change, for example, is global warming of 1.5°C, according to a new U.N. report.
- So far, we have clearly breached two of these so-called planetary boundaries: species loss, and imbalances in Earth's natural cycles of nitrogen and phosphorous (mainly due to fertiliser use).
- For two others, climate and land degradation, we have one foot in the red zone. Ocean acidification and freshwater supply are not far behind. As for new chemical pollutants such as endocrine disruptors, heavy metals, and plastics, we simply don't know yet how much is too much.
- More generally, the marginal capacity of Earth's ecosystems to renew themselves has been far outstripped by humanity's ecological footprint, which has nearly tripled in 50 years.

Shrinking forests

- Nearly 20% of the Amazon rainforest, the world's largest, has disappeared in five decades. Tropical deforestation continues unabated, mainly to make way for soy beans, palm oil and cattle.
- Globally, between 2000 and 2014, the world lost 920,000 sq. km of intact or "minimally disturbed" forest, an area roughly the size of Pakistan or France and Germany combined. Satellite data shows the pace of that degradation picked up by 20% from 2014 to 2016, compared with the previous 15 years.

Depleting oceans

- Since 1950, our species has extracted 6 billion tonnes of fish, crustaceans, clams, squids and other edible sea creatures. Despite the deployment of increasingly sophisticated

fishing technologies, global catches — 80% by industrial fleets — peaked in 1996 and have been declining since.

- Climate change and pollution have killed off half of the world's shallow water coral reefs, which support more than a quarter of marine life. Even if humanity manages to cap global warming at 1.5°C — which many scientists doubt is possible — coral mortality will likely be 70 to 90%.
- Coastal mangrove forests, which protect against storm surges made worse by rising seas, have also declined by up to half over the last 50 years.



ANIMALS/NATIONAL PARKS IN NEWS

National Park/Sactuary in news:

Locate and mark the following location on your Atlas/Outline map of Odisha state

- Simlipal National Park
- Gahirmatha Marine Sanctuary
- Chilika Wildlife Sanctuary
- Satkosia Tiger Reserve
- Ushakothi (Badrama) Wildlife Sanctuary
- Bhitarkanika National Park
- Sunabeda Wildlife Sanctuary

Gir sees 21 lion deaths in 19 days

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

In news:

- As many as 21 lions have died in Gujarat's Gir forest since September 12.
- Gir is considered as only abode of Asiatic lions in the world.
- Gir is home to India's entire population of around 500 wild Asiatic lions.
- Reason - Infighting and infections in liver and kidney are the main causes for the recent death of lions.
- Relentless development near Gir — roads through the forest in the 1,400-square kilometre-wildlife sanctuary, expanding villages and illegal mining — is also forcing animal-human proximity.

Do you know?

- IUCN Status: Endangered
- The lion is one of five pantherine cats inhabiting India, along with the Bengal tiger, Indian leopard, snow leopard and clouded leopard.
- It was also known as "Indian lion" and "Persian lion".

Next steps at Gir: On deaths of lions

Introduction

- The magnificent Asiatic lion is under threat. Twenty-three lions have died in as many days in the eastern part of Gujarat's Gir sanctuary.
- Preliminary reports said that the cats have been killed by disease, most likely to be infectious. Some others have died due to poisoning and infighting.
- While mass mortalities in wildlife are always a cause for concern, this case is even more worrisome as the big cat population in Gujarat is the last of the Asiatic lions in the wild.
- In 2013, the Supreme Court had issued an order that lions from Gujarat be relocated to the Kuno sanctuary in Madhya Pradesh as a check against the threat of epidemic.
- The Supreme Court, noting that the death of so many lions was a serious matter, asked the Central government to look into it.

Why SC asked for relocation?

- Asiatic lion has been restricted to only one single habitat, i.e. the Gir National Forest and its surrounding areas and an outbreak of possible epidemic or natural calamity might wipe off the entire species.
- A smaller population with limited genetic strength are more vulnerable to diseases and other catastrophes in comparison to large and widespread population.
- 30% of the lion population in Tanzania's Serengeti was killed due to an outbreak of canine distemper, a viral disease that affects animals.

Why relocation not done yet?

- Gujarat's response to this was that lions are now spread over the Greater Gir region and this reduces the threat.
- It has also had an intense, managerial response to the disease — when ill, lions are routinely picked up, medically treated, and then released.
- Even wild animals are subject to State politics. Gujarat has been unwilling to part with its lions, calling them "its pride" in an affidavit.

Debate: natural or artificial conservation?

- Wildlife conservation concerns itself with maintaining ecological processes and reducing threats to endangered species.
- It does not entail treating wild animals for disease (in the way domestic animals are) as this can go against the processes of natural selection.
- Treating wild animals appears to be a caring thing to do. But it is not conducive to the 'natural' process of life and death, and ultimately compromises immunity.

- Another celebrity example of this kind of management was Machli, the tigress from Ranthambhore in Rajasthan. Known as the world's most photographed tigress.
- She lived for 20 years before her death in 2016. This is because she was treated medically, and often fed artificially.
- When wild animals go extinct locally, they are reintroduced — as in the case of tigers in Sariska, Rajasthan.
- When hungry, they are fed artificially, and even provided salts as supplements, an example being the Hangul (Red deer) population in Dachigam, Jammu and Kashmir.
- In other parts of India, wild animals are funnelled through artificial trenches, barriers and fences.
- This is wildlife conservation in the age of man, where protected areas sometimes resemble zoos.
- Yet even the most flexible of conservationists would agree that intensive artificial medical treatment of wild animals does not augur well for long-term sustainability.
- The role of wildlife managers should be to reduce unnatural threats, not unnaturally prolong life.
- While Gujarat has done a good job of conserving its lions, it should also turn its attention to reducing the drivers of disease, which includes controlling feral dog populations.

On metapopulations

- Gujarat submitted before the Supreme Court that one of the reasons it did not want to part with the lions was because there are metapopulations in the State.
- Metapopulations may be geographically separate but have interactions and an exchange of individuals.
- Gujarat had said to the Supreme Court that the current Asiatic lion population is not a single population confined to one place. It consists of "metapopulation" spread over several locations within the Greater Gir Region.
- Crucially though, these areas are connected to each other and this does not address the main concern of creating geographically distant populations.

Way forward

- Gujarat should work towards colonising new habitats outside the Gir landscape within the State. However, there are spatial limitations in this industrialised State.
- An option is the Barda wildlife sanctuary. But Barda is close to Gir, and this cannot be confused with creating isolated populations. It would simply mean increasing suitable lion range from its present, much smaller area.

- There is no getting around the fact that a geographically separate population of Asiatic lions needs to be created.
- A good track record for lion conservation does not in any way preclude a good long-term strategy.

Connecting the dots:

- The recent lion deaths in Gir sanctuary are more worrisome as the big cat population in Gujarat is the last of the Asiatic lions in the wild. What are the possible steps you would suggest for conservation of Asiatic lion population?

ICMR confirms Canine Distemper Virus killed Gir animals

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

In news:

- Indian Council for Medical Research (ICMR) has confirmed that the **Canine Distemper Virus (CDV)** was responsible for lion deaths in the Gir forest of Gujarat
- It recommended that the remaining lions be vaccinated to prevent further outbreaks.

Do you know?

Fast recap:

- IUCN Status: Endangered
- The lion is one of five pantherine cats inhabiting India, along with the Bengal tiger, Indian leopard, snow leopard and clouded leopard.
- It was also known as “Indian lion” and “Persian lion”.

Windmills pose threat to wildlife: says Study

Part of: GS Prelims and Mains III – Environment versus development; Conservation of biodiversity

In news:

- Windmills are seen as a source of green energy, but researchers say they pose a threat to wildlife in forests through collisions and noise.
- Study by researchers from **Salim Ali Centre for Ornithology and Natural History (SACON)** found that windmills killed birds and bats in collisions, and that birds and mammals also moved away due to the noise. (leads to conflict with humans)

About Salim Ali Centre for Ornithology and Natural History

- Sálim Ali Centre for Ornithology and Natural History (SACON) is a national centre for information, education and research in ornithology and natural history in India.
- It was inspired by and named in honour of Salim Ali, the leading pioneer of ornithology in India.
- It is an autonomous organisation established in 1990 as a public- NGO partnership between the MoEF&CC, and the Bombay Natural History Society(BNHS) under the Centre of Excellence Scheme and registered under the Indian Societies Registration Act.
- Its headquarters are at Anaikatti, Coimbatore, Tamil Nadu, India.
- SACON is associated with the Ministry of Environment and Forests.
- SACON's mission is: *"To help conserve India's biodiversity and its sustainable use through research, education and peoples' participation, with birds at the centre stage".*

Do you know?

- The noise levels near windmills go up to 85 decibels (dB) , which operates day and night.
- By comparison, noise in urban areas is 55 dB and even in industrial areas, is lower at 75dB.
- Ambient noise in forests is less than 40 dB.

Mammals of India (MaOI)

Part of: GS Prelims and Mains III – Conservation of animals

In news:

- Scientists and researchers from the National Centre for Biological Sciences (NCBS) in Bangalore have come up with a new citizen-science repository on Indian mammals, called Mammals of India (MaOI).
- Mammals of India (MaOI) is an online, peer-reviewed, freely-accessible portal – The website provides an opportunity to anyone to upload photographic observations on mammals to be reviewed by experts and uploaded on the website.

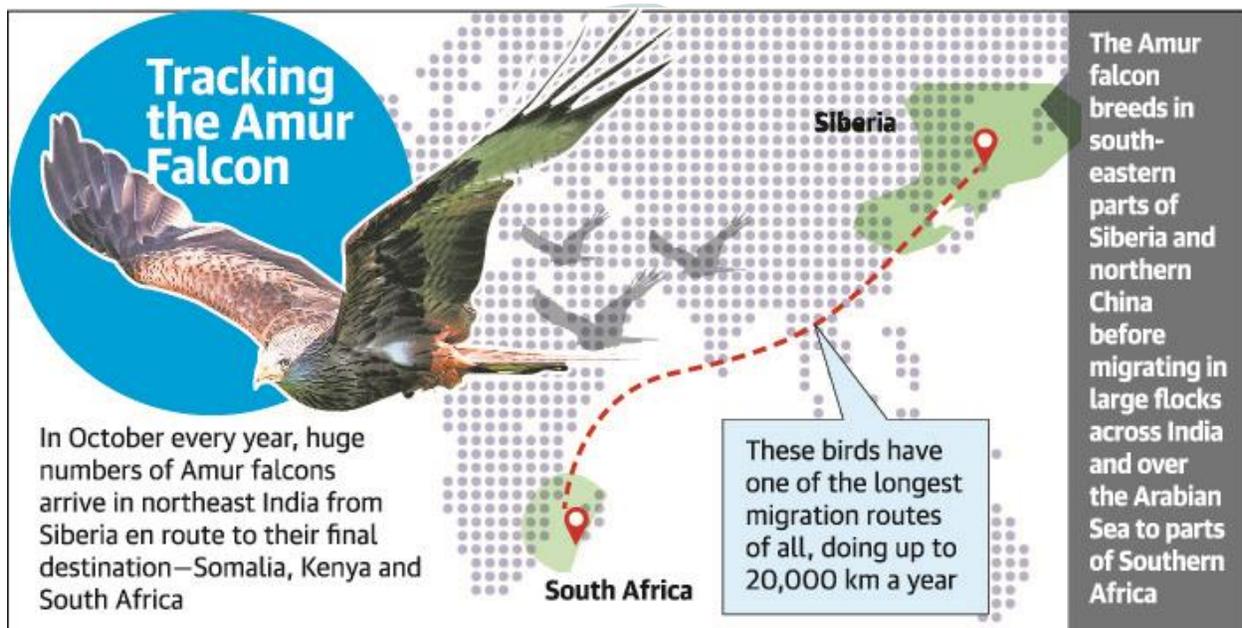
Do you know?

- As per current estimates, 426 species of mammals are found in India; of them 47 species are endemic to the Indian subcontinent.

Animal in news: Amur falcon

About:

- Amur falcon is a small raptor of the falcon family.
- It breeds in south-eastern Siberia and Northern China before migrating in large flocks across India and over the Arabian Sea to winter in Southern Africa.
- The raptor (bird of prey) — the size of a pigeon — makes its home in Nagaland, flying a staggering 22,000 km from there to South Africa, then onto Mongolia and back to Nagaland. The bird has one of the longest and most fascinating migratory paths in the avian world.
- The falcon breeds in south-eastern Siberia and north-eastern China, where the Amur River divides the Russian Far East and China.



Pic:

https://d39gegkjaqduz9.cloudfront.net/TH/2018/10/29/DEL/Delhi/TH/5_07/1a7c222d_2490893_101_mr.jpg

Do you know?

- It is a small raptor, of the size of a pigeon. It covers one of the largest migratory distances from Mongolia and Russia to South Africa.
- It is not a critically endangered species and is found in large numbers. However, due to indiscriminate killing, their numbers are rapidly coming down.
- It is considered as a delicacy in Nagaland and widely hunted and sold in the local market.

- The Centre decided to develop Doyang Lake in Nagaland, famous as a roosting site for longest travelling raptors Amur Falcons, as an eco-tourism spot for bird-watchers.



INFRASTRUCTURE/ENERGY

SATAT initiative

Part of: GS Mains Paper II – Government schemes and Policies

In news:

- SATAT is an initiative aimed at providing a **Sustainable Alternative Towards Affordable Transportation (SATAT)** as a developmental effort that would benefit both vehicle-users as well as farmers and entrepreneurs.
- It is a joint initiative of IndianOil, BPCL and HPCL to turn waste into green energy.
- Petroleum Ministry with PSU Oil Marketing Companies inviting Expression of Interest (Eoi) from potential entrepreneurs to set up Compressed Bio-Gas (CBG) production plants and make available CBG in the market for use in automotive fuels.

Benefits of Compressed Bio-Gas (CBG)

There are multiple benefits from converting agricultural residue, cattle dung and municipal solid waste into CBG on a commercial scale:

- Responsible waste management, reduction in carbon emissions and pollution
- Additional revenue source for farmers
- Boost to entrepreneurship, rural economy and employment
- Support to national commitments in achieving climate change goals
- Reduction in import of natural gas and crude oil
- Buffer against crude oil/gas price fluctuations

Do you know?

- The Government of India had launched the **GOBAR-DHAN (Galvanising Organic Bio-Agro Resources) scheme** earlier this year to convert cattle dung and solid waste in farms to CBG and compost.

Amendments to Electricity Act 2003; Power politics at play

General studies 2 & 3

- *Government policies and issues arising out of their design and implementation*
- *Infrastructure: Energy*

Introduction

- The Central government has proposed a set of changes to the Electricity Act 2003.
- The amendments seek to enable a market transformation in electricity.
- The amendments include many other provisions, making the Act more up to date including with regard to renewable energy, which is a worthy objective.

PROPOSED AMENDMENTS

Competition and choice

- Bringing in competition and choice in supply for the final consumer has long been an aim of electricity reform and remains central to these amendments.
- The idea is that while a single public utility will run the wires through which electricity flows, multiple supply licensees (both public and private) will be allowed to compete for consumers.
- The intent is that the discipline of competing for customers will lead to improved supply and lower bills.
- An earlier reform effort proposed mandatory and time-bound implementation of these reforms, and therefore was resisted by States.
- The current amendment allows them discretion on the timing of implementation.

Concerns

- India could have an electricity distribution sector with pockets of competition for wealthy consumers in a sea of monopoly inhabited by the poorest.
- Private suppliers could cherry-pick profitable locations and consumers.
- The state-owned incumbent supplier will be left with the obligation to serve low-paying consumers.

Cross subsidy

- India has among the highest electricity tariffs for industry, which bears the burden of low-performance and losses among other consumers, impacting their global competitiveness.
- The amendment (along with changes in the National Tariff Policy) aims to get the price right, by capping cross-subsidies and eliminating them within three years.
- The cross-subsidy surcharge on open access customers would be eliminated within two years, leaving the only possibility of direct support from States.
- Subsidies will not be allowed across consumer categories like industry and agriculture, but will be allowed across consumption categories — big consumers can subsidise small ones.

Concerns

- If transfers from state are not forthcoming, or late, the cash-starved incumbent supplier will be locked into a cycle of poor quality of service for its customers who have no 'exit' option, leading to more bill evasion, and further financial deterioration.
- These shifts could be highly disruptive if the profit-making side is allowed to flee, without devising a transition pathway for the loss-making side of electricity.
- Because of these political sensitivities, the proposed approach to eliminating cross-subsidies is complicated.
- The abolition of the cross-subsidy surcharge, which will open the flood gates for large consumers to migrate through 'open access' to cheaper sources and avoid paying any subsidy.

OTHER POSITIVE PROVISIONS AND THEIR IMPACTS

Collective responsibility of centre and states

- The proposed legislation makes subsidy to the poor the collective responsibility of the States and the Centre, which has so far been only the responsibility of each State.
- The Centre may have access to enhanced tax revenues from electricity because it stands to gain from additional tax revenue from profitable new wires companies and private suppliers.
- Thus, the Centre could become a new kingpin of redistribution from wealthy areas in wealthy States, to needy customers that are concentrated in a few States.
- While this may be a pragmatic fiscal strategy allowing redistribution across States, it also has undeniable political implications.

Pump priming generation

- Many generating companies have been in the news recently due to decreasing demand for their power and consequently their stranded assets.
- The amendments potentially provide comfort to them at the expense of distribution companies.
- Specifically, they mandate that suppliers sign power purchase agreements (PPAs) to meet the annual average demand, ostensibly to ensure 24x7 power for all, which will be subject to review and compliance measures.

OTHER NEGATIVE PROVISIONS AND THEIR IMPACTS

Centralising dimensions

- It provides greater control to the Centre and limits the States' and regional political parties' capability to make electoral use of electricity pricing.
- In an electoral context where the battle lines may be drawn between the ruling coalition and strong regional parties, the politics of power prices will shift from sub-national to national electoral politics.

- The amendment proposes a re-formulation of the selection committee for State regulators, from a majority of State representatives to a majority of Central representatives.
- The Centre will also gain more oversight on capacity addition, through the requirement of detailed project report submission to the Central Electricity Authority.
- There is no doubt that State performance has been poor on both fronts. But the amendments reflect a clear choice of solution: re-direct responsibility to the Centre instead of fixing the process in the States.

Challenges remains

- The amendment recognises the need to subsidise the poor, but mandates this be done through direct benefit transfers. Identifying and targeting beneficiaries remains a challenge.
- With these changes, the mechanism of support for poorer customers will shift from the electricity customer to the taxpayer.
- The challenge of low demand for existing power is an issue. The disincentives to serve poor customers rather than availability of power is the real obstacle to 24x7 power.
- The gain to generators could come at the cost of customers, who have to ultimately bear the risk of uncertain load growth, prices and migration.

Conclusion

- There is no doubt the status quo is unsatisfactory; India's electricity sector remains beset with problems.
- Yet, the amendments leave quite unclear what happens to those left behind by distribution reforms and by efforts to help out generators.
- Disruptive change in Indian electricity may be needed, even inevitable.
- But the amendments risk placing the cost of disruption on the backs of the poorest, and shifts the potential for remedial measures to the hands of the Centre, rather than the States.

Connecting the dots:

- Draft Electricity Amendment Act, 2018 proposes a slew of measures to bring transparency in power generation market. Discuss.

Castles in the air

General studies 3

- *Economics: Growth and development*

- *Inclusive growth*
- *Infrastructure: Cities and amenities*

Introduction

- The Nobel Memorial Prize in Economic Sciences awarded jointly to William D. Nordhaus and Paul M. Romer.
- Both laureates designed methods for **addressing questions related to** creating conditions for **“long-term sustained and sustainable economic growth”**.
- Mr. Nordhaus is credited for creating a quantitative assessment model that analyses **the relationship between economy and climate**.
- Mr. Romer’s case, it is for his pioneering work on **“endogenous growth theory”** that highlights how knowledge and ideas drive economic growth.

Charter Cities

- Mr. Romer, who was till recently the chief economist of the World Bank, has gone beyond the realm of theory and become a man of action in attempting to implement some of his economic ideas on the ground.
- Building on his theoretic work on economic growth, he has been championing the creation of **“Charter Cities” — new cities with distinct rules that foster innovation and economic growth**.
- These are characterised as **“start-up cities”** that experiment with reforms by breaking out of the existing state system.
- Since the nation-state is too big a unit to try out new rules, Mr. Romer proposes built-from-scratch cities as the ideal site at which new rules and institutions are introduced to attract investors and residents.
- **The presence of foreign governments in administering “Charter Cities” is not just incidental but intrinsic to this grand scheme.**

Colonialism 2.0?

- The idea of **“Charter Cities”** should be of interest to developing countries such as India grappling with strategies for rapid urbanisation.
- Mr. Romer has been proselytising leaders from developing nations to create **“Charter Cities”** by setting apart tracts of uninhabited land for this civic experiment.
- **The host country is required to enact a founding legislation or a charter that lays down the framework of rules that will operate in the new city.**
- A developing country can host the **“Charter City”** in its territory by **“delegating” some of the responsibilities of administration to a developed country.**

- This idea came under immense criticism for promoting what seems to be a thinly disguised version of neo-colonialism.
- Poorer countries are urged to make a Faustian bargain: relinquish sovereignty over certain territories ostensibly in exchange for economic growth.
- He justifies his grand plan by arguing that unlike colonialism, which was coercive, “Charter Cities” offer choice: people have the freedom to decide to move into it.
- Based on their preferences, **individuals** can “vote with their feet”. However, they do **not have the right to vote to decide how the city is run**. Hence, “Charter Cities” go against the basic principles of democracy and citizenship.

Some examples and experiments

- Once, Mr. Romer remarked that British colonial rule in Hong Kong “did more to reduce world poverty than all the aid programs that we’ve undertaken in the last century”.
- Hong Kong is relevant also because it was Deng Xiaoping’s inspiration for creating a set of special economic zones in China in the 1980s.
- **Mr. Romer’s first attempt to introduce “Charter Cities” in Madagascar in 2008** collapsed when the President who favoured the idea was greeted by violent protests and finally removed in a coup.
- **The next attempt, in the Honduras**, also failed as the Supreme Court there, in 2012, declared the creation of “Charter Cities” to be unconstitutional.

Indian experiments

- Given its neo-colonial trappings and poor track record, “Charter Cities”, as an idea, should have been fundamentally unattractive for a country such as India.
- But there are some people who want the government to take the idea seriously and drew parallels with the Presidency Towns of British India.
- Commentators have also suggested that emerging economies (India and China) can create and govern new cities on their own.
- **The model** of a built-from-scratch city often cited in this regard is the **Songdo International Business District in South Korea**.
- However, this eco-friendly “smart city” with the best of hi-tech amenities is threatening to be an underpopulated, lifeless ghost town.
- India’s experience in creating new cities with parallel rules and governance systems has also been fraught with conflicts.
- **Lavasa, a city near Pune** which was developed by a private company, has been caught up in environmental disputes for many years.
- **The Dholera Special Investment Region and Gujarat International Finance Tec-City** have not really taken off.

- The various investment regions housed within the Delhi-Mumbai Industrial Corridor have also made slow progress.
- The initial idea of creating **100 new cities as “smart cities”** has been reformulated as a **programme for redeveloping merely a small portion of existing cities.**

Conclusion

- Initiatives such as “Charter Cities” seek to supersede the politico-economic institutions in the global south by building cities on a tabula rasa — a clean slate.
- The guiding logic is that creating built-from-scratch cities with parallel rules and institutions can drive economic growth.
- What is most alarming about such thinking is the assumption that it is possible to create sanitised technocratic cities uncontaminated by politics.
- It ignores the pre-existence of multiple social and political claims over space in these supposed clean slates.
- Despite the failure of many such new cities and private governance regimes, the allure of creating grand castles in the air refuses to die down.
- Such initiatives need to be challenged for both their ignorant and implausible premise as well as their iniquitous normative framework.

Connecting the dots:

- What are "Charter Cities"? Analyse whether idea of "charter cities" is practical or utopian?

[A.P. hamlets shine in rural survey](#)

Part of: Prelims and Mains GS II & III – Social empowerment, local governance, infrastructure

In News:

On top of the charts

A total of 97 gram panchayats appear in the top 10 ranks in the list released by the Ministry of Rural Development. The ranking is based on six indicators*

Best of the best

| Rank | Panchayat | District | State | Score |
|------|---------------|------------|----------------|-------|
| 1 | Kulagod | Belagavi | Karnataka | 94 |
| 2 | Sri Ramapuram | Chittoor | Andhra Pradesh | 92 |
| 2 | Tellapur | Sangareddy | Telangana | 92 |

Best districts

Andhra Pradesh

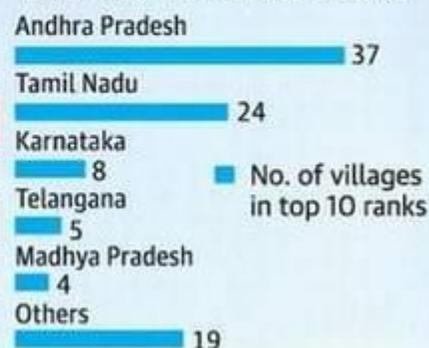
- Chittoor (11 villages in top 97)
- Visakhapatnam (10 villages)

Tamil Nadu

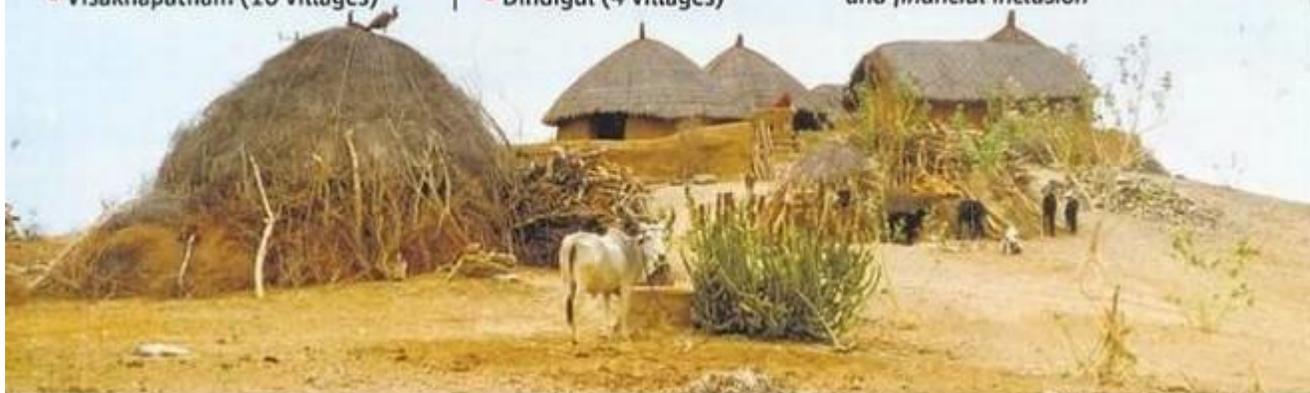
- Vellore (4 villages)
- Dindigul (4 villages)

State-wise split

The highest number of villages in the top 10 ranks is in Andhra Pradesh, while Tamil Nadu stands second



*The indicators are infrastructure, health, women empowerment, economic development, basic village parameters and financial inclusion



Compiled by Varun B. Krishnan

- Kuligod in Karnataka's Belagavi district is the country's best developed village, but more than a third of the gram panchayats ranked in the top 10 are in Andhra Pradesh, according to the findings of an ongoing Rural Development Ministry survey.
- With multiple panchayats assigned the same score – and thus tied at the same ranking – there are 97 panchayats in the top 10 ranks.
- Of these, 37 panchayats are in Andhra Pradesh while 24 are in Tamil Nadu.
- Villages from other States are represented only in single digits.
- Of the States going to the polls next month, Telangana and Madhya Pradesh have five and four panchayats in the top 10 ranks respectively.
- The Rural Development Ministry has done a gap analysis of more than 3.5 lakh villages, in more than 1.6 lakh panchayats under the Mission Antyodaya convergence scheme.
- A team of officials surveyed and scored village level facilities and amenities using parameters related to infrastructure, economic development and livelihood, irrigation

facilities, health, nutrition and sanitation, women's empowerment, and financial inclusion.

- Survey for every village in the country allows for greater public accountability, it also allows for more evidence based planning at the panchayat level.

[Slippery slope: India must diversify its energy basket more proactively](#)

Introduction

- At a gathering of prominent oil ministers in New Delhi on Monday, Prime Minister Narendra Modi urged oil-producing countries to reduce the cost of energy in order to aid the global economy in its path towards recovery.
- Mr. Modi also called for a review of payment terms, demanding the partial use of the rupee instead of the U.S. dollar to pay for oil, in order to ease the burden on oil-importing countries in the wake of the strengthening of the dollar.
- Speaking at the same event, Saudi Arabian Energy Minister refused to openly commit to lower oil prices, opting instead to say that the price of oil could have been much higher but for the efforts taken by his country to boost supply.

Challenges before India

- With well over 80% of its oil demand being met through imports, India clearly has a lot at stake as oil prices have risen by as much as 70% in rupee terms in the last one year.
- There is absence of significant rival suppliers in the global oil market willing to help out India.
- India's policymakers now face the difficult task of safely steering the economy in the midst of multiple external headwinds.
- For one, the current account deficit widened to 2.4% of gross domestic product in the first quarter of 2018-19 and is expected to reach 3% for the full year.
- The rupee, which is down about 16% since the beginning of the year, doesn't seem to be showing any signs of recovery either.
- Further, the growth in the sales of petrol and diesel has already been affected adversely as their prices have shot through the roof.
- All this will likely weigh negatively on the prospects of the Indian economy, the world's fastest-growing, in the coming quarters.
- In this scenario, the decision to marginally cut taxes imposed on domestic fuels is unlikely to be of any significant help to consumers.

Way forward

- There is a need of steep cut in Central and State taxes for the benefit to carry through to the consumers, which, of course, is unlikely given the government's fiscal needs.
- Another long-term solution to the oil problem will be to increasingly tap into domestic sources of energy supply while simultaneously encouraging consumers to switch to green alternatives.
- This will require a stronger policy framework and implementation.
- In the short term, the government could look to diversifying its international supplier base to manage shocks better.
- But such a choice carries geopolitical risks, such as in the case of Iran.
- Since it will take a length of time to wean the economy off oil imports, policymakers should also be willing to think beyond just the next election if India's overreliance on oil is to come to an end for good.

Connecting the dots:

- India's economic fortunes continue to be tied to the sharply fluctuating price of oil. Analyse the statement, also give some suggestions to strengthen India's energy security.

An agenda for energy

Introduction

- You **need energy to grow**. This is as true for economies as it is for humans.
- Whether it is the use of machines in a factory, appliances like washing machines and refrigerators in households that help save time on chores, or automobiles to move people and goods faster, energy is needed to grow output.
- Even the use of materials like metals, plastics, chemicals, bricks and cement, without which a decent quality of life is now hard to imagine, means use of more energy.
- The production of steel accounts for nearly 9 per cent of India's total energy needs, and brick-making is the second largest industrial use of energy.
- Put simply, an un-electrified house with mud walls and a thatched roof only needs manual energy to build, but a brick-and-cement house needs much more.

Correlation between energy and productivity

- Energy consumption per person for a country is correlated to its average output per person. **Higher productivity also needs denser energy.**
- For example, grass has lower energy density than cooking gas: Cooking a bowl of rice by burning straws would take a lot more time than by using a gas cylinder.

- While traditional societies across the world all relied on biomass (that is, sources like firewood and crop residue, which are less-dense), their growth in productivity was associated with a move to denser fuels: Imagine running a car directly with coal or wheat-straw.
- It is said that **the transition of the fuel for ships from the less-dense coal to the higher-density oil contributed to the success of the British navy in the First World War.**
- India is one of the fastest growing economies. So, the Indian economy's energy needs will rise with growth, and demand for denser energy sources will grow even faster.

Some statistics on energy needs

- In the early 1990s, biomass was 30 per cent of China's energy, but is only 5 per cent now.
- India's ratio currently is 30 per cent, but should start to fall as household electrification picks up, and government policy raises the penetration of cooking gas cylinders.
- Between 2000 and 2015, when India's output (as measured by GDP) grew at 7 per cent a year, its energy demand grew at 4.5 per cent a year, implying that efficiency of energy use improved at about 2.5 per cent annually.
- The problem was that the annual growth in domestic production of energy was only 3 per cent, and imports therefore had to grow at 8.5 per cent to meet the demand.
- The share of energy needs met through imports rose from 21 per cent in 2000 to 36 per cent by 2015.
- If similar trends persist, we estimate that nearly half of the demand in 2040 would be met by imports.
- The main constraint in India is the lack of reserves of oil, gas and metallurgical coal (used for steel-making), but poor management of what India does have is also a reason.

The problem

- **Importing large amounts of energy is by itself not a problem** (except possibly for security reasons — one can imagine the problems of this vulnerability in times of war).
But how does one pay for it?
- The energy import bill this year is already at a record high of \$125 billion, despite energy prices being half of what they were at the peak a decade back: Volume growth has more than offset the price decline.
- Three years from now, even if the recent surge in prices reverses, the value of energy imports would be nearly \$40 billion higher than this year.
- **By 2040, even with minimal price growth, the import bill could be \$660 billion.**
- As a share of national income, this will most likely be a manageably low number, but **the constraint would be in getting that quantum of dollars.**

- The recent troubles for the currency have originated from slowing foreign capital inflows coinciding with rising energy prices.
- **Capital inflows as a share of GDP this year have fallen to 2002 levels, and paying for imports has become a struggle.**
- Only part of this decline is cyclical: That is, it may pick up over time without any policy level changes; the rest may need policy changes.
- The necessary dollars can also come from exports, but export growth has slowed too, particularly for services.
- A decade back, rapid growth in services had prevented the external balances from deteriorating during the oil price spike.
- The fact that India may struggle to pay for the energy it needs to grow the economy at even 7 per cent a year is concerning, and challenges the widely held view that 8 per cent growth is just around the corner.

Way forward

- **Structural changes** on several fronts may be necessary to overcome these hurdles.
- Improve capital inflows, grow domestic energy production, increase energy efficiency, and also accelerate the transition to more domestic sources of energy.
- **Energy pricing** should be freed up, not just in electricity but also coal and gas.
- Controlled and distorted pricing drives inefficiency in usage, and also inhibits a supply response at times like now, when rupee depreciation has made domestic energy so much cheaper than imported energy.
- **The legal monopoly of Coal India on merchant mining** of coal was unwound a few years back, **but no licences** have been issued yet to private enterprises.
- A national level planning is needed to move away from carting country's low-grade coal over hundreds of kilometres instead of moving power, which is cheaper, easier and less wasteful.
- **The ambition on solar and wind power may need to be reset substantially upwards.**
- Even if solar and wind capacity reaches 650 Gigawatts by 2040 (a nine-fold increase from now), they would only be able to cater to 4 per cent of India's energy needs that year.
- Given the scale of required capacity, **self-sufficiency in such equipment** should also be sought.
- Further, given the natural fluctuations in output from renewable sources, the grid would need to be re-planned/architected.
- India also needs to accelerate electrification of various energy-guzzlers. Electric vehicles are expected to be just 6 per cent of cars globally by 2030: This may be too slow for Indian requirements.

Conclusion

- India is expected to drive almost a fourth of global energy demand in the next two decades.
- Not only should it be pulling its weight on global forums and influence global policy and choices, there needs to be significant investment in **India-specific solutions**, otherwise the country's medium-term growth potential could be at risk.

Connecting the dots:

- India is expected to drive almost a fourth of global energy demand in the next two decades. Suggest some measures to make India self-sufficient in energy sector and to alleviate the import bill.

India set to be third largest aviation market

In news:

- India will be the third largest aviation market globally.
- While China will climb up one spot to displace US as the world's largest aviation market in the mid-2020s, India will take the third place by surpassing the U.K. around 2024.
- Asia-Pacific region is expected to see the fastest growth at the rate of 4.8%, followed by Africa (4.6%) and west Asia (4.4%).



Pic:

https://d39gegkjaqduz9.cloudfront.net/TH/2018/10/26/DEL/Delhi/TH/5_05/92d571e0_248360_6_101_mr.jpg

Our time begins now

Introduction

- Even at the time of its signing in 2015, it was clear that the Paris Agreement on climate change would not be enough to avoid global warming of 1.5° C over pre-industrial temperatures.
- In fact, early analyses revealed that the collective effect of Nationally Determined Contributions (NDCs) would result in 3-5° C of warming.
- More recently, there has been mounting pressure on India to raise its pledges further.
- The Intergovernmental Panel on Climate Change (IPCC) report on 1.5° C has come at a time when there are multiple alarms for India.
- Another study in Nature Climate Change identifies India as the country with the most expected damage from rising levels of carbon dioxide.

India and global scenario

- India's NDC is already ambitious and it has made decisive changes in its energy sector.
- Meanwhile, the U.S. has pulled out of the climate treaty, and the support of Australia and Brazil teeters on the outcome of their respective elections.
- Some countries are also doing less than they claim. According to a study, with aviation, shipping and trade counted, the U.K. has made no reduction to its greenhouse gas emissions.

Socio-economic challenges before India

- India has two complex and inter-related problems; to bring a vast population out of poverty and into decent lives, while dealing responsibly with the global carbon challenge and building resilience to climate change.
- India ranks 130 among nations in the Human Development Index.
- In spite of remarkable recent improvements, India still has 364 million living in multidimensional poverty.
- Nearly a third (27.5%) are multidimensionally poor and about a fifth (19.1%) are vulnerable to becoming poor.
- Almost half the country is therefore at high risk from events such as loss of a job or ill health of a family member.
- Combined with damage from a severe cyclone, flood or drought, each subsequent shock will have a multiplier effect on hundreds of millions, potentially pushing them deeper into poverty.

- Add to this the current rural distress and the large youth bulge with few job prospects, and the country is in dire straits.
- It is clear that past development frameworks have not improved well-being across social strata.
- Evidence indicates that economic growth has gone hand-in-hand with rising inequality and the creation of a small but powerful class of the super-rich.

SDGs are crucial

- To deal with these complex challenges it is needed to deepen and expand India's commitment to the Sustainable Development Goals (SDGs).
- Only the transformative and cross-scale changes can realise the synergies of meeting SDGs, reducing greenhouse gas emissions and adapting to a changing climate.
- Further, "scaling up" may not be the correct way for size and diversity of India rather, relevant modifications and local and institutional innovation will be more appropriate.
- India has a large number of successful examples of transformative innovation around energy production and access, land, livelihoods and climate resilience.

Infrastructure

The Bureau of Energy Efficiency showed how government 'nudges' are made effective through appliance labelling and large-scale procurement of efficient devices.

In the building and cement industry, innovation around housing and new materials, including natural fibre composites, could make far-reaching changes in infrastructure through low-carbon modular technologies.

Affordable and clean energy

- India expects to reach its ambitious solar target of 100 GW capacity by 2022 primarily through large centralised solar power plants.
- To achieve these targets, significant amounts of land, water and evacuation infrastructure and support from mega-corporations is required.
- Some States have shown, renewable-based microgrids can become an important feature of electricity policy.
- Jharkhand, which has 249 remote villages powered by solar microgrids, is now considering their use even in villages that are already grid connected.
- With modern power electronics and innovations in hybrid waste to energy, water recycling and community gardens could be integrated into larger grids.
- Sustainable approaches to land are evident in cases such as forest conservation in Mendha-Lekha village in Maharashtra and community delivery of public services in Nagaland.
- These and several other instances are documented in initiatives such as Vikalp Sangam.

- India has for long had strongly rooted cultural movements about living sustainably with land and its ecology that provide practical models.

Sustainable agriculture

- Agro-ecology methods are best suited for increasing crop yield, raising profits, trapping soil carbon, reducing dependence on fertilisers and pesticides.
- Successful models are already effective in some states, one such example is "Zero Budget Natural Farming" of Andhra Pradesh.
- If similar methods were used for the entire country, the savings would be substantial.

Conclusion

- Energy and livelihood gains from alternative visions could be far more significant than conventional ways of replacing fossil-fuelled infrastructure with renewables.
- It involves a lot of learning-by-doing, living laboratories and innovation, practice, patience and support from government and academia.
- Large investments are needed to make the transitions in each sector that would take the country to a near zero-carbon economy.
- But given the shortage of external support and the need for rapid deployment, India will not be able to rely entirely on external funds.
- Some of this could instead be financed through a 'luxury' carbon tax that curbs non-essential consumption.
- Savings can also be expected from the economic and social transformation itself.
- Political pressure and activism across the globe may soon turn the tide in other countries, but India needs to begin now with its enormous untapped successes.
- We cannot be pressured from outside, but need to change from within.

Connecting the dots:

- India has to bring a vast population out of poverty and into decent lives, while dealing responsibly with the global carbon challenge and building resilience to climate change.
Comment.

SCIENCE AND TECHNOLOGY

“Digi Yatra” facility

Part of: GS Prelims and Mains III – Infrastructure; Role of Digital Technology

In news:

- The government unveiled the Digi Yatra initiative under which the flyers can soon use facial recognition technology to enter the airport.
- Travellers can skip long queues and zip through various check points at airports.
- Digi Yatra initiative also has biometric-enabled digital processing technique that would enable travellers to enter the airport building by scanning a QR code on their mobile phones, after undergoing facial recognition.

Face value

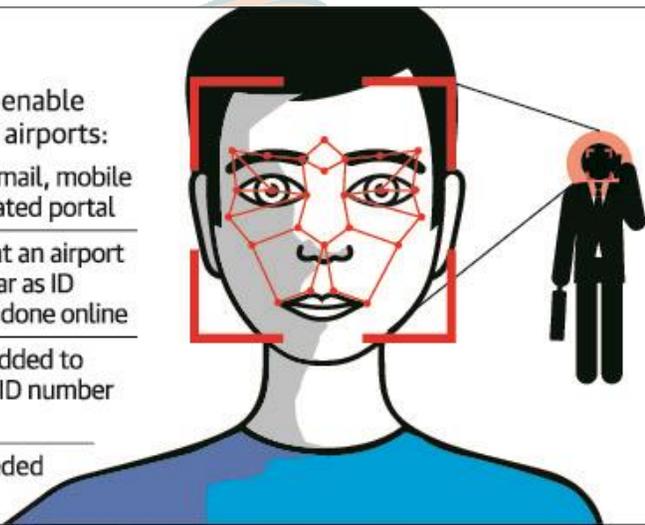
A step-by-step process to enable yourself for facial scans at airports:

Step 1 Register your name, e-mail, mobile number, ID proof on a designated portal

Step 2 One-time verification at an airport is a must and if you use Aadhaar as ID proof, then verification can be done online

Step 3 Your photo has to be added to your Digi Yatra profile and an ID number should be generated

Step 4 This ID number is needed while booking tickets



Step 5 Scan QR code and undergo facial recognition before entering airports. Facial ID along with ticket PNR is made into a single token

Step 6 Carry out self check-in, drop baggage & access security and embarkation area with a facial scan

Pic:

https://d39gegkjaqduz9.cloudfront.net/TH/2018/10/05/DEL/Delhi/TH/5_07/16a69a38_2436748_101_mr.jpg

First case of ‘Netflix addiction’ at NIMHANS

Part of: Prelims and Mains III – Science and Tech

In news

- The Service for Healthy Use of Technology (SHUT) clinic at National Institute of Mental Health and Neurosciences (NIMHANS) in Bengaluru received its first case of Netflix

addiction: a 26-year-old unemployed man had turned to the streaming service to shut out reality for more than six months.

- While entertainment has always had an element of escapism, streaming services that put up a show's entire season for viewing on multiple devices, have increased viewers' susceptibility to binge-watching.
- It's increasingly common for people to spend seven hours at a stretch watching the entire season of their favourite sitcom or thriller.
- Whenever his family pressured him to earn a living, or when he saw his friends doing well, he would watch the shows on offer continuously. He could forget about his problems.
- While the young man's case is the most extreme form at the clinic, many other patients being treated for online gaming addictions, are also escaping into streaming platforms.
- The counsellors in the schools had noticed that students as young as those in the fourth and fifth standards, were addicted to these shows.
- The addiction interferes with the child's academic performance and counsellors are advising students and parents to keep a close watch on the duration and the shows they watch.
- The best advice is to avoid the use of technology if it becomes a coping mechanism.

Science, Technology and Innovation Advisory Council (STIAC)

Part of: GS Prelims and Mains III – Science and Technology; Role of Technology in Health Sector; Health issue

In news:

- Prime Minister's Science, Technology and Innovation Advisory Council (STIAC) held its first meeting.
- Key decision announced – India is planning a major mission to sequence the genes of a "large" group of Indians — akin to projects in the U.K., China, Japan and Australia — and use this to improve the health of the population.
- The Health and Family Welfare Ministry and the Biotechnology Department will be closely associated with the project.

Do you know?

- Ever since the **Council of Scientific and Industrial Research** in 2009 announced that it had sequenced the genome of an Indian, then making India one of six countries to

achieve such a feat, several research labs have analysed genes from Indians for disease susceptibility.

- However, no compendium of genes that differentiate Indian populations from, say, Caucasian or African genomes exist.
- A group of Indian scientists and companies are involved with a **100k GenomeAsia project**, led by the National Technological University (NTU), Singapore, to sequence the whole genomes of 100,000 Asians, including 50,000 Indians.

Important Value Additions:

About GenomeAsia 100k:

- GenomieAsia 100k is a non-profit consortium with a mission to generate genomic information for Asian populations and to promote genetic understanding of Asian populations to support research and discovery for healthy living and longevity.
- GenomeAsia 100k, announced an ambitious plan to sequence 100,000 individuals. It is intended to initially include populations from 12 South Asian countries and at least 7 of North and East Asian countries.
- Key goal of the consortium is to accelerate precision medicine applications for Asian patients. It will also build advanced analytical capabilities to parse 'big-data' sets, leveraging advances in data science and artificial intelligence.

[Ancient rocks in India give clues to early life Biomarkers show steroid compound](#)

Part of: Prelims and mains GS I & III – History, Science and technology

In News

- Researchers have found the oldest clue yet to the mystery of animal life in ancient rocks and oils, including those from India, dating back at least 100 million years before the famous Cambrian explosion of animal fossils.
- Researchers at the University of California, Riverside in the U.S. tracked molecular signs of animal life, called biomarkers, as far back as 660-635 million years ago during the Neoproterozoic era.
- In ancient rocks and oils from India, Oman, Siberia, they found a steroid compound produced only by sponges, which are among the earliest forms of animal life.
- **The “Cambrian Explosion” refers** to the sudden appearance in the fossil record of complex animals with mineralised skeletal remains 541 million years ago.

- They have been looking for distinctive and stable biomarkers that indicate the existence of sponges and other early animals, rather than single-celled organisms that dominated the earth for billions of years before the dawn of complex, multicellular life.
- The biomarker they identified, a steroid compound named 26-methylstigmastane (26-mes), has a unique structure that is currently only known to be synthesised by certain species of **modern sponges called demosponges**.

[New skin gel protects Farmers from some pesticides](#)

Part of: GS Prelims and Mains II and III – Health issue; Role of Science and Technology; Farmers welfare

In news:

- Indian researchers have **developed a gel** which, when applied on the skin, can prevent some pesticides from getting absorbed into the body, thus averting serious adverse effects and even death.

Do you know?

- **Organophosphate-based pesticides**, which are commonly used by farmers in India, are toxic to the nervous system and heart, and can cause cognitive dysfunction.
- Majority of organophosphate-based pesticides are absorbed through the skin.
- Esters, which are present in organophosphate-based pesticides, when enters the body can cause neurological disorders, suffocation, paralysis, and even death.
- A team led by Dr. Praveen Kumar Vemula from the Institute for Stem Cell Biology and Regenerative Medicine (inStem), Bengaluru, an autonomous institute under the Department of Biotechnology, used a chemical reaction to convert the ester into acid by using a catalyst to make the pesticide inactive.
- Tests conducted successfully on rats; human trials soon

DEFENCE

Rafale and the S-400 air defence system deal

Part of: GS Prelims and Mains II and III – Defence and Security; International Relations

In news:

- The acquisition of the Rafale fighter jets and the S-400 air defence system will go a long way in addressing the depleting squadron strength of the Indian Air Force (IAF).
- India and Russia are expected to conclude an agreement for five regiments of the S-400 Triumf air defence system.
- However, the US has urged India to forgo S-400 missile deal with Russia, warning that the deal could attract American sanctions.

We have already read that, US's domestic law requires its administration to impose CAATSA (Countering America's Adversaries through Sanctions Act) sanctions on any country that has "significant transactions" with Iran, North Korea or Russia.

Will President Trump waive these sanctions?

Defender of the skies

India is looking to acquire five S-400 air defence systems for the Air Force at an estimated cost of ₹39,000 crore. The focus during the annual summit between Prime Minister Narendra Modi and Russian President Vladimir Putin on October 5 is the deal for the defence systems

▪ Despite the threat of U.S. sanctions, expectations are high that India would sign the deal during the summit

▪ In October 2016, India and Russia signed an Inter-Governmental Agreement (IGA) for five S-400 systems. Negotiations began later to conclude a commercial contract

▪ The deal does not have an offset clause

POLITICAL POWERPLAY

▪ The U.S. has passed the Countering America's Adversaries Through Sanctions Act (CAATSA) law, under which sanctions will be imposed on countries having significant defence cooperation with Russia

▪ The U.S. has particularly said that S-400 systems would be a problem

▪ Last month, the U.S imposed sanctions on some entities and individuals in China as it took delivery of Su-35 fighter jets and S-400 systems

▪ Last December, Turkey signed a deal to acquire the S-400 systems

TECHNICAL SPECIFICATIONS

| | | | | | |
|-----------------------------------|--------------------------------|-----------------------|----------------------------|-------------------|-----------------------|
| 400 km Horizontal range | 30 km Vertical range | 8 Launchers | 1 Control centre | 1 Radar | 16 Missiles |
|-----------------------------------|--------------------------------|-----------------------|----------------------------|-------------------|-----------------------|



India, Russia sign S-400 missile deal

Part of: GS Prelims and Mains II and III – International Relations; Defence

In news:

- India and Russia concluded the contract for five S-400 'Triumph' missile systems.
- S-400 is a long range surface to air missile.
- However, the two sides failed to conclude two other major deals, for stealth frigates and assault rifles.
- Meanwhile, U.S. issued a statement warning that any waiver for the S-400 deal would be considered on only a "transaction-by-transaction basis."

[Upgraded MiG-29 adds to air power](#)

Part of: GS Prelims and Mains III – Security and Defence

In news:

- The Indian Air Force's beast — **MiG-29** — has gained in strength and ferocity after an upgrade, giving the force, battling a shortage of fighter aircraft, a much-needed boost.
- The **Russian-origin aircraft**, now capable of effecting mid-air refuelling, is compatible with latest missiles and can launch multi-dimensional attacks.
- Even in the previous 'legacy version', the aircraft played an important role as the IAF stamped its supremacy over the Pakistani force during the Kargil War of 1999.
- With the upgrade, as compared to the previous 'legacy version' of the MiG-29 bought under emergency clause in early 1980s, the fighter jets are capable to give a befitting response.
- The upgraded MiG-29 has Multi-Functional Display (MFD) screen.
- With air-to-air refuelling feature, the upgraded MiG-29 can cover larger distance as compared to the previous aircraft and destroy the enemy.

[China to sell 48 armed drones to Pakistan](#)

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

In news:

- China to sell 48 high-end armed drones to its "all-weather ally" Pakistan
- Drone name - **Wing Loong II**
- It is a high-end reconnaissance, strike and multi-role endurance unmanned aerial system, capable of being fitted with air-to-surface weapons.

- It is roughly equivalent to the American MQ-9 Reaper drone.

Do you know?

- China is the largest supplier of weapon system to the Pakistan Army.
- Both countries also jointly manufacture **JF-Thunder** a single engine multi-role combat aircraft.
- The Trump administration has agreed to sell 22 **Sea Guardian drones** to India.
- India has received 10 advanced **Heron drones** from Israel as well.

India, France in talks to conduct tri-service exercise

Part of: GS Prelims and Mains II – International Relations; India and the World; Defence

In news:

- India and France are in discussions for a bilateral tri-service military exercise.
- Both the countries are also exploring ways to operationalise the logistics agreement.

Do you know?

- If India and France concludes on tri-service exercise, it will be India's third such joint exercise.
- The first joint tri-service exercise was held with Russia in October last year and India has finalised one with the U.S. to be held next year. (We read in yesterday's news - [India-U.S. tri-services exercise](#))
- India and France signed a logistics pact in March this year which gives access to their militaries to each other's bases for logistics support.
- New Delhi can access French bases in the Indian Ocean — Reunion Island, Djibouti and Abu Dhabi.
- These three bases would give the Indian Navy and the Air Force operational turnaround to the far end of the Indian Ocean, improving its monitoring and surveillance of the region, in the backdrop of increased Chinese presence in the Indian Ocean Region (IOR).

India and France currently hold bilateral exercises between individual services –

- Shakti : : Army version
- Varuna : : Navy
- Garuda : : Air Force

Developed versus Developing Countries on Global Warming and Climate Change

In news:

- Ahead of climate talks (December 2018 Climate Change COP 24 - Katowice, Poland) India in touch with 40 countries.
- India is having discussions with 40 countries, including China, to forge alliances and compel developed countries to make good on promises, made over the years, to provide enough finance and technology to stem runaway global warming.

Do you know?

- Over the years, developed countries have promised to provide **\$100 billion annually to developing countries** to check such warming.
- The **'Like Minded Developing Countries'** (India, China, Venezuela and Iran) and **BASIC** (Brazil, South Africa, India, China) are networks that are formed to lend weight to developing country concerns.

[India, China set to resume drill](#)

Part of: Prelims and mains GS II – International relations

In News

- India and China will resume the annual joint Army exercise 'HandinHand' in December in China's Chengdu region.
- The drill was cancelled last year due to tense relations in the aftermath of the Doklam standoff.
- Following the Wuhan summit between Prime Minister Narendra Modi and Chinese President Xi Jinping in April, the two countries have initiated several measures to normalise relations.
- The scope of the exercise is to understand transnational terrorism and evolve joint drills for the conduct of counter terrorism operations, in addition to Humanitarian Assistance and Disaster Relief operations.
- The exercise will be held in three phases — familiarisation, basic training and the joint exercise.
- Separately, the Army has for the first time organised a forward area tour to Leh on October 16 and 17 for interested foreign service attaches posted in India.

[Israel, India sign \\$777 mn missile deal](#)

Part of: GS Prelims and Mains II and III – International relations; India and the world; Defence

In news:

- India and Israel has signed a \$777 mn deal
- Israel Aerospace Industries (IAI) to supply additional **Barak-8 Long Range Surface to Air Missile (LRSAM) systems** for seven warships of the Indian Navy.
- The LRSAM can intercept aerial targets up to a range of 80 km. It is being co-developed by the DRDO in India and IAI, and will be manufactured by Bharat Dynamics Limited.

[India-US: F-16 fighter jets deal](#)

Part of: GS Prelims and Mains II and III – International Relations; Defence

In news:

- U.S. diplomat said - The United States is not going to put pressure on India to buy F-16 fighter jets or any other defence system.
- India has purchased more than \$15 billion worth of American defence materials.

Fast recap:

- India recently concluded a \$5 billion deal to buy the S-400 air defence missile system from Russia, which could attract U.S. sanctions under the **Countering America's Adversaries Through Sanctions Act** instituted by the U.S. Congress on arms purchases from Moscow.

[India and Italy: Defence Meeting](#)

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

In news:

- India invited Italy to participate in the defence sector under the 'Make in India' scheme.
- India and Italy held the 9th Military Group Meeting earlier in October in which they agreed on cooperation in 2019.
- Both countries sign agreement to curb terror financing.
- First time the two countries have agreed on joint defence production since the AugustaWestland case exploded in 2013.



DISASTER MANAGEMENT

Early Warning for Tsunami and Earthquake

Part of: GS Prelims and Mains III - Disaster management

About–

- **Indian Tsunami Early Warning Centre (ITEWC)**, which is based at & operated by **Indian National Center for Ocean Information Services (INCOIS), Hyderabad** has all necessary infrastructure and capabilities to give tsunami advisories to India as well as to Indian Ocean countries.

Working of ITEWC

- ITEWC is providing tsunami warnings and related services to all countries in the Indian Ocean Rim (24 Countries) beyond fully serving the India's coastline / Islands.
- The centre is capable of detecting tsunamigenic earthquakes occurring in the Indian Ocean as well as in the Global Oceans within 10 minutes of their occurrence.
- Key inputs for developing strategic plan for addressing issues of Climate Change impacts on the Himalayan ecosystem.
- As soon as the earthquake is detected, warning centre transmits information about location of earthquake, its magnitude, depth and other characters of the event.

In news:

- Though ITEWC scientists detected the earthquake on the Pacific Ocean bed, they failed to detect any unusual activity in the oceanic buoys and sea level tide gauges.
- Scientists puzzled by 'peculiar' tsunami, which struck Palu, Indonesia.

India sends relief material to Indonesia

Part of: GS Prelims and Mains Paper III- Disaster management; International Relations

In news:

- IAF aircraft and naval ships on the way to tsunami-hit Palu
- The Navy has diverted its ships **INS Tir, Sujata and Shardul** on deployment to Singapore to Palu in Indonesia.
- The IAF has deployed one C-130J and one C-17 transport aircraft to ferry medical teams and relief material.

Studying fault lines

General Studies 1

- *Physical Geography of India*
- *Earthquakes and their causes*

General Studies 3

- *Environment conservation*
- *Disaster management*

Introduction

- Recent Kerala floods started the debates and studies about dams and reservoirs, and their seismic effects.
- Even very small reservoirs impounding water seasonally can cause deformation in the neighbouring region.
- Such deformation may add to the stress of a nearby fault, which if already critically stressed, can trigger an earthquake.

Prone areas of reservoirs induced seismic activity

- A 6.3-magnitude earthquake near the Koyna dam that struck in December 1967, killing about 180 people, occurred about five years after it was built. Many smaller quakes occur each year.
- Based on Global Positioning System and satellite data, a team of researchers led by Vineet Gahalaut of the National Centre for Seismology, found crustal deformation in four reservoirs — Koyna, Tehri, Ukai, and Dharoi.
- These are of varying sizes and are located in different geological zones in India.
- There are no reports of any earthquake from the other three reservoirs. But that does not mean there are no earthquakes. It is just that we don't have adequate seismic monitoring network to collect data in these places.

Study on seismic activity induced by reservoirs

- In two papers published recently in the journal Bulletin of the Seismological Society of America, the researchers concluded that there is “no lower threshold on the size of the reservoir to cause deformation” in the surrounding area.
- The researchers found that the eastern block of the Koyna-Warna fault zone is moving about 0.7 mm faster per year than the western block.

- Such anomalous motion adds stress to the fault, leading to earthquakes. Differences in the rock composition could be causing the differential movement.

Lubricating the fault

- The strength of the fault reduces when the reservoirs are full.
- Impounding of water causes stress, and the water that percolates from the reservoir lubricates the fault, thus reducing the frictional force, leading to reduced strength of the fault or even aiding the fault to fail, causing an earthquake.
- In addition to deformation caused by loading of the reservoir, tectonic movement of crustal plates causes stress build-up.
- The fault fails, causing an earthquake, when the combined stress caused by the two factors crosses a critical point.

Conclusion

- Along with disaster management and Environment conservation, there is need to invest in Research and developments.
- Integrated approach for R&D in related fields like civil engineering, environment and ecology, seismology, etc. can help in mitigating the negative effects of large infrastructure projects.

Connecting the dots:

- What is reservoir induced seismic activity? Explain with examples; also suggest some measures to mitigate the disasters.

The diaspora and disasters

General studies 2 & 3

- ***Indian diaspora***
- ***Disaster management and resource mobilisation***

Introduction

- Between August 8 and 20, the devastating floods in Kerala claimed nearly 500 lives, displaced over a million people, and directly affected over a sixth of the State's total population.
- The State government's latest report estimates the losses to be more than the State's annual plan. In the fiscal 2017-18, Kerala's annual plan outlay was pegged at Rs. 26,500 crore.

- This was the worst flood in Kerala since 1924. In the deluge then, the State received 650 mm of rain compared to 2,344 mm this time. However, the impact was similar.

Chief Minister's Distress Relief Fund (CMDRF)

- The difficult task of rebuilding the State has begun and contributions to the Chief Minister's Distress Relief Fund (CMDRF) have crossed more than Rs. 1,680 crore.
- The Chief Minister is confident that the State would be able to overcome the shortage of funds by mobilising its own resources and through support from different quarters.
- For Kerala, the most important support system is the Malayali diaspora across the world.
- Successful diaspora groups are among the largest contributors to the CMDRF.

Migrant data

- According to the KMS (Kerala Migration Survey) 2018, there are over 2.1 million Malayali emigrants globally and 1.3 million return migrants.
- The Department of Non-Resident Keralite Affairs, headed by the Chief Minister of Kerala, looks after the welfare of the 3.4 million migrants globally, in addition to the nearly 2 million internal migrants within India.
- These are Keralites who have direct connections to their households — fathers, mothers, spouses, and, in some cases, elderly children.
- There are around 2-3 million (over the last 60 years since the formation of the State in 1956) Malayalis who have moved from Kerala permanently with their family and live within the country or abroad.

Advantages for Kerala

- The advantage Kerala has at this point is to engage with its migrants and diaspora who have been instrumental in rebuilding the destination economies after natural calamities and economic crises.
- The standing of the Malayali diaspora is evident from the extraordinary support Kerala has received from other sovereign states with large diaspora populations such as in West Asia, multinational corporations employing Malayalis, and by the diaspora itself.
- With the depreciation of the Indian rupee, the State can relaunch foreign currency deposit schemes such as the hugely successful India Millennium Deposit Scheme.
- This scheme was introduced in 2000 by the Centre to leverage higher values of foreign currencies so as to overcome financial and economic crises.
- This diaspora will be invaluable in mobilising resources, talent, and knowledge which will be integral in rebuilding the State.

Pivotal role

- Unfortunately, not much attention has been paid to the role of diaspora groups in post-disaster situations.
- In a globalised world, the international dimensions of disaster response and recovery, and the significant policy role played by the diaspora can be critical.
- **For example, after the earthquake in 2010 in Haiti**, the Haitian diaspora in the U.S. served as a conduit for doctors, nurses, engineers, educators, advisers and reconstruction planners.
- Haitian-Americans continue to be vital in long-term recovery — as supplies, remittances, sharing human and financial resources, lobbying governments, international organisations and corporations for disaster relief and redevelopment funding, and in facilitating eased travel restrictions.
- **In Nepal, after the 2015 earthquake, the Non-Resident Nepali Association** collected \$2.69 million, mobilised over 300 volunteers including doctors and nurses, and pledged to rebuild 1,000 disaster resilient houses.
- **In the tsunami in South Asia (2004) and the Pakistan earthquake (2005)**, diaspora and migrant remittances flowed generously, demonstrating the counter cyclical nature of remittances.
- **In Kerala, the migrant community and diaspora moved swiftly to organise an Internet-driven response.**
- By sharing and re-sharing vital information on affected regions and people, supplies, and precautionary measures (on social media platforms), they were instrumental in expanding the flow of information that would later be used by politicians, private and military rescue operations, and relief workers.
- For example, a Kerala Health Department report has made it clear that there will be a 100% increase in the demand for pharmaceutical drugs.
- These can be sourced quickest through transnational diaspora networks.

Way forward

- As the diaspora is one of the greatest assets of Kerala, communities should improve relations with diaspora groups. Return migrants should also act as liaison agents.
- Diaspora communities will also inevitably shape political and economic responses to a disaster.
- The linking of social capital between diaspora, civil society organisations, advocacy groups and government institutions, although necessary during rehabilitation, is bound to lead to unanticipated and undesirable outcomes.
- At least temporarily, the State may witness higher rates of emigration among the common people as they try to mitigate losses caused by the floods.

- For example, the KMS shows that migrants use over 40% of their remittances in purchasing land, construction and repayment of mortgage debt.
- Finally, we need to investigate the relationship between rehabilitation and migration further.

Connecting the dots:

- What is 'pravasi bhartiya divas'? Discuss the role of Indian diaspora in socio-economic growth and development of India.



INTERNAL SECURITY/SECURITY

India's drone use policy: A flight path with obstacles

Introduction

- Up until the end of August, flying a drone was mostly illegal in India.
- With the publication of the drone regulations in late August, the Ministry of Civil Aviation has attempted to give some structure to the development of drone infrastructure in India.

Potential benefits of drone tech

- Drones can be used in various sectors, especially in Agriculture for observing soil condition, weather, time of the year and other information helps analyse and to take corrective measures where necessary.
- A successful example of this is, Sensefly, a Swiss drone manufacturer, has customers around the world whose use of drones has resulted in higher yield and significantly lower usage of fertilizers and herbicides.
- China's drone economy — manufacturing and development — will be worth \$9 billion in 2020, while the U.S's commercial drone market is expected to be \$2.05 billion by 2023.
- There is much potential for India to tap in terms of economic value on the use of drones in areas such as transport management, disaster management, agriculture, etc.

The drone policy

- India's regulations separate drones into five categories — nano, micro, small, medium and large.
- There is very little regulation for flying a nano up to 50 metres height, except for not flying near airports, military sites or in segregated airspace.
- From the micro category onwards a unique identification number (UIN) is mandatory for each drone
- Once the UIN is obtained, operators have to apply for an Unmanned Aircraft Operator Permit (UAOP).
- Air space has been partitioned into Red Zone (flying not permitted), Yellow Zone (controlled airspace), and Green Zone (automatic permission).

(Note: For more details on drone policy click here: [Regulations for Drones](#))

Policy contradictions

- While announcing the publication of drone guidelines, Civil Aviation Minister made two contradicting statements.
- For one, he estimated the potential of the “drone market” in India to be \$1 trillion. And in the next he said India’s security environment necessitated extra precautions.
- It is with such a heavy eye on the precautions that the regulations have been drafted, that flying a drone is a task wrapped tightly in immense paperwork.
- There is a long list of documentation including security clearances from the Ministry of Home Affairs (MHA) in several cases.
- To fly a micro drone below 200 ft, users have to intimate the local police station 24 hours prior.
- Manufacturers of drones as well as technologists and researchers making applications using drones have to test fly these frequently, often several times a day.
- In an effort to make things slightly easy, the regulation provides a list of identified areas for testing and demonstration. Flying drones in these areas comes with less paperwork.
- However, the locations provided are so far from technology and development hubs that it is unclear how practical these will be.
- In Karnataka, for example, the identified areas are Chitradurga, Coorg and Ganimangala village (which does not even appear on Google maps), all of which are around 200 km from Bengaluru entailing nearly four hours of travel one way.
- With so many government authorities involved in allowing permission and keeping an eye, it is inevitable that operators could be slapped easily with real and perceived violations.
- The structure of these regulations makes the possibility of a red tape-free flight very slim.

Way forward

- The security and privacy risks of allowing drones to fly in an unregulated manner are high. It may be recalled that in August, a drone was used in an attack on Venezuelan President Nicolás Maduro during a public meeting.
- However, if India is to reach even the fraction of the \$1 trillion potential, it needs to figure out a more balanced manner of regulation.
- The current rules are a start, but only in the sense that they free all drones from their previous illegality.
- The real impact of drones will be in the many applications they will be put to, Agriculture is just one such.
- They are likely to be the disaster prevention systems, rescue operation leaders, and even public transport providers in the not too distant future.

- Missing out on working on these applications early enough will likely have serious repercussions to India's future competitiveness in the field.
- Filing a series of applications in multiple copies and waiting for various government departments to respond is not the best way to get started.

Connecting the dots:

- India's drone use policy makes the possibility of a red tape-free flight very slim. Critically comment.

Gorkhaland issue: Tripartite meeting soon

Part of: GS Prelims and Mains II and III – Centre and State Relations; Internal Security issues

In news:

- The Centre has agreed for a **tripartite meeting** to discuss various political issues concerning the Gurkhas, including the demand for a separate State of Gorkhaland.
- Large-scale violence was reported in Darjeeling in West Bengal and nearby areas controlled by the Gorkhaland Territorial Administration (GTA) in June last year.

Note:

Refer the below link to know about Gorkhaland movement, History of Gorkhaland movement, Timeline of the Gorkhaland crisis, Why Gorkhaland Movement Matters? Pros and Cons etc.

Link: <https://iasbaba.com/2017/07/iasbabas-daily-current-affairs-26th-july-2017/>

Data localization: why, why not?

Introduction

- Earlier this week, companies around the world scrambled to try and meet a RBI-mandated deadline to store Indian users' financial data in India, reigniting conversation about "data localisation".
- Across ministries and sectors, the government has firmed up its stance on storing data of Indian users in the country, to the discontent of international players and the delight of domestic ones.

What is data localisation?

- Data localisation is a concept that the personal data of a country's residents should be processed and stored in that country.

- Some directives may restrict flow entirely, while others more leniently allow for conditional data sharing or data mirroring – in which only a copy has to be stored in the country.
- As of now, much of cross-border data transfer is governed by individual bilateral “mutual legal assistance treaties” (MLATs).

What has happened now to bring this into focus?

- The recurring data localisation agenda has bubbled up in a number of government directives or drafts.
- In early April, the RBI issued a circular mandating that payment data be stored only in India by October 15.
- This covered everyone from Mastercard and Visa to WhatsApp Payments and PayTM.
- Currently, the RBI has not instituted any fines for those who have missed the deadline but is seeking schedules of pending data transfers to India.
- In late July, a data protection draft law by a committee headed by retired Justice B N Srikrishna recommended that all personal data of Indians have at least one copy in India.
- A subset of that data, labelled critical personal data, must be stored and processed only in India.
- A draft report of a cloud computing policy recommended localisation of Indians’ data.
- Cloud computing, a service offered by the likes of Amazon and Microsoft, allows customers’ data to be stored on remote data centres.

Who is for it?

Security agencies, domestic born technology companies like PayTM, Reliance Jio, etc. companies whose rivals are giants from US, etc. are supporting the data localisation.

Arguments in favor of data localisation

- A common argument of government officials is that localisation will help Indian law enforcement access data.
- The April RBI circular stated that “to ensure better monitoring, it is important to have unfettered supervisory access to data stored with these system providers”.
- When a spate of lynchings across the country was linked to WhatsApp rumours, WhatsApp’s firm stance on encrypted content frustrated government officials.
- In addition, proponents highlight security against foreign attacks and surveillance, which opponents consider a weak argument in cases of data mirroring.
- Concerns also rose when Facebook declared that its Cambridge Analytica controversy had affected Indian users as well.

- Tech companies especially condemn the large tax differences between international companies operating in India and those with a permanent establishment in the country.
- Many argue that localisation would lead to a larger presence in India overall, such as local offices, and increase tax liability.
- “Data is the new oil” also provides a backbone to much of the localisation drive.
- In the home of the largest open Internet market in the world, companies like PhonePe claim that national wealth creation relies on in-house data storage.
- The e-commerce policy took on a similar stance, championing domestic innovation, and the data protection report also mentioned harnessing India’s digital economy.

Who is against it?

Industry bodies, especially those with significant ties to the US, have slung heavy backlash.

Arguments against data localisation

- Many are concerned about a fractured Internet (or a “splinternet”), where the domino effect of protectionist policy will lead to other countries following suit.
- Much of this sentiment harkens to the values of a globalised, competitive internet marketplace, where costs and speeds, rather than nationalistic borders, determine information flows.
- Opponents say that this, in turn, may backfire on India’s own young start-ups that are attempting global growth, or on larger firms that process foreign data in India, such as Tata Consulting Services and Wipro.
- Critics not only caution against state misuse and surveillance of personal data, but also argue that security and government access is not achieved by localisation.
- Even if the data is stored in the country, the encryption keys may still remain out of the reach of national agencies.

What do other countries do?

- The think tank European Centre for International Political Economy has found a surge in data localisation measures worldwide over the last decade.
- Russia has the most restrictive regulation for data flow with strict localisation and high penalties.
- The European Union’s General Data Protection Regulation (GDPR) does not mandate all data to be localised, but rather restricts flow to countries with a strong data protection framework.
- The China government mandates localisation for all “important data” held by “critical information infrastructure” and any cross border personal data transfer must undergo a security assessment.

- The United States leaves regulation up to the state and sector. Earlier this year, President signed the **Clarifying Lawful Overseas Use of Data Act (CLOUD Act)** which established data sharing with certain countries.

Conclusion

- The Indian data localisation wave is the latest digital battleground of ongoing power wars between government and industry.
- There is a need to strike a balance between national security, economic interests and individual rights.

Connecting the dots:

- Critically examine the data localisation policy of India.

At digital war

Introduction

- Indian Prime minister has a vision of a Digital Armed Force. Importance of dominating the cyber space is increasing.
- He also emphasised on the role of the services in encouraging the development of domestic capabilities.

Progress in cyber space

- The government has sanctioned **the raising of a cyber agency** that will steer the planning and conduct of cyber warfare in the military.
- Once the doctrine has matured, the cyber agency will be expanded to a much-needed cyber command.
- **Building domestic capability** for the manufacture of sophisticated weapons and equipment is **a major challenge**.
- Despite Indian products being available, a concerted effort to use indigenous solutions is conspicuously absent, with the Army being the most laggard in this regard.

A case study

- The existence of **the PRISM programme**, under which the United States National Security Agency (NSA) collected data from internet communications.
- Leaked documents showed the very close involvement of US technology companies like Microsoft, Google, Yahoo, Facebook and Apple in the programme.

- According to the documents, the NSA was collecting data directly from the servers of US service providers.
- Further revelations, disclosed by The Guardian showed that Microsoft had actively helped the NSA to circumvent its own encryption of web chats.
- America is not the only country that uses these practices.
- A recent Bloomberg report pointed out that China's intelligence services had ordered subcontractors in China to plant malicious chips in Supermicro server motherboards bound for the US.
- Many countries have moved to restrict foreign products from use in critical networks. Examples of such ban are China and US banning each other's products.
- India seems to be unaware of the vulnerabilities that exist in our critical networks due to foreign hardware and software.

Hardware and software in Indian armed forces

- Despite Huawei being probed for hacking a BSNL network in 2014, over 60 per cent of software and hardware being used by BSNL is sourced from either Huawei or ZTE.
- Even Australia, with a billion lesser population than India, has banned Huawei from supplying equipment for 5G mobile network, citing national security risks.
- The Air Force Network (AFNET) was launched in 2010. Present on that occasion was the Cisco country head because his company was a major supplier of equipment for AFNET.
- The army's latest communication backbone, Network for Spectrum (NFS), also uses Cisco equipment.
- The Indian Army mostly uses the Microsoft Windows operating system on its official computers.
- Windows is an outstanding system but is a closed-source software owned by a company that is bound by US laws and historically tied to the American intelligence community.
- India is a prime target for American spying; in the overall list of countries targeted by PRISM, India stood at the fifth place.

An indigenous experiment: BOSS

- In 2015, the Northern Command of the army decided to adopt **the Bharat Operating System Solutions (BOSS)** for all its official computers.
- BOSS is an indigenously developed open-source system by the Centre for Development of Advanced Computing (CDAC).
- CDAC is the R&D organisation of the Ministry of Electronics and Information Technology.
- At the start, there were many teething problems. The user-friendliness of Windows could not be replicated and re-training of a generation that had grown up with Windows was not easy.

- They were convinced that **national security cannot be subordinated to the ease of making a PowerPoint presentation.**
- Three years later, the army is still debating the merits of BOSS, and the arguments are still centred on simplicity of usage, not security of networks.
- Instead of supporting BOSS, there is a push to return to Windows.
- Despite the clear dangers in cyber space, we remain inexorably tied to past practices and show little desire to make changes that are essential to protect our national interests.

Conclusion

- The Indian military should take the lead in indigenising its IT infrastructure.
- A policy decision to indigenise our cyber space will have greater and more far reaching national security implications.

Connecting the dots:

- To win the cyber space face-offs, India should indigenise the IT infrastructure of the military, soon. Comment.

Facebook leaks redux: Data protection

Introduction

- Barely six months after the Cambridge Analytica-Facebook data theft scandal, the world's largest social network hit the headlines once again.
- Facebook announced that it had discovered a **security breach that had compromised nearly 50 million accounts.** The figure was subsequently revised to 30 million.
- It is also unclear how much personal data have been stolen, and how that data may end up being used in ways that could harm Facebook users.
- This announcement **came after implementation of European Union General Data Protection Rules in May 2018.**

Do you know?

What is GDPR?

- The law is a replacement for the 1995 Data Protection Directive, which has until now set the minimum standards for processing data in the EU.
- **GDPR will significantly strengthen a number of rights for individuals as well as regulators.**
- Individuals will find themselves with **more power to demand companies reveal or delete the personal data they hold;**

- **Regulators will be able to work in concert across the EU** for the first time, rather than having to launch separate actions in each jurisdiction;
- **Enforcement actions** will have real teeth, with the **maximum fine** now reaching the higher of **€20m (£17.5m) or 4% of the company's global turnover**.
- These rules aim to **create more consistent protection of consumer and personal data across the European Union**.
- **EU-GDPR mandates a baseline set of standards for companies** that handle the EU citizens' data to better safeguard the processing and movement of citizens' personal data.
- India's draft bill on data protection, which has been created on the suggestions of B.N Srikrishna committee recommendations, also draws inspirations from EU-GDPR.

Some highlights of EU-GDPR

- Requiring **consent** of the subject for data processing
- **Anonymising the data** collected to protect the privacy
- Providing data **breach notifications**
- **Safely handling** the transfer of data across the border

Impact of the EU-GDPR

- The European Union (EU)'s General Data Protection Regulation (GDPR) forced Facebook to go public with the breach so promptly, even before the full extent of the damage could be assessed.
- The GDPR's stringent guidelines require companies to make such events known within three days of their discovery.
- EU-GDPR has ensured not only awareness of such data breach, but also prompt corrective measures with respect to data security which institutions need to ensure.
- Many Tech giants such as Google and facebook also changed their privacy terms and conditions, to be agreed by users.

Conclusion

- In general, citizen-consumers have had to choose between two equally unsatisfactory options: either resign themselves to a post-privacy world or be perpetually scrambling to reskill themselves in order to be able to safely navigate the complicated and ever-evolving (mine)field of data privacy and safety.
- If data security for ordinary users is to become something more than a seminar topic, then an equitable regulatory regime such as the GDPR must become the universal norm, in force beyond the EU jurisdiction as well.

Connecting the dots:

- Regulatory regime such as the General Data Protection Regulation must be in force beyond the EU. Elucidate.



ETHICS

Gandhi: Philosophy and significance in present times

Introduction

- The world prepares to celebrate Mahatma Gandhi's 150th birth anniversary in 2019, also mourning the 70th anniversary of his assassination in January 1948.
- Opinions and views about his person and his non-violent technique of struggle remain deeply divided.
- For some, he was a puritanical, conservative critique of modernity. For them he created and perpetuated unrealistic and confused ideas about economic development and technological progress
- For his admirers, Gandhi was a man of spiritual truthfulness and democratic action, both at the public and personal levels, with a unique method of struggle that combined political pragmatism with ethical integrity.
- Some among these admirers evaluate Gandhi's impact on human history as being as significant as that of Jesus, Buddha and Karl Marx.

Two Gandhis

- In the minds of people around the world, Gandhi represents two different and contradictory characters.
- The first Gandhi is the political Gandhi who fought against British colonialism and is the father of the modern Indian nation.
- This is the man Albert Einstein lauded as "a leader of his people, unsupported by any outward authority, a politician whose success rests not upon craft nor the mastery of technical devices, but simply on the convincing power of his personality."
- The second Gandhi is the Ashramic Gandhi who is more of a mystic than a politician, who used fasting as a method of struggle, and who Rabindranath Tagore considered as the "Mahatma", the "Great Soul".

Quest for spiritual cause; Satya

- In Gandhi's autobiography, The Story of My Experiments with Truth, one can find the idea that life is nothing but a spiritual experience with truth, and a struggle against all forms of untruth and injustice.
- As such, Gandhi claimed that his life was his message, simply because he extended his practice of satyagraha to all walks of life.

- Gandhi, in short, was a leader looking for a spiritual cause. He found it, of course, in his non-violence and, ultimately, in independence for India.
- Truth, Satya, was the central axis of the Gandhian system of thought and practice.
- For Mohandas Karamchand Gandhi, everything turned on Truth — satyagraha, swaraj, ahimsa, ashram, brahmacharya, yajna, charkha, khadi, and finally, moksha itself.
- Gandhi's life and ideas arranged around the axial principle of Truth: “Truth is not merely that which we are expected to speak and follow. It is that which alone is, it is that of which all things are made, it is that which subsists by its own power, which alone is eternal.”

Truth alone triumphs?

- An example is the on-going controversy in the United States about the proposed appointment of Federal Judge Brett Kavanaugh to the U.S. Supreme Court as the nominee of the Republican Party, even as he stands accused of sexually assaulting a lady, when they were both teenagers.
- Outcome hinges exactly on the truth of her testimony versus his defence. Only one can be true.
- When Truth is rendered negotiable and dispensable, the balance of justice is disastrously upset. Arguably Americans, too, could have recourse to Gandhi, though perhaps not in the way that we in India might.
- Gandhi strained to hear the “small, still voice” within himself, the voice belonging to one he called “antaryami”, “atma” or “God” — an inner prompt, the self as a guide and a compass – so that he could keep moving ever closer to Truth.
- It was this voice that he followed, sometimes to the bafflement of others who could not hear it.
- This was the voice that made him undertake life-threatening fasts his health wouldn't permit; withdraw from active politics at the most crucial junctures of India's anti-colonial struggle; and many other decisions which are still difficult for us to understand.
- Even close and loyal associates like Jawaharlal Nehru and Vallabhbhai Patel were often confounded by Gandhi's actions and decisions; more sceptical and antagonistic peers like M.A. Jinnah and B.R. Ambedkar couldn't make sense of his motivations at all.
- No power on earth is able to steer Gandhi away from his self-charted path towards Truth.
- “The strangest experiment” was Gandhi's move to have his young grand-niece Manu sleep next to him, as he travelled through ravaged Hindu and Muslim settlements in Bihar and Bengal during the height of communal violence on the eve of Partition.
- No matter what the reactions of his colleagues, for Gandhi it was not strange, precisely because it was one of his ‘experiments with truth’.

Home and the world

- Of late, many musicians in south India have faced vicious attacks from rightwing Hindutva groups for singing hymns and psalms, thereby allegedly hijacking “Hindu” Carnatic music for “Christian” evangelical aims.
- This despite the fact that the violin, central to the Carnatic system in modern times, is a European gift to Indian music.
- Both Christian and Muslim religious lyrics and poetry have been a constitutive part of the Carnatic repertoire throughout the 20th century.
- Gandhi made great use of the Bible in his prayers, teachings, writings and Ashram liturgies. He was often accused of being a crypto-Christian.
- However, he flatly refused to give preference to the Vedas over the Bible. He is no Sanatani Hindu who is narrow, bigoted and considers evil to be good if it has the sanction of antiquity and is to be found supported in any Sanskrit book.
- Just before the Kristallnacht (an incident known as “Kristallnacht”, Nazis in Germany torched synagogues, vandalized Jewish homes, schools and businesses and killed close to 100 Jews), Gandhi advised European Jews to relocate to Palestine and make it their homeland only with the cooperation and goodwill of native Arabs, and not otherwise.
- This appalled even sympathetic Jews like Buber and Magnes, who had admired and supported Gandhi at the time of the Salt March in 1930, before the Nazi takeover of Germany.
- But now the tables are turned, and a rightwing Israeli state under Benjamin Netanyahu seems hell-bent on exterminating the Palestinians.
- Gandhi’s counter-intuitive Truth informs the civil disobedience, passive resistance and non-violent protest of both Arab and Jewish activists who oppose the continuing occupation and takeover of dwindling and defenceless Palestinian territories by bellicose Israeli forces.

Gandhi a political thinker and a social reformer

- There is more to Gandhi which makes him a political thinker and a relevant social reformer. Gandhi was a dialogical thinker who was open to other horizons of thinking.
- He firmly believed that the spirit of genuine reciprocity and solidarity is not just a moral requirement, but also a geopolitical necessity.
- Gandhi rejected the idea that there is one privileged path to god. He also believed that all religious traditions are an unstable mixture of truth and error.
- He encouraged inter-religious and inter-cultural dialogue, so that individuals could see their faith and culture in a comparative and critical reflection of the other.
- As such, Gandhi considered interculturalism as a call for simultaneous awareness of commonalities, acceptance of differences, and recognition of shared values.

- Interestingly, Gandhi was a political thinker and a social practitioner who was constantly experimenting with modes of comparative and cross-border cultural constellations.
- In Gandhi's political thinking, the experience of freedom derives not only from constitutional rights but mainly from the diverse modes of participation of the individual in a common humanity.
- Today, many around the world consider Gandhian ideas as impractical, not to say utopian.
- Gandhian ethics of social and political reconstruction are more relevant than ever, since they represent an act of self-transformation of humanity rather than an illusory dream of a political leader.
- Gandhi wanted to change the values that govern the social, political and economic activities in human society.
- Gandhi believed that decentralised politics and an egalitarian economy function better at the level of micro-communities, where citizens can operate in relations of reciprocity and mutuality.
- For him, it was clear that neither society nor the individual can live without a moral vision of the world. Gandhi had his moral and political dreams of changing humanity.

Conclusion

- There are ample events and incidents insisting that we can continue to consult Gandhi on all manner of issues that may trouble our individual or collective conscience.
- Truth is the key to Gandhi's philosophy, and we rely on Gandhi even decades after his death and long after his supposed lapse into political irrelevance.
- To be sure, Gandhi certainly deserves the honour as a courageous fighter, a deep thinker, and a great leader of men and ideas.
- Gandhi was a man of experimentation, a man who insisted on the quest for truth. Therefore, it should not come to us as a surprise that the literal meaning of satyagraha is "asserting for truth".
- As a dreamer who looked for a harmonious universe, Gandhi was a hedgehog, but as a pragmatist who had a devastating sense of reality, he was a fox who knew many things about the insane world of human beings filled with hatred, revenge, greed for power and violence.

Connecting the dots:

- Throw light on the significance of the thoughts of Mahatma Gandhi in the present times. (UPSC 2018: GS I; 10 marks)

(Note: Above article has been prepared by analysing two lead editorials, “The voice that is great within us” and “Gandhi: a fox or a hedgehog?” Case studies given in the article will be help full to prove the relevance of Gandhi in present times.)

Why Shastri matters today

Introduction

- The nation must not only pay homage to its leaders on their birth and death anniversaries, but also make the younger generation aware of their stellar contribution to the good of the country.
- One such statesman is Lal Bahadur Shastri, who is remembered every year along with the Father of the Nation, Mahatma Gandhi, on October 2.

The man of integrity

- Like millions of Indians, Shastri drew inspiration from the Mahatma and plunged into the freedom struggle when he was in his teens.
- More than 60 years ago, Shastri showed what probity and integrity in public life are all about.
- Following a train accident at Ariyalur in Tamil Nadu, in which more than 140 people were killed, he resigned as railway minister taking moral responsibility for the incident.
- Lauding him for his integrity, the then Prime Minister Jawaharlal Nehru said that he was accepting his resignation because it would set an example in constitutional propriety, although Shastri was in no way responsible for it.

A rational and moral personality

- He displayed a broad outlook at a very young age and dropped his caste-based surname when he was in the seventh standard.
- His progressive attitude came to the fore when he asked for khadi cloth and a spinning wheel as dowry.
- His maiden Independence Day speech in 1964 is as relevant today as it was then.
- Shastri observed: “We can win respect in the world only if we are strong internally and can banish poverty and unemployment from our country. Above all, we need national unity. Communal, provincial and linguistic conflicts weaken the country. Therefore, we have to forge national unity. I appeal to all to work for national unity and usher in a social revolution to make our country strong. In the ultimate analysis, the strength of the country does not lie in its material wealth alone. It requires people like Mahatma

Gandhi, Jawaharlal Nehru and Rabindranath Tagore. It requires the force of character and moral strength. I appeal to our young men to inculcate discipline in themselves discipline and work for the unity and advancement of the nation”.

- His stress on character and moral strength acquire special significance today, when we see all-round degeneration of values in various fields.

Jai Jawan, Jai Kisan

- During the Indo-Pakistan war in 1965, Shastri gave the immortal slogan, “Jai Jawan, Jai Kisan,” which continues to inspire every Indian even today.
- During his prime ministerial tenure, which unfortunately was cut short by his untimely death, Shastri boosted the morale of the nation by leading India to victory over Pakistan.
- His vision for self-sufficiency in foodgrains led to sowing the seeds of the Green Revolution, and promotion of the White Revolution.
- The country owes it to him in no small measure that we are self-sufficient in foodgrains production today.
- During his speech at death anniversary of Swami Dayanand Saraswati he said : “The nation cannot afford to relax. It is difficult to say what the future holds for us. Pakistan had not yet given up her policy of aggression. The duty of the nation is therefore clear. The country’s defences have to be strengthened. The people should spare no efforts to strengthen the defences. Side-by-side, food production has to be increased. Food self-sufficiency is as important as a strong defence system. It was for this reason that I raised the slogan, ‘Jai Jawan, Jai Kisan’. The kisan is as much a soldier as the jawan”.
- Many years later, former Prime Minister A B Vajpayee added “Jai Vigyan” to Shastri’s slogan in order to hail achievements of Indian scientists.

Country's interests first

- Shastri placed the country’s interests above everything else.
- Although he was wedded to the principles of peace, Shastri showed that he was made of sterner mettle when it came to protecting India’s unity and integrity.
- His response was swift and decisive in ordering the Indian armed forces to retaliate against Pakistan’s unprovoked aggression.
- Shastri’s love for the motherland was evident when he responded to Mahatma Gandhi’s call to join the Non-Cooperation Movement at the young age of 16.
- An incident from his life shows that he was a man of deeds. Before appealing to the countrymen to skip one meal a week in the wake of the foodgrain shortage, he implemented the measure at his house.

- His appeal had an electrifying impact and many households across the country responded positively to his call.

A visionary man

- His humane quality was reflected in another instance. As Uttar Pradesh's Minister of Police and Transport, he ordered that the police should use water jets instead of lathis to control unruly crowds.
- The fact that Shastri was the first transport minister to open the post of bus conductors to women showed how forward-looking he was.
- His visionary outlook is reflected in the observations he had made at a rural projects meet in Delhi in 1964.
- "We must inject new elements in the services. Let us introduce professors, economists, teachers, engineers and others, even outsiders, so that there is some freshness, a real exchange of views, a meeting of different approaches," he said.
- Perhaps, the government's decision to open 10 senior civil services positions for lateral entry is in line with this philosophy.

Conclusion

- The present times require every Indian to emulate the simplicity, humility, humanism, austerity, hard work, dedication and nationalism displayed by the unassuming second prime minister of India.
- Following his ideals would be a fitting tribute to him on his birth anniversary.
- The nation must always remember the contributions of leaders such as Sardar Vallabhbhai Patel, B R Ambedkar, Lal Bahadur Shastri and Syama Prasad Mookerjee and many others, in independent India.

Connecting the dots:

- What are the contributions of Lal Bahadur Shastri to post-Independent India's polity and economy? Do you think he is relevant in today's time?

[Bribery case against top CBI officer](#)

Part of: GS Mains III and IV – Corruption and Black Money; Ethics - challenges of corruption

In news:

- Gujarat cadre IPS officer and number 2 in the CBI **Rakesh Asthana** was named in an FIR for allegedly accepting bribe.
- CBI Deputy Superintendent of Police **Devender Kumar** also named.

Important value additions:

- Corruption is not just the clearly bad cases of government officials scanning off money for their own benefit. It also includes cases where the systems do not work well, and ordinary people are left in a bind, needing to give a bribe to get a work done or the licenses they need.
- Corruption violates human rights, challenges the rule of law, distorts the development process, and dis-empowers the Indian state. Corruption hinders the process of fulfilling civil, political, economic, social and cultural rights.
- It raises doubts over integrity of government officials.



PERSON IN NEWS

| Person in news | Description |
|---|---|
| 1. Justice Gogoi | <ul style="list-style-type: none"> Justice Gogoi will take over on October 3 as India's 46th Chief Justice of India and the first top judge from Assam. |
| 2. Gita Gopinath | <ul style="list-style-type: none"> International Monetary Fund (IMF) appointed India-born Gita Gopinath as Economic Counsellor and Director of the IMF's Research Department. |
| 3. Tasuku Honjo and James Allison | <p>In news:</p> <ul style="list-style-type: none"> U.S.-Japanese pair win Nobel Medicine Prize Two immunologists, James Allison of the U.S. and Tasuku Honjo of Japan, won the 2018 Nobel Medicine Prize for research into how the body's natural defences can fight cancer. Unique research: They figured out how to help the patient's own immune system tackle the cancer more quickly. <p style="color: red;">Do you know?</p> <ul style="list-style-type: none"> T-cells are a type of white blood cell that play a central role in the body's natural immunity to disease. CTLA-4 (cytotoxic T-lymphocyte-associated protein 4) is a protein receptor that, functioning as an immune checkpoint, downregulates immune responses. |
| 4. Nobel Physics Prize to Arthur Ashkin, Gerard Mourou and Donna Strickland | <p>In news:</p> <ul style="list-style-type: none"> Three scientists won the Nobel Physics Prize for inventing optical lasers that have paved the way for advanced precision instruments used in corrective eye surgery. Arthur Ashkin of the U.S., Gerard Mourou of France and Donna Strickland of Canada Mr. Ashkin, 96, was honoured for his invention of "optical tweezers" that grab particles, atoms, viruses and other living cells with their laser beam fingers. With this he was able to use the radiation pressure of light to move physical objects Mr. Mourou, 74, and Ms. Strickland, 59 won for helping develop a |

method to generate ultra-short optical pulses, “the shortest and most intense laser pulses ever created by mankind. Their technique is now used in corrective eye surgery.

Tools made using light



This year, the Nobel Prize in Physics was awarded to three scientists for groundbreaking inventions in the field of laser physics



Arthur Ashkin

for “optical tweezers that grab particles, atoms and molecules with their laser beam fingers”



Gérard Mourou

for “paving the way towards the shortest and most intense laser pulses created by mankind which led to broad industrial and medical applications, including eye operations”



Donna Strickland

The light trap

Ashkin realised that a laser beam can **move small particles**. He illuminated a sphere using laser and got it to move. He observed that the sphere moved towards the **beam's centre** where intensity is maximum.

▪ When he focussed the laser beam with a **lens**, the sphere got trapped in the **focal point** of the lens

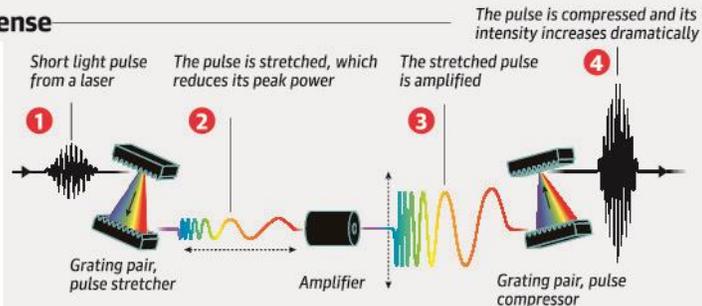
▪ This method can be used to **trap small particles** such as bacteria. They became known as **optical tweezers**



Uses : Studying biological processes, such as individual proteins, molecular motors, DNA or the inner life of cells. To observe, turn, cut, push and pull small particles - without touching them

Short and intense

Laser light can be emitted in short pulses. But, they can't be amplified beyond a point without destroying the material. Strickland and Mourou's new technique, known as **chirped pulse amplification (CPA)**, helped solve this conundrum.



▪ In CPA, the short pulse from the laser was **stretched in time** and then amplified. When a pulse is stretched in time, its **peak power is much lower** so the material is not destroyed

▪ The amplified pulse is then **squeezed again**. In the end, as more light is packed together within a tiny area, the **intensity of the pulse increases dramatically**

Uses : Possible to see events that previously appeared to be instantaneous. Ultra-sharp laser make it possible to cut or drill extremely precise holes in materials - even in living matter

Source, images: Nobel Media

Compiled by Vignesh Radhakrishnan, L. Balamurugan

5. Nobel prize in chemistry - Frances H Arnold, George P Smith and Gregory P

In news:

- Frances H Arnold, George P Smith and Gregory P Winter win Nobel prize in chemistry.
- Briton and two Americans honoured for using evolutionary principles to develop proteins that have been used in new drugs and medical treatments.

Winter

Chemical (r)evolution

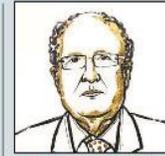
The Nobel Prize in Chemistry has been awarded for using the concept of evolution to develop proteins and solve chemical problems



Frances H. Arnold
California Institute of Technology, U.S.

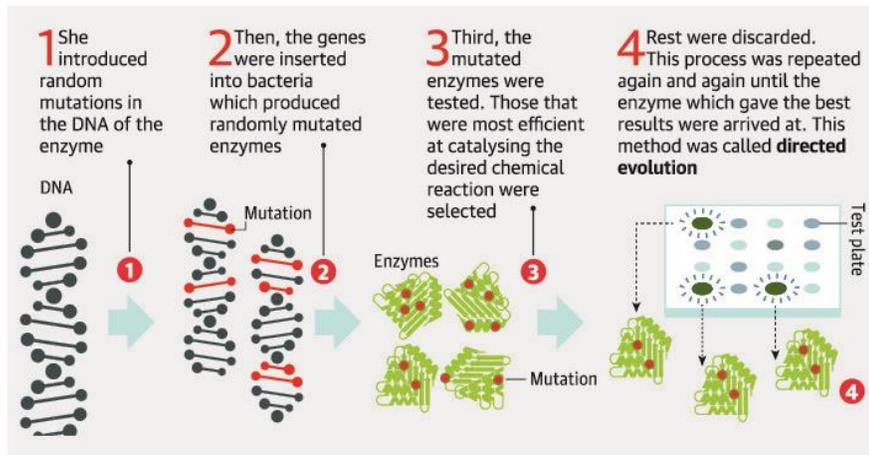


George P. Smith
University of Missouri, U.S.



Sir Gregory P. Winter
MRC Lab of Molecular Biology, U.K.

Mimicking evolution: Evolution has solved complex chemical problems – for example, fish can swim in polar oceans as they have developed anti-freeze proteins. Arnold used this concept to build **better enzymes**. Enzymes are catalysts which **speed up chemical processes** such as digestion, clotting of blood. More effective the enzymes, quicker the process. Flow chart shows how she achieved it



Target and deliver: Smith and Winter applied this technique to create **better antibodies**. Antibodies are proteins that function like targeted missiles; they can precisely identify and **bind to the viruses or bacteria that infect us**. When an antibody attaches to them, it sends a signal to aggressive immune cells to destroy the invaders. This is how our body fights off infections. The stronger the antibodies that get attached to the target, the more effective the cure will be. Winter used Arnold's directed evolution technique **to develop better drugs** to treat autoimmune diseases and even to cure metastatic cancer

Uses: Tailored enzymes are now being internationally developed to promote a **greener chemicals industry, produce new materials, manufacture sustainable biofuels, mitigate disease and save lives**

Source, images: Nobel Media

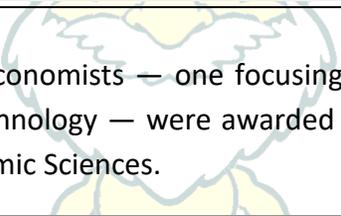
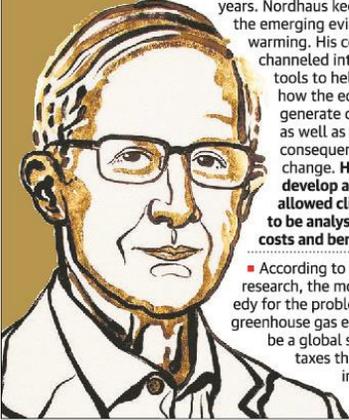
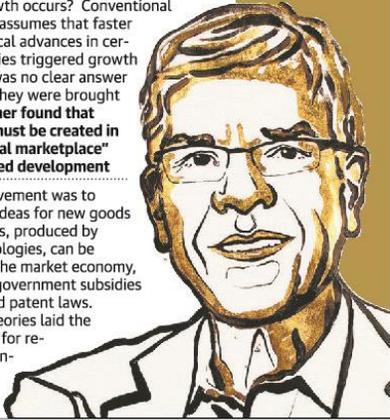
Compiled by Vignesh Radhakrishnan

6. Denis Mukwege and Nadia Murad

In news:

- Denis Mukwege and Nadia Murad were awarded the Nobel Peace Prize for 2018.
- Denis Mukwege is a doctor who helps victims of sexual violence in the Democratic Republic of Congo.
- Nadia Murad - a Yazidi rights activist and survivor of sexual slavery by the Islamic State.
- They were honoured for their efforts to end the use of sexual violence as a weapon of war.

| | |
|--|--|
| | <h2 style="text-align: center;">Battling sexual violence</h2> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  <p>Denis Mukwege Panzi Hospital, D.R. Congo</p> </div> <div style="width: 45%;"> <p><i>Gynaecologist who founded a hospital that helps survivors of sexual violence in the Democratic Republic of Congo. He is the first Congolese to win the award</i></p> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;">  <p>Nadia Murad UN Goodwill Ambassador</p> </div> <div style="width: 45%;"> <p><i>A member of the Yazidi minority in northern Iraq, she was held as a sex slave by the Islamic State. She is the first Iraqi awardee of the peace prize</i></p> </div> </div> <div style="margin-top: 10px; background-color: #f0f0f0; padding: 5px;"> <p style="text-align: center; background-color: #e00000; color: white; padding: 2px;">THEIR WORK</p> <ul style="list-style-type: none"> ▪ Dr. Mukwege and his staff have treated thousands of sexual violence victims. Known as 'Dr. Miracle' for his ability to repair the damage inflicted on women due to rape ▪ Murad has openly and courageously spoken about her suffering at the hands of the IS. In 2016, she was named the UN's first Goodwill Ambassador for Dignity of Survivors of Human Trafficking </div> |
|--|--|

| | |
|---|---|
| <p>7. William Nordhaus and Paul Romer</p> | <p>In news:</p> <ul style="list-style-type: none"> • Two economists — one focusing on climate change and the other on technology — were awarded the 2018 Nobel Memorial Prize in Economic Sciences. <div style="text-align: center; margin: 10px 0;">  </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 25%; background-color: #e0e0e0; padding: 5px;"> <p>William D. Nordhaus <i>"for integrating climate change into long-run macroeconomic analysis"</i></p> </div> <div style="width: 50%; text-align: center;"> <h3 style="margin: 0;">Towards a sustainable future</h3> <p style="font-size: small; margin: 0;">The Nobel Memorial Prize in Economic Sciences rewards the design of methods that addresses pressing issues of our time: sustainable growth in the global economy and welfare</p> </div> <div style="width: 25%; background-color: #e0e0e0; padding: 5px;"> <p>Paul M. Romer <i>"for integrating technological innovations into long-run macroeconomic analysis"</i></p> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> <p>GREEN TAX</p> <ul style="list-style-type: none"> ▪ Human activity has contributed to the rapid increases in average global temperatures over the last 100 years. Nordhaus keenly studied the emerging evidence on global warming. His concern was channeled into devising new tools to help us understand how the economy can generate climate change, as well as the societal consequences of climate change. He wanted to develop a framework that allowed climate change to be analysed in terms of costs and benefits ▪ According to Nordhaus' research, the most efficient remedy for the problems caused by greenhouse gas emissions would be a global scheme of carbon taxes that are uniformly imposed on all countries </div> <div style="width: 45%;"> <p>IDEAS-DRIVEN GROWTH</p> <ul style="list-style-type: none"> ▪ The global economy has grown at a steady pace for long, but growth varies across countries. What explains when and where growth occurs? Conventional economics assumes that faster technological advances in certain countries triggered growth but there was no clear answer as to how they were brought about. Romer found that advances must be created in the "internal marketplace" for sustained development ▪ His achievement was to show how ideas for new goods and services, produced by new technologies, can be created in the market economy, helped by government subsidies for R&D and patent laws. Romer's theories laid the foundation for research on endogenous growth </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;">   </div> |
| <p>8. G.D. Agarwal</p> | <p>In news:</p> |

| | |
|----------------------|--|
| | <ul style="list-style-type: none"> • 'Save Ganga' crusader G.D. Agarwal dead • He was on a fast to save the river; died of heart attack • Formerly a professor in the civil engineering department at IIT-Kanpur who had adopted the name Swami Gyan Swaroop Sanand, the environmentalist was vocal on disallowing hydroelectric projects in Uttarakhand along the Ganga. • Agarwal's key demands included a special law to deal with pollution and encroachment on the Ganga, and maintaining the environmental flow of the river to prevent pollution. |
| 9. Paul G. Allen | <ul style="list-style-type: none"> • Paul G. Allen, the co-founder of Microsoft who helped usher in the personal computing revolution and then channelled his enormous fortune into transforming Seattle into a cultural destination, died Monday in Seattle. • He left Microsoft in the early 1980s, after the cancer first appeared, and, using his enormous wealth, went on to make a powerful impact on Seattle life through his philanthropy and his ownership of an NFL team there, ensuring that it would remain in the city. |
| 10. M.S. Swaminathan | <p>1ST World Agriculture Prize for Swaminathan</p> <p>In news:</p> <ul style="list-style-type: none"> • Renowned agricultural scientist and the chief architect of the green revolution in India, M S Swaminathan, was awarded the first World Agriculture Prize for his contributions to Indian agriculture . • The prize, instituted by the private think tank Indian Council for Food and Agriculture (ICFA), includes a \$100,000 cash award. (₹73,45,500) <p>Receiving the prize, Swaminathan said: <i>"There is no agriculture without farmers. It is the basic need of people and it cannot be commercialised"</i>.</p> |

Miscellaneous

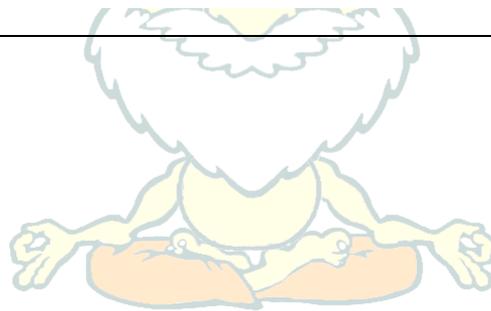
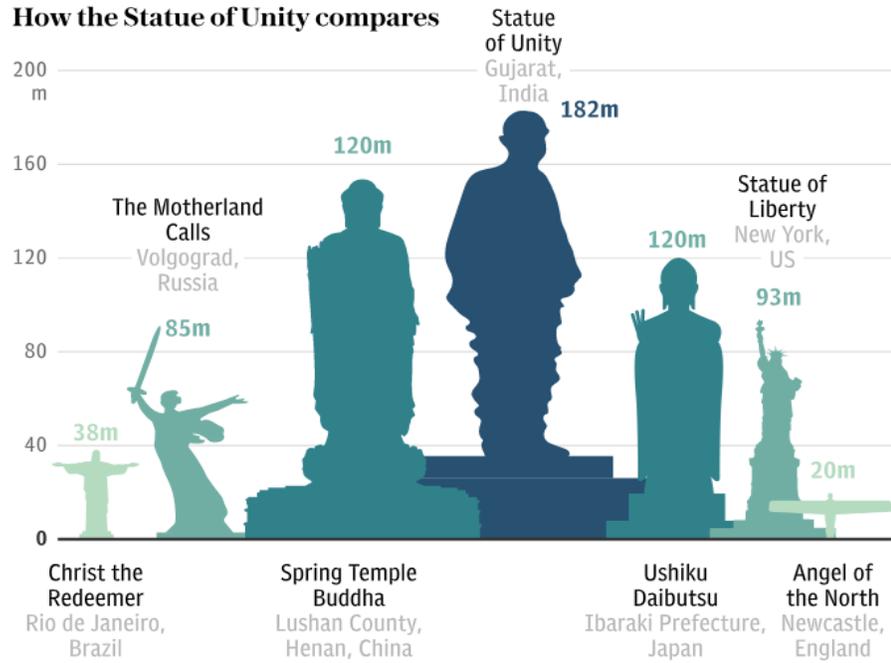
| In News | Description |
|---|--|
| 1. India's first methanol cooking fuel debuts | <ul style="list-style-type: none"> Pilot project by the Namrup-based Assam Petrochemicals Limited (APL), India's first public sector producer of methanol and formalin from natural gas as feedstock. |
| 2. Indians top list of overstayers in U.K. | <ul style="list-style-type: none"> India accounts for the largest number of individuals staying in the U.K. illegally, and the number of those subjected to forced returns to India has fallen by 50% in three years |
| 3. Hurricane Michael in Panama City | <ul style="list-style-type: none"> Hurricane Michael in Panama City |
| 4. 'Zero hunger' by 2030 | <ul style="list-style-type: none"> The government is working continuously in a phased manner to achieve the goal of 'zero hunger' by 2030, Agriculture Minister said while elaborating on efforts being taken to boost farm output. India is facing serious problem of hunger, it has been ranked 103rd among 119 countries on the global hunger index 2018. |
| 5. Mehar Baba prize | <ul style="list-style-type: none"> In a first for the Indian defence sector, the Indian Air Force (IAF) has announced a Mehar Baba prize under which individuals, start-ups and other "for profit" entities can compete to build a swarm of 50 drones to be employed in Humanitarian Aid and Disaster Relief (HADR) operations. |
| 6. Chandra Observatory is back in action | <ul style="list-style-type: none"> NASA's Chandra X-ray telescope — which observes galaxies from the Earth's orbit — is back in action after suffering a technical glitch and going into safe mode last week. The glitch occurred in one of Chandra's gyroscopes. |
| 7. 2,000-foot-long floating pipe nicknamed "Wilson" | <ul style="list-style-type: none"> A 2,000-foot-long floating pipe nicknamed "Wilson" has begun its mission to collect the plastic in the middle of the Pacific Ocean. The pipe, which is in the shape of a U, features a three-metre-deep net to trap floating plastic under the water's surface. |
| 8. Canada legalises marijuana | <ul style="list-style-type: none"> Canada became the first industrialised nation to legalise recreational cannabis. The day was historic for the country as adult Canadians will be able to legally smoke recreational marijuana after nearly a century long |

| | |
|--|--|
| | <p>ban.</p> <ul style="list-style-type: none"> • Despite the dearth of stores in Canada's biggest cities, consumers can buy legal marijuana online, from provincial governments or licensed retailers, although delivery will take a few days. • The move is a political win for Canadian Prime Minister Justin Trudeau, who vowed to legalise cannabis in his 2015 election campaign. • That pledge was aimed at taking profits away from organised crime and regulating the production, distribution and consumption of a product that millions of Canadians had been consuming illegally. |
| 9. 3 Indian students in finals of global science contest | <ul style="list-style-type: none"> • Three Indian students have made it to the finals of the prestigious annual Breakthrough Junior Challenge, a global science competition for teenagers to share their passion for mathematics and science. • The three Indian students are among 15 finalists, chosen from 12,000 students who had submitted engaging and imaginative videos to demonstrate difficult scientific concepts. • Samay Godika, 16; Nikhiya Shamsheer, 16, and Kavya Negi, 18, will be competing with the finalists for a \$250,000 scholarship. • The science teacher who inspired the winning student will get \$50,000. • The winner's school will receive a state-of-the-art science lab worth \$100,000. |
| 10. Xi opens world's longest sea bridge | <ul style="list-style-type: none"> • Chinese President Xi Jinping inaugurated a 55-km bridge that will deepen the integration of Hong Kong and Macao with the rest of China. • The world's longest sea-crossing bridge will be at the heart of an integrated Greater Bay Area (GBA) covering 11 major neighbouring cities, which include Hong Kong, Macao, Guangzhou and Shenzhen. • The giant GBA is expected to rival the San Francisco Bay Area of the U.S., as well as the Tokyo Bay Area of Japan. |
| 11. Mahila Mall (Kerala) | <ul style="list-style-type: none"> • Mahila Mall (Kerala) – First mall in the country with an all-women crew. |
| 12. India-Japan annual summit | <ul style="list-style-type: none"> • 13th India-Japan annual summit – PM Modi arrived in Japan. |
| 13. Statue of Unity | <ul style="list-style-type: none"> • The Statue of Unity, a tribute to Sardar Vallabhbhai Patel, is 177 feet higher than China's Spring Temple Buddha, which was the |

tallest statue till now.

- It is located on the river island called Sadhu Bet near Rajpipla, Gujarat.

How the Statue of Unity compares



(TEST YOUR KNOWLEDGE)

Model questions: (Answers are provided at the end)

Q.1) Sunabeda National Park was in news recently. The national park is located in -

- a) Tamil Nadu
- b) West Bengal
- c) Arunachal Pradesh
- d) Odisha

Q.2) SATAT is an initiative associated with -

- a) Rural Electrification
- b) Solar Pumps
- c) Compressed Bio-Gas
- d) Sustainable and Affordable Housing

Q.3) Consider the following statements:

1. Mansar Lake is one of the largest freshwater lakes in the Shivalik range of the Jammu region.
2. Surinsar-Mansar Lakes is designated as Ramsar Convention.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Q.4) National Company Law Appellate Tribunal (NCLAT) is appellate tribunal for which of the following?

- a) Insolvency and Bankruptcy Board of India
- b) Competition Commission of India (CCI)
- c) National Company Law Tribunal(s)

d) All the above

Q.5) Consider the following statements about National Company Law Tribunal (NCLT)

1. It is under the Ministry of Law and Justice
2. It replaced the Company Law Board (CLB)
3. It is set up at Mumbai, Delhi, Kolkata and Chennai only

Which of the following statement(s) is/are correct?

- a) Only 1
- b) 1 and 2
- c) Only 2
- d) 1 and 3

Q.6) Consider the following statements with reference to Asiatic Lion:

1. The species are listed as 'Critically Endangered' on IUCN Red List.
2. The lions face threat from poaching and habitat fragmentation.
3. Currently, these are protected only in the Gir National Park.

Which of the statements given above is/are correct?

- a) 1 and 3
- b) Only 1
- c) Only 2
- d) 1,2 and 3

Q.7) Consider the following statements about Indian National Center for Ocean Information Services (INCOIS)

1. It is under the aegis of Ministry of Earth Sciences (MoES)
2. It is a permanent member of the Indian delegation to Intergovernmental Oceanographic Commission of UNESCO

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.8) Which of the following correctly defines 'swell waves'?

- a) High waves generated by high tide during Spring Tide.
- b) High waves generated during Tsunamis.
- c) Collection of waves produced by storm winds raging hundreds of miles out to sea.
- d) Waves at the beach produced by change in local winds

Q.9) Consider the following statements about Tsunami

1. The speed of tsunami waves depends on ocean depth rather than the distance from the source of the wave.
2. These are generated by high magnitude earthquakes in the ocean floors or violent under sea volcanic eruptions or by massive undersea landslides.

Select the correct answer using the codes below:

- a) 1 only
- b) 2 only
- c) 1 and 2
- d) Neither 1 nor 2

Q.10) Consider the following statements:

1. India and France had together launched the ISA on sidelines of the UN climate conference (COP21) in Paris in 2016.
2. The ISA is an inter-governmental body of solar rich nations whose objective is to galvanise actions for increasing solar power footprints in 121 potential member countries across the globe.
3. The ISA is headquartered in Gurugram near New Delhi in India.

Which of the statements given above is/are correct?

- a) 1 and 3 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

Q.11) Which of the following programmes are under the International Solar Alliance?

1. Scaling Solar Applications for Agricultural Use
2. Affordable Finance at Scale
3. Scaling Solar Mini Grids

Select the correct code:

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.12) Which among the following heritage sites were chose by Geological Survey recently for UNESCO Global Geopark Network status?

1. Rani ki vav
2. Lonar Lake
3. St. Mary's Island
4. Pattadakal

Choose correct answer:

- a) 1 and 2 only
- b) 2 and 3 only
- c) 2 and 4 only
- d) 1 and 3 only

Q.13) Consider the following statements about 'Lonar Lake'

1. It is a caldera lake
2. It is a saline lake created during the Pleistocene

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.14) Recently, Vice-President M. Venkaiah Naidu inaugurated the world's largest dome at –

- a) Karnataka
- b) Andhra Pradesh
- c) Maharashtra
- d) Gujarat

Q.15) Oil and natural gas is not found in

- a) Andaman and Nicobar basin
- b) Lakshadweep basin
- c) Saurashtra Kachh basin
- d) Ganga basin

Q.16) Which of the following statements are correct differences between Andaman and Nicobar Islands, and Lakshadweep Islands?

1. Lakshadweep islands are of coral origin only while Andaman & Nicobar (A&N) Islands are of volcanic origin only.
2. The average height of Lakshadweep islands above sea level is much lesser than A&N islands.
3. Andaman and Nicobar islands have higher biodiversity than Lakshadweep islands.

Select the code from below:

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.17) Consider the following statements:

1. 15th Finance Commission have the mandate to recommend grant of special category status (SCS) to States.
2. Article 280 of the Indian Constitution defines the scope and functions of the commission.
3. The qualifications of the members of commission are not specified in the Constitution.

Which of the statements given above is/are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 3 only
- d) 1, 2 and 3

Q.18) Sabratha, one of three former cities that constituted Roman Tripolitania is located in -

- Libya
- Syria
- Lebanon
- Albania

Q.19) Fifteenth Finance Commission (FCC) is headed by –

- Preetham Reddy
- Y V Reddy
- NK Singh
- Mihir Shah

Q.20) Chabahar Port is considered to be of utmost strategic importance for India. Which of the statements are correct regarding Chabahar Port?

- It is being developed by India in Afghanistan.
- Once the Chabahar Port is operational, India can bypass Pakistan to reach Central Asian Market.
- India is also developing 500 km railway link connecting Chabahar to Zahedan (Iran – Afghanistan border).

Select the code from below:

- 1 and 2
- 2 and 3
- 1 and 3
- All of the above

Q.21) Consider the following:

- Gwadar port is the only port in Iran that has the direct access to ocean located in close proximity to Gulf of Oman

- The Gwadar port will help India to bypass Pakistan and open up a route to land-locked Afghanistan and Central Asia
- With Gwadar port India hopes to compete with the Chinese, who are building Chabahar port, in Pakistani Baluchistan.

Select the correct answer

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- None of the above

Q.22) Brent index is concerned with

- Eco-friendly status of processed foods
- Crude oil prices
- Energy efficiency status of electrical goods
- Gold future prices

Q.23) Which of the following activities have been prohibited by 'The Cigarettes and other Tobacco Products act 2003'?

- Smoking in all public places
- Direct and indirect advertisement
- Sale of cigarettes and other tobacco products to minors
- Sale of cigarettes and other tobacco products within 100 yards of any educational institution.

Select the code from following:

- 1, 2 and 3
- 2, 3 and 4
- 1, 3 and 4
- All of the above

Q.24) Which of the following states has recently become the first state of the country to bar sellers from displaying tobacco products in the open?

- Haryana
- Punjab
- Rajasthan
- Madhya Pradesh

Q.25) Consider the following pairs and select the correct pair/s from the code below:

Award : : Person associated with it

- Nobel prize in chemistry for 2018 : : Denis Mukwege and Nadia Murad
- Nobel Physics Prize for 2018 : : Frances H Arnold, George P Smith and Gregory P Winter
- Nobel Peace Prize for 2018 : : Arthur Ashkin and Donna Strickland

Code:

- 3 only
- 2 only
- 1 and 2 only
- None

Q.26) Consider the following statements about Atal Tinkering Laboratories (ATLs):

- It is part of Atal Innovation Mission (AIM)
- Mentor India Campaign will engage leaders who can guide and mentor students at Atal Tinkering Labs
- ATLs can be established in schools (Grade VI – XII) managed by Government, local body or private trusts/society.

Select the correct statements

- 1 and 2
- 2 and 3
- 1 and 3
- All of the above

Q.27) Which of the following is under the aegis of NITI Aayog?

- Atal Pension Yojana
- Atal Tinkering Lab
- Atal Innovation Mission

Select the correct code:

- 1 and 2
- 2 and 3
- 1 and 3
- All of the above

Q.28) Which of the following schemes is under the 'Core of the Core Schemes'?

- National Social Assistance Programme
- Mahatma Gandhi National Rural Employment Guarantee Programme
- Pradhan Mantri Krishi Sinchai Yojana
- National Rural Drinking Water Mission

Select the correct code:

- 1, 2 and 3
- 1 and 2 Only
- 2, 3 and 4
- All of the above

Q.29) Which of the following schemes come under NSAP?

- Indira Gandhi National Old Age Pension Scheme (IGNOAPS)
- Indira Gandhi National Widow Pension Scheme (IGNWPS)

3. Indira Gandhi National Disability Pension Scheme (IGNDPS)
4. National Family Benefit Scheme (NFBS)

Select the code from following:

- a) 1,2 and 3
- b) 2,3 and 4
- c) 1,3 and 4
- d) All of the above

Q.30) Which of the following statements are correct regarding NSAP?

1. The scheme is administered by Ministry of Rural Development.
2. The program is being implemented in rural as well as urban areas.
3. For getting benefits under NSAP the applicant must belong to a Below Poverty Line (BPL) family.

Select the code from following:

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.31) Which among the following is considered as Tamil Nadu's State flower?

- a) Gloriosa superba
- b) Neelakurinji
- c) Sacred Lotus
- d) Pride of India

Q.32) Which of the following are the objectives of Climate Smart Agriculture (CSA)?

1. Increasing agricultural productivity
2. Resilience to climate change
3. Reducing greenhouse gas emissions

Select the correct answer using code below

- a) 1 and 2
- b) 1 and 3
- c) 2 and 3
- d) 1,2 and 3

Q.33) Which of the following statements are correct?

1. In the southern hemisphere, the cyclones spin clockwise
2. In the northern hemisphere, the cyclones spin ant-clockwise
3. Recurring cyclone move westward and poleward

Select the correct statements

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.34) Which of the following factors have contributed to the increased severity of Arabian Sea cyclones post-monsoon?

1. Arabian Sea surface becomes warmer than the other ocean basins during this period
2. Interplay of global warming, climate variability and weather changes

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.35) Which of the following are preconditions for the formation of a tropical cyclone?

1. A low pressure center

2. High temperature
3. Presence of moisture
4. Absence of Coriolis force

Select the code from the following:

- a) 1,2 and 3
- b) 2,3 and 4
- c) 1 and 2
- d) 1,3 and 4

Q.36) Names like Wing Loong II, Sea Guardian, Heron are in news. they are associated with -

- a) Tropical Cyclones
- b) Hurricanes
- c) Drones
- d) Medium Multi-Role Combat Aircraft

Q.37) TAPI Pipeline passes through which of the following?

1. Tajikistan
2. Afghanistan
3. Pakistan
4. Iran

Select the correct statements

- a) 2 and 3
- b) 1, 2 and 3
- c) 1, 3 and 4
- d) 1, 2 and 4

Q.38) Consider the following statements with regard to POSHAN Abhiyaan:

1. It is India's flagship programme to improve nutritional outcomes for children, adolescents, pregnant women and lactating mothers.
2. Ministry of Women and Child Development is the nodal ministry.

3. Under POSHAN Abhiyaan, September was celebrated as the Rashtriya Poshan Maah or National Nutrition Month.

Which of the above statements is/are correct?

- a) 1 and 2 only
- b) 1 and 3 only
- c) 1 only
- d) 1, 2 and 3

Q.39) Which of the following are beneficiaries of National Nutrition Mission (NNM)?

1. Children from 0-6 years
2. Adolescent Girls
3. Pregnant Women and Lactating Mothers

Select the correct code:

- a) 1 Only
- b) 1 and 3
- c) 1, 2 and 3
- d) 1 and 2

Q.40) Where are Senkaku Islands located?

- a) Tasman Sea
- b) South China Sea
- c) East China Sea
- d) Bering Sea

Q.41) Exercise MALABAR is a joint military exercise between which of the following given countries?

- a) India, USA, and Indonesia
- b) India, Japan and USA
- c) Japan, India, and Sri Lanka
- d) India, USA and France

Q.42) Consider the following statements with regard to International Day of the Girl Child

1. It is celebrated annually on 11 October.
2. The theme of this year's International Day of Girl Child is 'With Her: A Skilled Girl Force'.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Q.43) Government of India started a program to distribute iron and folic acid tablets in schools. This was done to tackle the problem of:

- a) Vitamin deficiency
- b) Mental development
- c) Stunted growth
- d) Anaemia

Q.44) Global Hunger Index is released by

- a) World Economic Forum
- b) World Health Organization
- c) World Bank
- d) International Food Policy Research Institute (IFPRI)

Q.45) Which of the following terms associated with the different forms of malnutrition is/are correctly matched?

1. Child stunting: Low Weight for Height.
2. Adult Obesity: Carrying excess body fat with a body mass index > 30.
3. Child Wasting: Low Height for age.

Choose the appropriate option:

- a) 1, 2 and 3
- b) 1 and 3
- c) Only 2
- d) 1 and 2

Q.46) Consider the following statements about Global Hunger Index (GHI)

1. It is jointly published by the International Food Policy Research Institute (IFPRI) and World Health Organisation (WHO).
2. According to the recent index, India has a child-wasting prevalence over 20%.

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.47) Sexual Harassment at Workplace Act 2013, was passed to protect women from sexual harassment. Which of the following statements are correct regarding this act?

1. It is compulsory for an organization with atleast 100 or more employees to set up an internal complaints committee for addressing complaints of sexual harassment.
2. It covers all kinds of work places including non – traditional ones as well as transport provided for work.
3. It includes, unwelcome physical, verbal or non-verbal conduct of sexual nature, showing pornography, physical contact or

advances, and making sexually-coloured remarks.

- b) 1 and 3 only
- c) 2 and 3 only
- d) 1, 2 and 3

Select the code from following:

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.48) The Women and Child Development Ministry launched an e – portal, SHE – box.

The platform has been made to register

- a) Complaints of Central Government women employees regarding maternity facilities in offices.
- b) Complaints regarding gender discrimination in work and payment.
- c) Complaints related to workplace related sexual harassment.
- d) Complaints against domestic violence and abuse.

Q.49) Consider the following with regard to National Human Rights Commission:

1. It is a non-statutory and non-constitutional body.
2. It can intervene in any proceeding involving allegation of violation of human rights pending before a court.
3. The commission is not empowered to inquire into any matter after the expiry of one year from the date on which the act constituting violation of human rights is alleged to have been committed.

Which of the statements given above is/are correct?

- a) 1 only

Q.50) Which among the following statements is/are correct in regard to Protection of Human Rights Act?

1. It provided for the constitution of a National Human Rights Commission and also Human Rights Courts.
2. It made it mandatory for the State Governments to constitute State Human Rights Commission.

Choose the correct answer from the code given below:

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.51) Consider the following statements about National Human Rights commission:

1. NHRC is central authority for Human rights enforcement established by Parliament in 1993.
2. The Chairman of the commission should be a retired Chief Justice of India.
3. The Commission can take cognizance of complaints against any individual but only within the territory of India.

Which of the statements given above is/are correct?

- a) Only 1
- b) 1 and 2
- c) Only 2
- d) 1,2 and 3

Q.52) Consider the following statements about Universal Periodic Review (UPR)

1. It is established by the Geneva-based UN Human Rights Council (HRC)
2. It is a process in which human rights record of each of the UN's member countries is peer-reviewed every four or five years
3. The recommendations accepted at the UPR in HRC are binding in nature

Select the correct statements

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.53) Which of the following statements about Prime Minister's Science, Technology and Innovation Advisory Council (PM-STIAC) is/are correct?

1. It will be chaired by Prime Minister.
2. It is set to act as a high-level advisory body to several ministries and execute mission-oriented programmes for these ministries.

Select the correct codes from the given options:

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None of the above

Q.54) Which of the following is/are carriers of zika virus?

1. Aedes aegypti
2. Aedes albopictus
3. Culex

Select the correct code:

- a) Only 1
- b) 1 and 3
- c) 1 and 2
- d) All of the above

Q.55) Consider the following about The Sálim Ali Centre for Ornithology and Natural History (SACON)

1. It is a statutory body established under Environment Protection Act, 1986
2. It creates data bank on Indian ornithology and natural history,
3. It was established in 1990 due to concerted efforts of Ministry of Environment and Forests and Bombay Natural History Society

Which of the statements given above is/are correct?

- a) 1 and 3
- b) 2 and 3
- c) 1 and 2
- d) 1, 2 and 3

Q.56) Justice Verma Committee, 2013 deals with

- a) Centre - state relation
- b) Direct taxes
- c) Child Rights
- d) None of the above

Q.57) Consider the following statements about Sexual Harassment at Workplace Act, 2013

1. The Act uses a definition of sexual harassment which was laid down by the Supreme Court of India in Vishaka v. State of Rajasthan (1997).

2. It is compulsory for any organisation with 10 or more employees to set up an internal complaints committee for addressing complaints of sexual harassment.
3. It covers all women, across formal and informal employment, including clients, customers, domestic workers, contractual employees, volunteers, probationers, trainees, and interns.

Select the correct statements

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.58) Consider the following statements about Zika Virus

1. Zika virus disease is caused by a virus transmitted primarily by Aedes mosquitoes.
2. It can be transmitted through sexual transmission but not through vertical transmission

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.59) The Tropic of Cancer passes through:

- a) India and Iran
- b) Iran and Pakistan
- c) India and Saudi Arabia
- d) Iran and Iraq

Q.60) Which of the following countries borders 'Persian Gulf'?

1. Syria
2. Iran
3. UAE
4. Qatar
5. Yemen

Select the correct code:

- a) 1, 2, 3 and 4
- b) 1, 2, 3 and 5
- c) 2, 3 and 4
- d) 2, 3, 4 and 5

Q.61) Bilateral drills such as - Yudh Aabyas and Cope India - are associated with:

- a) India-US
- b) India-Russia
- c) India-France
- d) India-Australia

Q.62) Bilateral drills such as – Shakti, Varuna and Garuda – are associated with:

- a) India-US
- b) India-Russia
- c) India-France
- d) India-Australia

Q.63) Zoonoses are infectious diseases of animals (usually vertebrates) that can naturally be transmitted to humans. Which of the following are zoonoses?

1. Ebola virus disease
2. Bird flu
3. Swine influenza
4. Zika fever

Select the correct answer using the codes given below.

- a) 1, 2 and 3 only

- b) 2 and 3 only
- c) 2, 3 and 4 only
- d) All the above

Q.64) Cobas Zika test is used to detect Zika virus. The test confirms the presence of zika virus by detecting which of the organelle

- a) DNA
- b) RNA
- c) Plastids
- d) Vacuoles

Q.65) Which of the following Central American countries does not have border with both Pacific Ocean and Caribbean Sea?

- a) Costa Rica
- b) Panama
- c) El Salvador
- d) Guatemala

Q.66) Sahyog-HYEOLYEOG' is joint exercise between Indian and

- a) Japan
- b) China
- c) CLMV Countries
- d) South Korea

Q.67) Which of the following is/are correctly matched?

1. Radcliffe Line – India and Pakistan
2. Durand Line – Afghanistan and Pakistan
3. 38th Parallel – North Korea and South Korea

Select the correct code:

- a) 1 and 2
- b) 2 and 3

- c) 1 and 3
- d) All of the above

Q.68) Mehar Baba prize was in news recently. It is associated with –

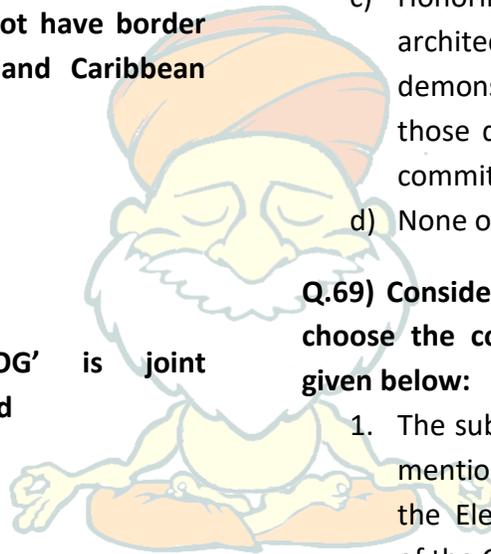
- a) India's first competition in defence sector, which intends to select and shepherd participants from ideation to production.
- b) It is a military award of India given to recognize "distinguished service of an exceptional order" to all ranks of the armed forces.
- c) Honoring a living architect or architects whose built work demonstrates a combination of those qualities of talent, vision and commitment.
- d) None of the above.

Q.69) Consider the below statements and choose the correct one/s from the code given below:

1. The subject of 'Local Government' is mentioned in the State List under the Eleventh and Twelfth Schedule of the Constitution.
2. State has to take steps to organize Panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self government.

Code:

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2



Q.70) Consider the following statements in accordance to Duration of panchayats:

1. Every panchayat shall continue for 5 yrs from the date of its 1st meeting.
2. It can be dissolved earlier in accordance with the procedure prescribed by the Constitution.
3. In case, it is dissolved earlier, elections must take place within 6 month of its dissolution.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 3 only
- c) 2 and 3 only
- d) 1, 2 and 3

Q.71) Consider the following pairs:

Joint Military Exercises :: Countries

1. Hand-in-Hand : India- China
2. Indra : India – Russia
3. Indradhanush: India- UK
4. LAMITYA: India- Seychelles

Which of the above pairs is/are correctly matched?

- a) 2, 3 and 4
- b) 1 and 2 only
- c) 1, 2 and 4
- d) All of the above

Q.72) As per IUCN List, Olive Ridley turtle are

- a) Critically Endangered
- b) Vulnerable
- c) Near Threatened
- d) Least Concern

Q.73) Consider the following statements

1. Olive ridley and Kemp ridley are the only two species of marine turtles that display a unique mass nesting behaviour 'arribada'.
2. They are endemic to the Pacific coasts of Mexico, Central America, and India.

Select the correct statements

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.74) Consider the following statements about Sexual Harassment at Workplace Act, 2013

1. It is compulsory for any organisation with 10 or more employees to set up an internal complaints committee for addressing complaints of sexual harassment.
2. It covers all women, across formal and informal employment, including clients, customers, domestic workers, contractual employees, volunteers, probationers, trainees, and interns.

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.75) Which of the following emissions get regulated under Bharat stage VI?

1. Carbon dioxide
2. Hydro carbons
3. Nitrogen oxides

4. Particulate Matter

Select the correct answer using the code given below:

- a) 1, 2, 3 and 4
- b) 1 and 4
- c) 1, 2 and 3
- d) 2, 3 and 4

Q.76) Government of India has introduced SAFAR system in important metropolitan cities of India for

- a) Forecasting the condition of roads in different weather
- b) Providing precise Indian navigation system
- c) Providing location specific information on air quality in near real time
- d) Providing details of tourist places and hotels in and near the cities

Q.77) Consider the following statements regarding SAFAR system

- 1. It provides information on air quality, weather and UV radiation.
- 2. Currently it is operational only in the four metro cities.

Which of the statements is/are correct?

- a) Only 1
- b) Only 2
- c) 1 and 2
- d) None

Q.78) Consider the following statements with reference to the Particulate Matter

- 1. The term refers only to the solid particles suspended in air.

- 2. These are emitted by vehicles using fuels like diesel, petrol and natural gas.

Which of the statements given above is/are correct?

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.79) Kandahar is often in news. The city is located in –

- a) Afghanistan
- b) Pakistan
- c) Iran
- d) Israel

Q.80) Agriculture is one of the largest Green house gas contributors on earth. Which of the following statements are correct regarding this?

- 1. Cattle rearing is responsible for release of a large amount of Methane in atmosphere.
- 2. Use of manure in soil leads to production of Methane and Nitrogen oxides.
- 3. Burning of crop stubble release a large amount of CO₂ and soot in air
- 4. Clearing space for agriculture leads to deforestation and hence global warming.

Select the code from following:

- a) 1,2 and 3
- b) 2,3 and 4
- c) 1,3 and 4
- d) All of the above

Q.81) Which among the following is/are not true about Pesticides in India?

1. Agriculture ministry regulates the manufacture, sale, distribution and use of pesticides
2. Health and family welfare ministry defines permissible residual limits of pesticides in food commodities
3. The right of banning pesticide vests with state government
4. The Factories Act, 1948 under the Ministry of Labour deals with the safety aspects of pesticide production

Choose the appropriate option:

- a) 1 only
- b) 1 and 3 only
- c) 4 only
- d) None

Q.82) The British participation in the First World War was supported by

1. Moderates
2. Extremists
3. Revolutionaries

Select the correct answer using code below

- a) Only 1
- b) 1 and 2
- c) 2 and 3
- d) 1, 2 and 3

Q.83) Which one among the following is considered to be the symbol of remembrance for Indian soldiers martyred in First World War?

- a) A reversed rifle, capped by a helmet
- b) Hibiscus

- c) National Emblem and two crossed swords
- d) Saffron marigold

Q.84) During the First World War (1914-1918), which countries were in the Triple Entente?

1. France
2. Germany
3. Austria
4. Hungary
5. Italy
6. Russia
7. Great Britain

Choose the correct answer:

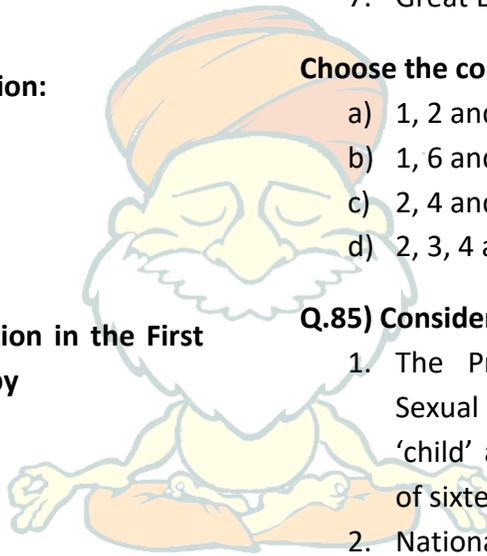
- a) 1, 2 and 7
- b) 1, 6 and 7
- c) 2, 4 and 5
- d) 2, 3, 4 and 5

Q.85) Consider the following statements:

1. The Protection of Children from Sexual Offences Act, 2012 defines a 'child' as any person below the age of sixteen years
2. National commission for Protection of Child Rights (NCPCR) is a statutory body established under the Protection of Children from Sexual Offences Act, 2012.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2



Q.86) Sagar island is an island located in the -

- Ganges delta
- Andaman and Nicobar islands
- Indonesia
- Krishna delta

Q.87) Consider the following statements about Neelakurinji

- It is found in Nepal, India and Tibet
- It blossoms only once in 12 years

Select the correct statements

- 1 Only
- 2 Only
- Both 1 and 2
- Neither 1 nor 2

Q.88) Which among the following is considered as Tamil Nadu's State flower?

- Gloriosa superb
- Neelakurinji
- Sacred Lotus
- Pride of India

Q.89) Migingo Island is located in which of the following?

- Danube River
- South China Sea
- Gulf of Maine
- Lake Victoria

Q.90) Consider the following statements with regard to Ammonium Nitrate:

- It is not an explosive by itself.
- It is used as an ingredient for manufacture of explosives, anaesthetic gases, fertilizers, cold packs, etc.

- It is classified as an oxidizer as per UN classification for Dangerous Goods.

Which of the statements given above is/are correct?

- 1 and 2 only
- 2 and 3 only
- 3 only
- 1, 2 and 3

Q.91) Consider the following statements about Petroleum and Explosives Safety Organization (PESO)

- The PESO has been testing samples of crackers for all types of pollutions.
- It functions under Ministry of Petroleum and Natural Gas.

Which of the above statements is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- None

Q.92) Consider the following statements with reference to taxation

- Higher direct taxes help in controlling Inflation in the economy
- Higher indirect taxes help in controlling the Inflation in the economy

Which of the above statements is/are correct?

- 1 only
- 2 only
- Both 1 and 2

d) Neither 1 nor 2

Q.93) Which of the following are the Direct taxes in India?

1. Customs duty
2. Security Transaction Tax
3. Capital Gains Tax
4. Professional Tax

Select the correct answer using the code given below:

- a) 1, 2 and 3 only
- b) 1, 3 and 4 only
- c) 2, 3 and 4 only
- d) 1, 2, 3 and 4

Q.94) With reference to India's tax system, consider the following statements:

- a) Indian tax system is progressive.
- b) Corporation tax is the largest contributor among the taxes.

Which of the statements given above is/are true?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.95) Consider the following statements with regard to Group of Ministers (GoMs):

1. GoMs are ad hoc bodies formed to give recommendations to the cabinet on certain emergent issues and critical problem areas.
2. GoMs get appointed under the Government of India's Transaction of Business Rules 1961.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) None

Q.96) The United Nations General Assembly formally adopted the "universal, integrated and transformative" 2030 Agenda for Sustainable Development, a set of 17 Sustainable Development Goals (SDGs). Identify the correct goals

1. Gender Inequality
2. Affordable and clean energy
3. Combat desertification
4. End of nuclear energy
5. Clean water and sanitation
6. Food security

Select the correct code

- a) 1, 2, 3, 4, 5 and 6
- b) 2, 3, 5 and 6
- c) 1, 2, 3, 5 and 6
- d) 1, 2, 3, 4 and 5

Q.97) With regard to Sustainable Development Goals (SDGs) consider the following statements:

1. These are also known as "Transforming our World: the 2030 Agenda for Sustainable Development".
2. The SDGs build on the principles agreed upon in entitled "The Future We Want".

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2

d) None

Q.98) National Skill development Fund and National Skill development Corporation have been set up by

- Ministry of Finance
- Ministry of Skill development
- Ministry of Commerce
- Ministry of MSME

Q.99) Which of the following can reduce the Urban Heat Island (UHI) effect?

- Use of light-colored concrete and white roofs.
- Planting trees in cities.
- Implementation of Bharat Stage VI.
- Implementation of Energy Conservation Building Code

Select the correct answer using the codes given below.

- 1, 2 and 4 only
- 2, 3 and 4 only
- 1, 3 and 4 only
- All the above

Q.100) Which of the following emissions get regulated under Bharat stage VI?

- Carbon dioxide
- Hydro carbons
- Nitrogen oxides
- Particulate Matter

Select the correct answer using the code given below:

- 1, 2, 3 and 4
- 1 and 4
- 1, 2 and 3
- 2, 3 and 4

Q.101) Consider the following statements with regard to Bharat stage emission standards (BSES)

- The standards and the timeline for implementation are set by Central Pollution Control Board
- India will be skipping BS-V and directly move to BS-VI from BS-IV

Which of the following statements is/are correct?

- 1 Only
- 2 Only
- Both 1 and 2
- Neither 1 nor 2

Q.102) Long Range Surface to Air Missile recently handed over to Indian Navy is

- Jointly covered by India and Russia
- Jointly covered by India and Japan
- Jointly covered by India and USA
- Jointly covered by India and Israel

Q.103) Consider the below statements with regard to mammals:

- The drastic feature which separates a mammal from an animal is that mammals have mammary glands, which all animals do not have.
- Rodents make up the largest order of mammals and Shrews and moles are second largest group of mammals.
- The smallest mammal is the Bumblebee Bat.

Which of the statements given above is/are correct?

- 1 and 2 only
- 1 and 3 only

- c) 2 and 3 only
- d) 1, 2 and 3

Q.104) Which of the following mammals are exclusively endemic to India?

1. Elvira rat
2. Namdhapa flying squirrel
3. Malabar Civet
4. Markhor

Select the code from following:

- a) 1,2 and 3
- b) 2,3 and 4
- c) 1,3 and 4
- d) All of the above

Q.105) Which among the following are features of Mammal?

1. Sweat glands and oil glands are found on skin
2. Tooth comes twice in these animals
3. There is no nucleus in its blood cells
4. All non-egg laying animals are mammals and hence man is also a mammal

Choose the correct code

- a) 1 and 4 only
- b) 2 and 4 only
- c) 1, 2 and 3 only
- d) All the above

Q.106) According to energy efficiency of an electrical appliance, a star rating is given to it. This guides a customer to go for more energy efficient appliance. Which of the following organizations gives Star rating in India?

- a) Bureau of Energy Efficiency
- b) Bureau of Indian Standards

- c) Department of Science and Technology
- d) DRDO

Q.107) On which of the following can you find the Bureau of Energy Efficiency Star Label?

1. Ceiling fans
2. Electric geysers
3. Tubular fluorescent lamps

Select the correct code

- a) 1 and 2 only
- b) 3 only
- c) 2 and 3 only
- d) 1, 2 and 3

Q.108) Central Bureau of Investigation (CBI) was set up on the recommendation of:

- a) Santhanam Committee
- b) Administrative Reforms Commission of India
- c) Gorwala Report
- d) Ashok Mehta Committee

Q.109) Consider the following about Central Vigilance Commission

1. The Central vigilance Commission is an apex body setup by Parliament on the recommendations of Santhanam committee report.
2. The jurisdiction of the Commission extends only over Central government agencies.
3. It also exercises superintendence over the functioning of the Delhi Special Police Establishment.

Which of the statements given above are correct?

- 1 and 3
- 1 and 2
- 2 and 3
- All of the above

Q.110) Consider the following statements about CVC and CBI:

- Central Vigilance Commission (CVC) was established by an executive resolution of the Central government.
- CVC establishment was recommended by the Santhanam Committee on Prevention of Corruption.
- Central Bureau of Investigation (CBI) was set up by a resolution of the Ministry of Home Affairs.
- The establishment of the CBI was recommended by the Santhanam Committee on Prevention of Corruption.

Which of the above given statements are correct?

- 1, 2 and 3 only
- 1 and 2 only
- 3 and 4 only
- All of the above

Q.111) The Asia-Africa Growth Corridor or AAGC is an economic cooperation agreement between the governments of

- India and Russia
- Japan and Russia
- India and Japan
- USA and Japan

Q.112) Amur falcons has one of the longest and most fascinating migratory paths in the avian kingdom. Consider the following statements regarding Amur falcons:

- It is one of the largest raptor species.
- It migrates from Mongolia to South Africa via India.
- It is amongst the critically endangered species and very few left in wild.
- It considered a delicacy in Nagaland and widely hunted during their short stay in India.

Select the correct statements from above:

- 1 and 3
- 2 and 4
- 3 only
- All of the above

Q.113) Doyang Lake, famous as a roosting site for longest travelling raptors Amur Falcons is located in which state?

- Nagaland
- Manipur
- Meghalaya
- Arunachal Pradesh

Q.114) Which of the following bird species are migratory in nature?

- Pelican
- Flamingo
- Northern Duck
- Amur Falcon

Select the correct answer using the code given below:

- 1 and 3 only
- 1 and 4 only

- c) 2, 3, and 4 only
- d) 1, 2, 3 and 4

Q.115) United Nations Road Safety Trust Fund has been launched recently. Consider the following statements about the same

1. The fund will help to strengthen the capacity of government agencies to implement road safety programmes.
2. It will mobilize resources only from governments or governmental organizations.

Which of the statements given above is/are correct?

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.116) Justice Radhakrishnan Committee is associated with

- a) Teacher Reforms
- b) Pension Reforms
- c) Labour Reforms
- d) None of the above

Q.117) Which of the following statements regarding TB are correct?

1. TB is a chronic viral disease.
2. Once infected a person cannot be permanently cured.
3. TB is spread through air when infected person cough, sneeze, spit or speak.

Select the code from below:

- a) 1 and 2
- b) 2 and 3
- c) 3 only

- d) None of the above

Q.118) Consider the following with regard to Multi-drug-resistant tuberculosis (MDR-TB)

1. Tuberculosis (TB) is caused by Virus
2. MDR-TB is a type of tuberculosis which is unresponsive to at least two of the first line of anti-TB drugs isoniazid and rifampicin
3. Bedaquiline is a medication used in the treatment of MDR-TB

Choose the appropriate code

- a) 2 only
- b) 2 and 3
- c) 1 and 3
- d) 1, 2 and 3

Q.119) Recently the SC has put a ban on selling of crackers because of its harmful impact on air pollution level and public health. Which of the following get emitted from the crackers?

1. Smoke
2. Chemicals
3. Toxic dust

Choose the appropriate option

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) All of the above

Q.120) Consider the following regarding National Disaster Response Force (NDRF)

1. National Disaster Response Force consist of 12 battalions
2. Assam Rifles and CISF are the two most specialized battalions of NDRF

3. NDRF is under the control of Ministry of Home Affairs

Which of the given statement/s is/are correct?

- a) 1 and 3
b) Only 3
c) 2 and 3
d) 1, 2 and 3

Q.121) Global Soil Biodiversity Atlas is prepared by -

- a) International Union for Conservation of Nature
b) European Commission Joint Research Centre
c) World Economic Forum
d) United Nations Environment Programme

Q.122) Living Planet Report (LPR) is published by –

- a) World Wide Fund for Nature
b) International Union for Conservation of Nature
c) World Economic Forum
d) United Nations Environment Programme

Q.123) Who referred to Public Sector Units (PSUs) as ‘temples of modern India’?

- a) Abdul Kalam Azad
b) Sardar Vallabhai Patel
c) Pandit Jawaharlal Nehru
d) C. Rajagopalachari

Q.124) Consider the following regarding Sardar Vallabhai Patel

1. National Unity Day observed on 30th October every year is to commemorate the birth anniversary of Sardar Vallabhai Patel.
2. By profession, he was an economist.
3. He was the first Deputy Prime Minister of India.

Which of the given statements are INCORRECT?

- a) 1 and 2 only
b) 2 and 3 only
c) 1 and 3 only
d) 1, 2 and 3

Q.125) Consider the following statements about General Data Protection Regulation (GDPR)

1. It is designed by International Telecommunications Union (ITU)
2. It has been designed to protect the personal data from some open, unsecured Wi-Fi networks across the globe

Select the correct statements

- a) 1 Only
b) 2 Only
c) Both 1 and 2
d) Neither 1 nor 2

Q.126) In order to protect its citizen’s data, General Data protection regulation (GDPR) has been passed in which of the following?

- a) Canada
b) Australia
c) European Union
d) Norway

2018 OCTOBER MONTH CURRENT AFFAIRS MCQs SOLUTIONS

| | | | |
|------|------|------|-------|
| 1 d | 33 a | 65 c | 97 c |
| 2 c | 34 c | 66 d | 98 a |
| 3 c | 35 a | 67 d | 99 d |
| 4 d | 36 c | 68 a | 100 d |
| 5 c | 37 a | 69 b | 101 c |
| 6 c | 38 d | 70 b | 102 d |
| 7 c | 39 c | 71 d | 103 b |
| 8 c | 40 c | 72 b | 104 a |
| 9 c | 41 b | 73 a | 105 c |
| 10 c | 42 c | 74 c | 106 a |
| 11 d | 43 d | 75 d | 107 d |
| 12 b | 44 d | 76 c | 108 a |
| 13 b | 45 c | 77 c | 109 d |
| 14 c | 46 b | 78 d | 110 d |
| 15 b | 47 b | 79 a | 111 c |
| 16 b | 48 c | 80 d | 112 b |
| 17 b | 49 c | 81 d | 113 a |
| 18 a | 50 a | 82 b | 114 d |
| 19 c | 51 c | 83 d | 115 a |
| 20 b | 52 a | 84 b | 116 d |
| 21 d | 53 b | 85 d | 117 c |
| 22 b | 54 c | 86 a | 118 b |
| 23 d | 55 b | 87 b | 119 d |
| 24 c | 56 d | 88 a | 120 a |
| 25 d | 57 d | 89 d | 121 b |
| 26 d | 58 a | 90 d | 122 a |
| 27 b | 59 c | 91 d | 123 c |
| 28 b | 60 c | 92 a | 124 a |
| 29 d | 61 a | 93 c | 125 d |
| 30 d | 62 c | 94 c | 126 c |
| 31 a | 63 d | 95 c | |
| 32 d | 64 b | 96 b | |

