



drishti

Current Affairs (CONSOLIDATION)

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Polity and Governance

Highlights

- *Basic Structure of Constitution*
- *Rights of Minority Institutes not Absolute: SC*
- *Reservation Review: SC*
- *Ordinance to Protect Health Workers*
- *Parliamentary Committee On Industrial Relations Code Bill, 2019*
- *Unlawful Activities (Prevention) Act*
- *Civil Services Day*
- *National Panchayati Raj Day*
- *SVAMITVA Scheme*
- *e-Gram Swaraj Portal*

Basic Structure of Constitution

Why in News

The concept of 'basic structure' came into existence in the landmark judgment of **Kesavananda Bharati vs State of Kerala case (1973)** 47 years ago.

Background

- Since the adoption of Indian Constitution, debates have started regarding the **power of the Parliament to amend key provisions of the Constitution**.
- In the early years of Independence, the **Supreme Court conceded absolute power to Parliament in amending the Constitution**, as was seen in the verdicts in **Shankari Prasad case (1951)** and **Sajjan Singh case (1965)**.
 - In both **the cases** the court had ruled that the term "**law**" in **Article 13** must be taken to mean **rules or regulations made in exercise of ordinary legislative power and not amendments to the Constitution** made in exercise of constituent power under **Article 368**.
 - This means Parliament had the power to amend any part of the constitution including Fundamental rights.
 - Article 13(2) reads, "The State shall not **make any law** which takes away or abridges the right conferred by this Part (Part-III) and any law made in contravention of this clause shall, to the extent of contravention, be void."
- However, in the **Golaknath case (1967)**, the Supreme Court held that **Parliament could not amend**

Fundamental Rights, and this power would be only with a Constituent Assembly.

- The Court held that an **amendment under Article 368 is "law" within the meaning of Article 13** of the Constitution and therefore, if an amendment "takes away or abridges" a Fundamental Right conferred by Part III, it is void.
- To get over the judgments of the Supreme Court in the **Golaknath case (1967)**, **RC Cooper case (1970)**, and **Madhavrao Scindia case (1970)**, the then government headed by Prime Minister Indira Gandhi had enacted major **amendments to the Constitution (the 24th, 25th, 26th and 29th)**.
 - All the four amendments brought by the government were challenged in the Kesavananda Bharati case.

Kesavananda Bharati case

- In Kesavananda Bharati case, a relief was sought against the Kerala government vis-à-vis **two state land reform laws**, which imposed restrictions on the management of religious property.
 - The **case was challenged under Article 26**, concerning the right to manage religiously owned property without government interference.
 - **Question underlying the case:** Was the power of Parliament to amend the Constitution unlimited? In other words, could Parliament alter, amend, abrogate any part of the Constitution even to the extent of taking away all fundamental rights?
- The Constitutional Bench in Kesavananda Bharati case ruled by a 7-6 verdict that **Parliament could amend any part of the Constitution so long as it did not alter or amend the basic structure or essential features of the Constitution**.

Note:



- However, the court **did not define the term 'basic structure'**, and only listed a few principles, **federalism, secularism, democracy**, as being its part.
- The 'basic structure' doctrine has since been interpreted to include:
 - Supremacy of the Constitution.
 - Rule of law.
 - Independence of the judiciary.
 - Doctrine of separation of powers.
 - Sovereign democratic republic.
 - Parliamentary system of government.
 - Principle of free and fair elections.
 - Welfare state.
- An **example** of application of basic structure is the **SR Bommai case (1994)**.
 - In this case the Supreme Court upheld the dismissal of BJP governments by the President following the demolition of the Babri Masjid, invoking a threat to secularism by these governments.
- Arguments related to Basic structure
 - Critics of the doctrine have called it undemocratic, since unelected judges can strike down a constitutional amendment. At the same time, its proponents have hailed the concept as a safety valve against majoritarianism and authoritarianism.
- **Origin:** The basic structure theory **was first introduced by Justice Mudholkar** in the Sajjan Singh case (1965) by referring to a 1963 decision of the Supreme Court of Pakistan.
 - Chief Justice Cornelius of Pakistan had held that the President of Pakistan could not alter the "fundamental features" of their Constitution.

Rights of Minority Institutes not Absolute: SC

Why in News

Recently, the **Supreme Court of India** gave its judgement on the **admission criteria of minority institutions**.

- It held that **National Eligibility-cum-Entrance Test (NEET)** is mandatory for admission to all the medical colleges and the **right of minority institutions is not absolute** and is **amenable to regulation**.

Key Points

- **Background:**
 - Few colleges challenged the notifications issued by the **Medical Council of India (MCI)** and the **Dental Council of India (DCI)** under **Sections 10D of the Indian Medical Council Act of 1956 and the Dentists Act of 1948** for **uniform entrance examinations**.
 - The management of such minority-run medical institutions held that **uniformly bringing them under the ambit of NEET** would be a **violation of their fundamental right to occupation, trade and business (Article 19(1)(g))** and would violate their **fundamental rights of religious freedom and to manage their religious affairs (Article 25-28) and to administer their institutions (Article 30)**.
 - Few petitioners claimed that **rules notified by Andhra Pradesh government are violative of rights of minority educational institutions** under **Article 30(1) of the Constitution**.
- **Highlights of the Judgement:**
 - The SC held that the **fundamental and religious rights of minorities** and rights available under Article 30 are **not violated by provisions** carved out in Section 10D of the MCI and Dentists Act.
 - The **right to freedom of trade or business is not absolute**. It is subject to **reasonable restriction** in the interest of the students' community to **promote merit, recognition of excellence, and to curb the malpractices**. A uniform entrance test qualifies the test of proportionality and is reasonable.
 - The **NEET is mandatory for admission to medical colleges run by religious and linguistic minority communities** and it would **apply for both aided and unaided** medical colleges administered by minorities.
 - NEET was started to **check several malpractices in the medical education**, to **prevent capitation fee** by admitting students which are lower in merit and to **prevent exploitation, profiteering, and commercialisation** of education.
 - Uniform entrance exams will **ensure improvement in future public health** by encouraging merit which will further enhance the **Directive Principles** enshrined in the Constitution.
 - The SC also upheld **rules framed by the Andhra Pradesh government** making **Secondary School**

Note:

Certificate (SSC)/Transfer Certificate (TC) the basis for a candidate's claim of minority status for admission to B.Ed courses. The rules also **require minority institutions to allot vacant seats under management quota to non-minority students on merit.**

○ **Major Issues:**

- It was noted that **conversion certificates were obtained by students** from other communities for admission under the management quota.
- According to statistical data, **minority seats are highly disproportionate and far in excess** due to the number of colleges and total seats availability.
- Upholding the Andhra Pradesh government's rules will **safeguard the interests of genuine minority students** against the false overnight conversions.
- Providing admission to non-minority students will also **not interfere with the right of a Minority Educational Institution** to manage its affairs for the benefit of the Minority Community.

Minority Educational Institutions

- The term '**minority**' has **not been defined anywhere in the Constitution.**
- **Article 30** grants the following rights to minorities, whether **religious or linguistic**:
 - a. All minorities shall have the **right to establish and administer educational institutions** of their choice.
 - b. The **compensation** amount fixed by the State for the compulsory acquisition of any property of a minority educational institution **shall not restrict or abrogate the right guaranteed** to them. (added by the **44th Amendment Act of 1978**).
 - c. In granting aid, the **State shall not discriminate** against any educational institution managed by a minority.
- **Minority educational institutions are of three types**:
 - a. Institutions that **seek recognition as well as aid** from the State.
 - b. Institutions that **seek only recognition** from the State and **not aid**.
 - c. Institutions that **neither seek recognition nor aid** from the State.

- The institutions of **first and second type are subject to the regulatory power of the state** with regard to syllabus prescription, academic standards, discipline, sanitation, employment of teaching staff and so on. The institutions of **third type are free to administer their affairs but subject to operation of general laws** like contract law, labour law, industrial law, tax law, economic regulations, and so on.
- The SC **allowed the minority educational institutions to admit eligible students of their choice** and to **set up a reasonable fee structure** in the judgement delivered in the **Secretary of Malankara Syrian Catholic College case (2007)**.
 - However, it also held that the **right to establish and administer educational institutions is not absolute**. Nor does it include the right to maladminister.
 - There can be regulatory measures for ensuring educational character and standards and maintaining academic excellence.

Reservation Review: SC

Why in News

Recently, the **Supreme Court of India** has ruled the **January 2000 order** of the Governor of the erstwhile state of **Andhra Pradesh** which provided **100% reservation to Scheduled Tribes (ST) candidates** in posts of school teachers in **Scheduled Areas, unconstitutional**.

- It also highlighted that within the **Other Backward Castes (OBCs)** and the **Scheduled Castes (SCs)** and **STs**, reservation benefits are **not reaching the truly deserving**.

Key Points

- The apex court said that 100% reservation is **not permissible** under the Constitution as the **outer limit is 50%** as specified in **Indra Sawhney case, 1992**.
- A 100% reservation would become **discriminatory and impermissible**. The citizens have **equal rights** and the total exclusion of others by creating an opportunity for one class is not contemplated by the Constitution.
- It also **deprives SCs and OBCs** of their due representation.
- The **opportunity of public employment** cannot be denied unjustly to the incumbents and it is not the prerogative of few.

Note:

- **Equality of opportunity and pursuit of choice** under **Article 51A** cannot be deprived of unjustly and arbitrarily.
- It is **arbitrary and violative** of provisions of **Articles 14 (equality before law), 15(1) (discrimination against citizens) and 16 (equal opportunity) of the Constitution**.
- It also impinges upon the **right of open category** because only STs will fill all the vacant posts leaving SCs and OBCs far behind.
 - **Open Category:** It means for **all castes**. The **50% unreserved seats are not entitled to the General category**. They can be **filled by reserved categories** as well **in case all seats are not occupied by the general category**.
- The SC has **allowed the request not to quash the appointments already made** under the 2000 order. However, it has **warned Andhra Pradesh and Telangana** against making such provisions in the future.
 - In case they do so, exceeding the limit of reservation, the appointments which have not been quashed now, will also be considered null and void.

Background

- The **Andhra Pradesh government** came out with a **similar order in 1986** which was **quashed by the State Administrative Tribunal** and an appeal before the Supreme Court was dismissed **in 1998**.
- However, in **2000**, the State **issued an order providing for 100% reservation to STs candidates** on teacher posts in Schedules areas.
- The **State's High Court upheld** the order but its decision was later on **challenged in the Supreme court** leading to this order.

On Reservation

- **Failure of trickle down approach:** The SC highlighted the **struggles of people from the OBCs, SCs and STs** who **could not benefit** from the trickle down approach of the reservation.
 - By now, there are **affluent and socially and economically advanced classes within the reserved communities** who do not permit benefits to trickle down to the ones who actually need them.
- **Revision of reservation:** The apex court **suggested the government to revise the lists of those entitled to reservation**, from time to time.

- **Suggestion:** It can be **done without disturbing the percentage of reservation** so that the benefits trickle down to the needy and are not hindered by those who have been obtaining benefits for the last 70 years or after their inclusion in the list.

Indra Sawhney & Others vs Union of India, 1992:

- The Supreme Court while **upholding the 27% quota** for backward classes, struck down the government notification reserving 10% government jobs for economically backward classes among the higher castes.
- SC in the same case also upheld the principle that the combined reservation beneficiaries **should not exceed 50%** of India's population.
- The concept of '**creamy layer**' also gained currency through this judgment and provision that **reservation for backward classes should be confined to initial appointments only and not extend to promotions**.
- The **Constitutional (103rd Amendment) Act of 2019** provided for **10% reservation in government jobs and educational institutions** for the "**economically backward**" in the unreserved category.
 - The Act **amended the Articles 15 and 16** of the Constitution by adding clauses empowering the government to provide reservation on the basis of economic backwardness.
 - This **10% economic reservation is over and above the 50% reservation cap**.
- However, it should be noted that a constitution bench of the SC has reserved orders whether a bunch of **writ petitions challenging the economic reservation law should be referred to a Constitution Bench or not**.
 - That is why the court had **refused to pass any interim order to stay or hamper** the implementation of the Constitution (103rd Amendment) Act, 2019.

Ordinance to Protect Health Workers

Why in News

- The President has given his assent to an ordinance passed to amend the **Epidemic Diseases Act, 1897**.

Note:

Key Points

- **Wider Inclusion:** The amendments intend to protect the health workers from **harassment by the public**. The amendments will also apply to **harassment by landlords and neighbours**.
- **Cognizable and Non-bailable:** Violence against medical staff has been made a cognizable and non-bailable offence.
- **Compensation:** Provision for compensation for injury to healthcare personnel or for damage or loss to property.
 - If damage was done to vehicles or clinics of healthcare workers, a compensation amounting to twice the market value of the damaged property would be **charged from the accused**.
- **Timely Investigation:** In cases of attacks on healthcare workers, the **investigation will be completed within 30 days and the final decision arrived within one year**.
- **Umbrella Protection:** The ordinance will **protect the whole healthcare fraternity, including doctors, nurses and ASHA workers from violence during epidemics**.
- **Punishment:** The punishment for such attacks will be **3 months to 5 years and the fine ₹50,000 to ₹2 lakh**.
 - In severe cases, where there are grievous injuries, the punishment will be **6 months to 7 years and the fine ₹1 lakh to ₹5 lakh**.

Cognisable Offences

- In cognisable offences, an officer can take cognizance of and arrest a **suspect without seeking a court's warrant** to do so, if she has "reason to believe" that the person has committed the offence and is satisfied that the arrest is necessary on certain enumerated bases.
- According to the **177th Law Commission Report**, cognisable offences are those that require an immediate arrest.
- Within 24 hours of the arrest, the officer must have detention ratified by a judicial magistrate.
- Cognizable offences are generally heinous or serious in nature such as murder, rape, kidnapping, theft, dowry death etc.
- The first information report (FIR) is registered only in cognizable crimes.

Non-Cognizable Offences

- In case of a non-cognizable offence, the police **cannot arrest the accused without a warrant** as well as cannot start an investigation without the permission of the court.
- The crimes of forgery, cheating, defamation, public nuisance, etc., fall in the category of non-cognizable crimes.

Background

- **Need:** Healthcare workers are being portrayed as potential spreaders of **Covid-19 pandemic**. Public venting of angst against healthcare service personnel leading to harassment assault and damage to property is being highlighted daily. Therefore, the medical community has been demanding protection.
- **Unique Challenge:** The Covid-19 outbreak has posed a unique situation where **harassment of the healthcare workforce** and others working to contain the spread of the disease has been taking place at all fronts, in various places, including in cremation grounds.
- **Deficiency in State laws:**
 - Several States had enacted special laws to offer protection to doctors and other medical personnel in the past. However, these existing State laws **do not have such a wide ambit**.
 - They generally **do not cover harassment at home and workplace** and are focussed more on physical violence.
 - The **penal provisions** contained in these laws are **not stringent enough to deter mischief-mongering**.

Ordinance

- Ordinance is a decree or law promulgated by a state or national government **without the consent of the legislature**.
- **Article 123 of the Constitution of India grants the President** certain law-making powers to promulgate ordinances when either of the two Houses of Parliament is not in session.
- Similar powers are given to the Governor of a state to issue ordinances under **Article 213 of the Constitution**.
- There are **three limitations** with regard to the ordinance making power of the executive. They are:

Note:

- The President can only promulgate an ordinance when **either of the two Houses of Parliament is not in session**.
- The **President cannot promulgate an ordinance unless he is satisfied** that there are circumstances that require taking 'immediate action'.
- Ordinances **must be approved by Parliament within six weeks of reassembling** or they shall cease to operate. They will also cease to operate in case resolutions disapproving the ordinance are passed by both the Houses.

Epidemic Diseases Act, 1897

- The Epidemic Diseases Act initially was passed in February 1897 in the **wake of the outbreak of the bubonic plague in India** (particularly in the Bombay presidency).
- The Act aims to provide for the better **prevention of the spread of Dangerous Epidemic Diseases**.
- It **empowers the state and central government to take special measures** and prescribe regulations that are to be observed by the public to contain the spread of disease.
- It also makes disobedience of any regulation or order made under this Act a **punishable offence**.
- It provides for the **protection of persons or officials acting under this Act** as no suit or other legal proceeding can be initiated against any person for anything done or in good faith intended to be done under this Act.

Parliamentary Committee On Industrial Relations Code Bill, 2019

Why in News

Recently, the Parliamentary Committee on Labour submitted its report on the **Industrial Relations Code, 2019**.

- The Industrial Relations Code 2019 (IR Code) **is the third bill** in a series of four being framed **to amalgamate and rationalise more than 40 central laws governing labour affairs**.
 - **Two other bills were** : (a) Code on Wages, 2019 and (b) Occupational Safety, Health and Working Conditions Code, 2019.

Key Points

- **Payment of wages unjustifiable**: The Committee in its report said that **in case of natural calamities, payment of wages to the workers** until the re-establishment of the industry may be **unjustifiable**.
 - The idea behind the recommendations is that the **industry should not be forced when the situation is beyond their control**.
 - The law has to be reasonable, in such cases it is for **the government to step in and extend a helping hand for the industries**.
 - According to the Committee **Covid-19** would be counted as natural calamity.
- **50% wages**: The **Industrial Code** makes it incumbent upon the employer to pay **50% wages** to the workers/employees who are laid off due to shortage of power, coal, raw material etc. for 45 days.
- The **Industrial Relations Code, 2019** was introduced in the Lok Sabha and referred to the Standing Committee on Labour in December, 2019.
 - With the ongoing lockdown, the draft report was circulated to the members via email on April 15 and later the final adopted report was accepted by the Speaker.

Industrial Relations Code Bill, 2019

- The Industrial Relations Code, 2019 was introduced in Lok Sabha. It seeks to **replace three labour laws**:
 - The Industrial Disputes Act, 1947
 - The Trade Unions Act, 1926
 - The Industrial Employment (Standing Orders) Act, 1946.
- Key features of the Bill
 - Trade Unions:
 - Under the Code, **seven or more members of a trade union** can apply to register it.
 - Trade unions that have a membership of **at least 10% of the workers or 100 workers**, whichever is less, will be registered.
 - Further, the central or state government may recognise a trade union or a federation of trade unions as **Central or State Trade Unions respectively**.
 - Negotiating Unions:
 - The Code provides for a **negotiation union** in an industrial establishment for negotiating with the employer.

Note:

- If there is only one trade union in an industrial establishment, then the employer is required to recognise such trade union as the **sole negotiating union of the workers**.
- In case of multiple trade unions, the trade union with the **support of at least 75% of workers** will be recognised as the negotiating union by the government.
- Lay-off and Retrenchment:
 - The Code defines lay-off as the **inability of an employer**, due to shortage of coal, power, or breakdown of machinery, from giving employment to a worker. It also provides for employers to terminate the services of a worker, i.e., **retrenchment**.
 - Employers of industrial establishments with **at least 100 workers** are required to **take prior permission of the central or state government** before lay-off, retrenchment or closure of an establishment.
 - The central or state government can modify this threshold number of workers by notification. Any person who contravenes this provision is punishable with a fine between **Rs 1 lakh and Rs 10 lakh**.
- Resolution of Industrial Disputes:
 - The **central or state governments** may appoint **conciliation officers** to mediate and promote settlement of industrial disputes.
 - These **officers will investigate the dispute and hold conciliation proceedings** to arrive at a fair and amicable settlement of the dispute.
 - If no settlement is arrived at, then any party to the dispute can make an application to **an Industrial Tribunal set up under the Code**.

Unlawful Activities (Prevention) Act

Why In News

- Recently, many activists, journalists and students have been booked under the **Unlawful Activities (Prevention) Act (UAPA)** in different cases across the country.

Key Points

- UAPA was passed in **1967**. It **aims at effective prevention of unlawful activities associations in India**.
 - **Unlawful activity** refers to any action taken by an individual or association intended to disrupt the **territorial integrity and sovereignty of India**.
- The Act assigns absolute power to the central government, by way of which if the **Centre deems an activity as unlawful** then it may, **by way of an Official Gazette, declare it so**.
- It has **death penalty and life imprisonment** as highest punishments.
- Under UAPA, **both Indian and foreign nationals** can be charged. It will be applicable to the offenders in the same manner, even if crime is committed on a foreign land, outside India.
- Under the UAPA, the investigating agency can **file a charge sheet in maximum 180 days after the arrests** and the duration can be extended further after intimating the court.
- The **2004 amendment**, added **“terrorist act”** to the list of offences to ban organisations for terrorist activities, under which 34 outfits were banned.
 - Till 2004, “unlawful” activities referred to actions related to secession and cession of territory.
- In August, Parliament cleared the **Unlawful Activities (Prevention) Amendment Bill, 2019 to designate individuals as terrorists** on certain grounds provided in the Act.
 - The Act empowers the **Director General of National Investigation Agency (NIA)** to grant approval of **seizure or attachment of property** when the case is investigated by the said agency.
 - The Act empowers the **officers of the NIA, of the rank of Inspector or above**, to **investigate** cases of terrorism in addition to those conducted by the DSP or ACP or above rank officer in the state.

Civil Services Day

- Every year, **21st April** is celebrated as the **Civil Services Day** by the Government of India.
- It is celebrated as an **occasion for the civil servants** to rededicate themselves to the causes of citizens and renew their commitments to public service and excellence in work.

Note:



- The **date is chosen to commemorate** the day when the first Home Minister of Independent India, **Sardar Vallabhbhai Patel addressed the probationers of Administrative Services Officers in 1947 at Metcalf House, Delhi.**
 - He referred to **civil servants as the 'Steel Frame of India'.**
- The **first function on civil services day** was held in **Vigyan Bhawan, New Delhi in 2006.**
- On this day, the **Prime Minister's Awards for Excellence in Public Administration** are presented to Districts/Implementing Units for implementation of Priority programme and innovation categories.
 - These awards bring together civil servants to connect with each other and learn the good practices being implemented across the nation in the field of public grievance.

Sardar Vallabhbhai Patel

- He was born on **31st October, 1875** in **Nadiad, Gujarat.**
- He was the **first Home Minister and Deputy Prime Minister** of independent India.
- He played an important role in the **integration of many Indian princely states** to make an **Indian federation.**
 - He requested the people of India to live together by uniting in order to create **Shreshth Bharat (Foremost India).**
- **Women of Bardoli (in 1928)** bestowed the title '**Sardar**' on Vallabhbhai Patel, which means 'a Chief or a Leader'.
- He is also remembered as the '**Patron saint of India's civil servants**' as he **established the modern all-India services system.**
- The **Statue of Unity** at Kevadiya in Narmada district of Gujarat was built in his honor.

National Panchayati Raj Day

Why in News

Recently, the Prime Minister addressed sarpanches from across the country on **24th April** through a video conference on **National Panchayati Raj Day.**

Key Points

- The **first National Panchayati Raj Day was celebrated in 2010.** Since then, the National Panchayati Raj Day is celebrated on **24th April** every year in India.

- **Prime Minister Launched two programmes:**
 - **e-GramSwaraj:** For monitoring of rural infrastructure works and e-governance.
 - **Swamitva programme:** It involves mapping of rural housing and land holdings via technology including drones.
 - The Swamitva programme would help rural India leverage property for institutional credit and other benefits.

Panchayati Raj

- After the Constitution came into force, **Article 40** made a mention of panchayats and **Article 246** empowered the state legislature to legislate with respect to any subject relating to local self-government.
- **Panchayati Raj Institution (PRI)** was constitutionalized through the **73rd Constitutional Amendment Act, 1992** to build democracy at the grass roots level and was entrusted with the task of rural development in the country.
- **PRI** is a system of **rural local self-government** in India.
 - Local Self Government is the management of local affairs by such local bodies who have been **elected by the local people.**

Salient Features of the 73rd Constitutional Amendment

- The 73rd Constitutional Amendment added **Part IX titled "The Panchayats"** to the Constitution.
- Basic unit of democratic system-**Gram Sabhas (villages)** comprising all the adult members registered as voters.
- **Three-tier system** of panchayats at village, intermediate block/taluk/mandal and district levels except in States with population is below 20 lakhs (Article 243B).
- Seats at all levels to be filled by direct elections **Article 243C (2).**
- **Reservation of seats:**
 - Seats reserved for Scheduled Castes (SCs) and Scheduled Tribes (STs) and the chairpersons of the Panchayats at all levels also shall be reserved for SCs and STs in proportion to their population.
 - One-third of the total number of seats to be reserved for women.
 - One-third offices of chairpersons at all levels reserved for women (**Article 243D**).

Note:

- **Duration:**
 - **Uniform five year term** and elections to constitute new bodies to be completed before the expiry of the term.
 - In the event of dissolution, elections compulsorily within six months (**Article 243E**).
- **Independent Election Commission in each State** for superintendence, direction and control of the electoral rolls (Article 243K).
- **Power of Panchayats: Panchayats** have been **authorised to prepare plans for economic development and social justice** in respect of subjects illustrated in **Eleventh Schedule (Article 243G)**.
- **Source of Revenue (Article 243H):** State legislature may authorise the Panchayats with
 - Budgetary allocation from State Revenue.
 - Share of revenue of certain taxes.
 - Collection and retention of the revenue it raises.
- Establish a **Finance Commission in each State** to determine the principles on the basis of which adequate financial resources would be ensured for panchayats and municipalities (Article 243I).
- **Exemption:** The act does not apply to the states of **Nagaland, Meghalaya and Mizoram** and **certain other areas** because of socio-cultural and administrative considerations.
- These areas include:
 - the Scheduled areas and the tribal areas (under Schedule VI of the Constitution) in the states.
 - the hill areas of Manipur for which district councils exist;
 - Darjeeling district of West Bengal for which Darjeeling Gorkha Hill Council exists.
- However, the **Parliament can extend the provisions of Part IX to Vth schedule areas** through an Act called the **Provisions of Panchayats (Extension to the Scheduled Areas) Act, 1996**.
 - Till 2019, ten states have Vth Schedule Areas. These are: Andhra Pradesh, Telangana, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha and Rajasthan.

Note:

- The VIth Schedule areas are governed by **Autonomous District Councils (ADCs)**.

- These councils have been given Legislative, Administrative and Judicial powers under the VIth Schedule.
- The district councils are also empowered to constitute Village councils and also Village courts.

SVAMITVA Scheme

Why in News

Recently, the **Union Minister of Rural Development & Panchayati Raj** has issued guidelines regarding the **SVAMITVA scheme**. The scheme was **launched on the National Panchayati Raj Day (April 24)**.

Key Points

- **SVAMITVA (Survey of Villages and Mapping with Improved Technology in Village Areas)** scheme is a collaborative effort of the **Ministry of Panchayati Raj, State Panchayati Raj Departments, State Revenue Departments and Survey of India**.
- **Aim:** To provide an **integrated property validation solution for rural India**.
 - It is a scheme for **mapping** the land parcels in rural inhabited areas using **drone technology** and **Continuously Operating Reference Station (CORS)**.
 - The mapping will be done across the country in a **phase-wise** manner over a period of four years - from 2020 to 2024.
- **Benefits:**
 - The scheme will **help in streamlining planning and revenue collection** in rural areas and ensuring clarity on property rights.
 - The scheme will **enable creation of better-quality Gram Panchayat Development Plans (GPDPs)**, using the maps created under this programme.
 - The Gram Panchayats are **constitutionally mandated** for preparation of Gram Panchayat Development Plans (GPDP) for economic development and social justice.
 - The GPDP is based on a **participatory process** in convergence with schemes of all related Central Ministries/Line Departments related to 29 subjects listed in the **Eleventh Schedule of the Constitution**.
- **Present Coverage Area:** The program is currently being implemented in **six states** - Haryana, Karnataka,

Note:



Madhya Pradesh, Maharashtra, Uttar Pradesh and Uttarakhand.

e-Gram Swaraj Portal

Why in News

Recently, the Ministry of Panchayati Raj released a Standard Operating Procedure (SOP) regarding e-Gram Swaraj. The application was **launched on the National Panchayati Raj Day (April 24)**.

Key Points

- **Aim:** To **bring in better transparency** and strengthening of the e-Governance in Panchayati Raj Institutions (PRIs) across the country through **decentralized planning, progress reporting and work-based accounting**.

- It will also assist in enhancing the **credibility of Panchayats** which would induce greater devolution of funds to PRIs.
- It will help in establishing a strong financial system by integrating the **PRIASoft** and **Public Financial Management System (PFMS)**.
- The **PRIASoft** (Panchayati Raj Institutions Accounting Software) is the Online Payment Module whereby Gram Panchayats are carrying out online payments to the vendors and service providers.
 - The main objective of introducing such a module is to have a sound financial management system in the Panchayats leading to their greater credibility and image.
- These endeavours are also congruent to that of **Digital India Programme** which is to transform India into a digitally empowered society and knowledge economy.



Note:



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Economic Scenario

Highlights

- Measures to Deal with Economic Hardship
- Rupee Slips Due to Covid-19
- Currency Exchange Rate Index
- Sovereign Gold Bonds
- Liquidity Boost to NBFCs
- RBI to Restart Operation Twist
- WMA Borrowings of States
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- Special Drawing Rights: IMF
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- Kisan Rath App
- Impact of Oil Price Crash and Covid-19 on Sugar
- Food Crisis Amid Covid-19
- International Financial Services Centres Authority
- Final Report on National Infrastructure Pipeline
- ESIC Funds
- Centre Cuts Non-urea Fertiliser Subsidy
- RBI's Liquidity Offer for Mutual Funds

Measures to Deal with Economic Hardship

Why in News

Recently, prominent economists Amartya Sen, Raghuram Rajan and Abhijit Banerjee have raised concerns and also suggested measures to deal with economic hardships created by the **Covid-19 lockdown**.

Key Points

- **Risk of Defiance of Lockdown Orders:** In the scenario of extended lockdown, a huge number of **people will be pushed into dire poverty or even starvation** by the combination of the **loss of their livelihoods** and **interruptions in the standard delivery mechanisms**.
 - This opens up the risk of **large-scale defiance of lockdown orders**.
- **Reassurance to People:** The government needs to reassure people that it does care and their minimum well-being will be secure. Moreover, the government has the resources to do this.
 - The stocks of food at the **Food Corporation of India** stood at 77 million tons in March 2020, more than **three times the "buffer stock norms"**. This

is also likely to grow over the next few weeks as the **Rabi crop comes in**.

- **Extend PDS Beyond 3 Months:** Although the government has offered a **supplementary Public Distribution System (PDS) provision of 5 kg/person/month for the coming three months**. However, it is likely that three months will not be enough, since even if the lockdown ends soon, the process of reopening the economy will take time.
- **Multidimensional Challenges:** The starvation is just one of the worries, the **unexpected loss of income and savings can have serious consequences**. For example:
 - Farmers need money to buy seeds and fertilizer for the next planting season.
 - Shopkeepers need to fill their shelves again.
 - Many others have to repay the loan that is already due.
- **Improvement Needed:** The government has partly recognized this in the **cash transfers it has promised to certain groups** under **Pradhan Mantri Garib Kalyan Package** but the amounts are both small and narrowly targeted.

Issues Involved

- **Exclusionary PDS:** A substantial fraction (over 10 crore) of the poor are excluded from the **PDS rolls**, for one

Note:



Food Corporation of India

- It is a **Public Sector Undertaking (PSU)**, under the **Ministry of Consumer Affairs, Food and Public Distribution**.
- It was established as a **statutory body** in 1965 under the **Food Corporations Act 1964**. It was established against the backdrop of a major shortage of grains, especially wheat.

Public Distribution System

- It is an **Indian food Security System** established under the **Ministry of Consumer Affairs, Food and Public Distribution**.
- PDS evolved as a **system of management of scarcity** through distribution of food grains at affordable prices.
- PDS is operated under the **joint responsibility of the Central and the State Governments**.
 - The **Central Government**, through **Food Corporation of India (FCI)**, has assumed the responsibility for **procurement, storage, transportation and bulk allocation** of food grains to the State Governments.
 - The **operational responsibilities** including allocation within the State, identification of eligible families, **issue of Ration Cards** and supervision of the functioning of Fair Price Shops (FPSs) etc., rest with the **State Governments**.
- Under the PDS, presently the commodities namely **wheat, rice, sugar and kerosene** are being allocated to the States/UTs for distribution. Some States/UTs also distribute additional items of mass consumption through the PDS outlets such as pulses, edible oils, iodized salt, spices, etc.

reason or another (such as identification barriers to get a ration card), and the supplementary provision (of 5 kg/person/month for the coming three months) only applies to those who are already on it.

- **Reliance on Outdated Data:** The exclusion in the Public Distribution System is because of **outdated 2011 census data** being used to calculate State-wise **National Food Security Act (NFSA) coverage**.
 - Under the NFSA, the PDS is supposed to cover 75% of the population in rural areas and 50% of the population in urban areas, which **works out to 67% of the total population**, using the rural-urban population ratio in 2011.

- India's population was about 121 crore in 2011 and so PDS covered approximately 80 crore people. However, applying the 67% ratio to a projected population of 137 crore for 2020, PDS coverage today should be around 92 crore.
- **Issue of Pending Applications:** Many **State governments are reluctant to issue new ration cards beyond the numbers** that will be provided for by the Central quota.
 - For example, there are about seven lakh pending applications for ration cards in Jharkhand, because the State government stopped issuing new ration cards several years ago to avoid exceeding the numbers provided for by the Central government.

Way Forward

- **Giving away some of the existing stock**, at a time of emergency created by Covid-19 would make perfect sense and it should not be portrayed as costly.
- The government should **use every means** at its disposal to make sure that no one is starving. This includes:
 - **Expanding** the PDS.
 - Setting up **public canteens for migrants** and others who are away from home.
 - Sending the **equivalent of the school meal to the homes** of the children who are now stuck at home (as Kerala is already doing).
 - Making use of reputed local NGOs that often have a reach among the most marginalized that exceeds that of the government.
- **Sending 5000 rupees to the Jan Dhan accounts** of the identified poor households. The poor can be identified by the idea of using the **MGNREGA** rolls from 2019, plus those covered by **Jan Arogya** and **Ujjwala Yojana**.
 - **Issuing temporary ration cards**, perhaps for six months, with minimal checks to everyone who wants ration cards.

Rupee Slips Due to Covid-19

Why in News

The rupee slipped 17 paise against the dollar on 15th April, 2020, amid **heightened uncertainty over the economy** as the **Covid-19** pandemic continues to spread.

Note:

Key Points

- The rupee closed at a record low of 76.44 against the dollar on 15th April, 2020. Rupee was 76.27 against dollar on the previous day.
- However, **the dollar index** was trading 0.3% higher at 99.19.
 - The **U.S. Dollar Index (USDIX)** is an index (or measure) of the value of the United States dollar **relative to a basket of foreign currencies**.
- It can be noted that the rupee has **weakened about 7% against the dollar in 2020** and has hit a record intraday low of 76.55.
 - This implies that the **rupee has become less valuable with respect to the dollar, implying depreciation** of the rupee.
- According to some experts, the **Reserve Bank of India (RBI) has not intervened strongly in the market to stop rupee depreciation**.
 - They expect the RBI to intervene once the rupee breaches the 77 to a dollar.
- In its macroeconomic review, RBI had said if the rupee depreciates 5% from the baseline (i.e. Rs 75 per dollar), inflation could rise by 20 basis points (bps) while **the Gross Domestic Product (GDP) growth could be higher by about 15 bps via increased net exports**.

Currency Depreciation

- Currency depreciation is a **fall in the value of a currency in a floating exchange rate system**.
 - In a floating exchange rate system, **market forces (based on demand and supply of a currency)** determine the value of a currency.
- **Rupee depreciation** means that rupee has become **less valuable with respect to dollar**.
 - It means that the rupee is now **weaker** than what it used to be earlier.
 - **For example:** \$1 used to equal to Rs 70, now \$1 is equal to Rs 76, implying that the rupee has depreciated relative to the dollar i.e. it takes more rupees to purchase a dollar.
- Some of the factors that influence the value of a currency:
 - Inflation
 - Interest rates
 - Trade deficit

- Macroeconomic policies
- Equity market
- Currency depreciation **increases a country's export activity as its products and services become cheaper to buy**.
- The Reserve Bank of India intervenes in the currency market to support the rupee as a **weak domestic unit can increase a country's import bill**.
- There are a **variety of methods** by which RBI intervenes:
 - It can intervene directly in the currency market by **buying and selling dollars**.
 - If the RBI wishes to increase the rupee value, then it can sell dollars and when it needs to bring down rupee value, it can buy dollars.
 - The central bank can also influence the value of rupee by the way of **monetary policy**.
 - RBI can adjust the **repo rate** (the rate at which RBI lends to banks) and the liquidity ratio (the portion of money banks are required to invest in government bonds) to control rupee.

Currency Exchange Rate Index

Why in News

- The rupee has been losing value (or depreciating or weakening) against the dollar over the past few months.
- The exchange rate of rupee is one of the markers to compare **Indian economy's competitiveness vis-a-vis other economies** (also amid Covid-19 outbreak).
 - **Another measure** for comparison is looking at the **growth rates of Gross Domestic Product (GDP) and Gross Value Added (GVA)**.
 - **High-frequency data like sales of automobiles** etc. can also be used as a proxy to compare economies.

Key Points

- **Exchange Rate**
 - The **price of one currency in terms of the other** is known as the exchange rate.
 - A currency's exchange rate vis-a-vis another currency reflects the relative demand among the holders of the two currencies.
 - **For e.g.** If the US dollar is stronger than the rupee (implying value of dollar is higher with respect to

Note:



rupee), then it shows that the demand for dollars (by those holding rupee) is more than the demand for rupees (by those holding dollars).

- This demand in turn **depends on the relative demand for the goods and services** of the two countries.

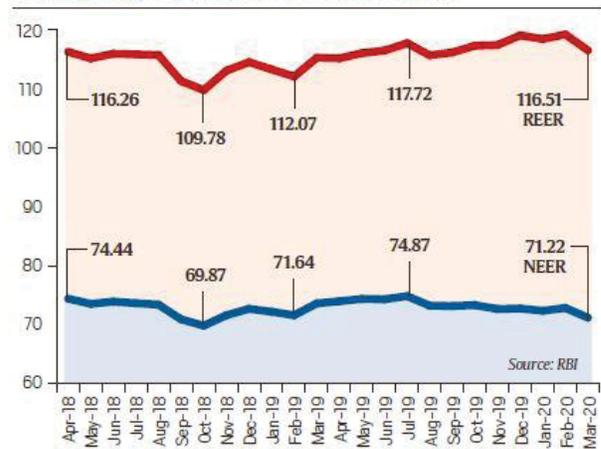
➤ Index for Exchange Rate

- Since a country interacts with many countries, it wants to **see the movement of the domestic currency relative to all other currencies in a single number** rather than by looking at bilateral rates.
- That is, it would want an index for the exchange rate against other currencies, **just as it uses a price index (CPI or WPI)** to show how the prices of goods in general have changed.
- The Reserve Bank of India tabulates the **rupee's Nominal Effective Exchange Rate (NEER)** in relation to the currencies of 36 trading partner countries.
 - This is a **weighted index** — that is, countries with **which India trades more are given a greater weight in the index.**
 - A **decrease** in this index denotes **depreciation in rupee's value** whereas an increase reflects appreciation.
- There is one more measure that is even better at capturing the actual change. This is called the **Real Effective Exchange Rate (REER)** and is essentially an **improvement over the NEER** because it also **takes into account the domestic inflation in the various economies.**
- The REER is the **weighted average of NEER adjusted by the ratio of domestic prices to foreign price.**

➤ Impact of Inflation on Exchange Rate

- **Many factors affect the exchange rate** between any two currencies ranging from the interest rates to political stability (less of either results in a weaker currency). Inflation is one of the most important factors.
- **Illustration:** Imagine that the Rupee-Dollar exchange rate was exactly 1 in the first year. This means that with Rs 100, one could buy something that was priced at \$100 in the US. But suppose the Indian inflation is 20% and the US inflation is zero. Then, in the second year, an Indian would need Rs 120 to buy the same item priced at \$100, and the rupee's exchange rate would depreciate (reduce in value) to 1.20.

NOMINAL & REAL EFFECTIVE EXCHANGE RATES



➤ Comparison between NEER and REER

- As the chart shows, in **NEER terms**, the rupee has depreciated to its lowest level since November 2018. The rupee has been steadily losing value — **showing the Indian economy's reducing competitiveness**— since July 2019.
- In **REER terms** also, the **rupee has depreciated** in March and fallen to its lowest level since September 2019.
- The **difference** between trends of NEER and REER was **due to India's domestic retail inflation being lower relative to the other 36 countries.** As domestic inflation started rising, the REER, too, started depreciating like the NEER.

Note:

- **Gross Domestic Product (GDP)** is a measure of economic activity in a country. It is the total value of a country's annual output of goods and services. It gives the economic output from the consumers' side.
- **Gross Value Added (GVA)** is the sum of a country's GDP and net of subsidies and taxes in the economy. It provides the rupee value for the amount of goods and services produced in an economy after deducting the cost of inputs and raw materials that have gone into the production of those goods and services.

Sovereign Gold Bonds

Why in News

The Government of India (GoI), in consultation with the **Reserve Bank of India (RBI)**, has decided to issue

Note:

Sovereign Gold Bonds (SGBs) in six installments, from April 2020 to September 2020.

- This series of government-run gold bonds, the **Sovereign Gold Bond 2020-21 scheme**, comes at a time when the **rapid spread of the deadly coronavirus (Covid-19)** has **disturbed the financial markets** around the globe **but increased the appeal of the yellow metal (gold) as a safe-haven**.

Key Points

- **Sovereign gold bonds**
 - Sovereign gold bonds are **issued by the RBI on behalf of the government**. They are **government securities denominated in grams of gold**. They are **substitutes for holding physical gold**.
 - The sovereign gold bond scheme was launched in November 2015. Its **objective** is to reduce the demand for physical gold and shift a part of the domestic savings (used for the purchase of gold) into financial savings.
 - **Buy and Sale:** Investors have to pay the issue price in cash and the bonds will be redeemed (bought back by the issuer) in cash on maturity.
 - Issue price is the price at which bonds are offered for sale when they first become available to the public.
 - Apart from having a chance to gain from the **rise in gold prices at the time of redemption (capital gain)**, the investor gets a **fixed rate of interest** on the investment amount throughout the tenure of the fund.
 - The government will pay an interest at the rate of **2.5% per annum**. The interest is payable **semi-annually**.
 - **Tenure:** Sovereign gold bonds have a **tenure of eight years, with exit options are available from the fifth year**.
 - **Eligibility :**The Bonds will be restricted for sale to resident individuals, Hindu Undivided Families (HUFs), Trusts, Universities and Charitable Institutions.
 - The **minimum permissible investment unit is 1 gram of gold**.
- **Channels to buy bonds:**
 - Investors can buy these bonds through **designated scheduled commercial banks (except Small Finance Banks and Payment Banks), Stock Holding**

Corporation of India Limited and designated post offices.

- One can also buy these bonds through **National Stock Exchange of India Limited and Bombay Stock Exchange (BSE) Limited**.
- **Advantages of investing in gold bond:**
 - For investors it is advisable to invest in gold for portfolio diversification.
 - Sovereign gold bonds are considered one of the better ways of investing in gold as **along with capital appreciation an investor gets a fixed rate of interest**.
 - Apart from this, it is **tax efficient as no capital gains is charged in case of redemption on maturity**.
 - Sovereign gold bonds are a good way to ensure an investment that does **not need physical storage of gold**.
- **Disadvantages of sovereign gold bonds**
 - This is a **long term investment unlike physical gold which can be sold immediately**.
 - Sovereign gold bonds are listed on exchange but the **trading volumes are not high, therefore it will be difficult to exit before maturity**.

Liquidity Boost to NBFCs

Why in News

The **Reserve Bank of India (RBI)** has announced a host of measures to provide liquidity support to **Non Banking Financial Companies (NBFCs)**, apart from giving them certain benefits for loans extended to the commercial real estate sector.

Key Points

- **TLTRO 2.0**
 - The RBI would conduct **Targeted Long-term Repo Operations (TLTRO 2.0) for an aggregate amount of Rs 50,000 crore**, in installments of appropriate sizes.
 - The banks have to invest the funds availed under TLTRO 2.0, in **investment grade bonds, commercial paper, and non-convertible debentures of NBFCs**.
 - RBI stipulated that **small and mid-sized NBFCs and Micro Finance Institutions (MFIs)** should receive **at least 50% of these funds**.

Note:



- The investments made by banks under this facility would be classified as **'Held-to-Maturity' (HTM)**, even in excess of 25% of the total investment permitted to be included in the HTM portfolio.
 - Held to Maturity securities are securities that **companies purchase and intend to hold until they mature.**
- This will help in **easing the liquidity problem faced by NBFCs and MFIs** to some extent.
 - NBFCs are facing liquidity pressure since banks have **not extended any repayment moratorium** to these entities even if NBFCs have to provide the same for their borrowers.
- **Refinance facility:** The RBI has also decided to provide a **special refinance facility of ₹50,000 crore to National Bank for Agriculture and Rural Development (NABARD), Small Industries Development Bank of India (SIDBI) and National Housing Bank (NHB)** to enable them to meet sectoral credit needs. This would comprise:
 - ₹25,000 crore to NABARD for refinancing **Regional Rural Banks (RRBs)**, cooperative banks and Microfinance Institutions (MFIs).
 - ₹15,000 crore to SIDBI for on-lending/refinancing.
 - ₹10,000 crore to NHB for supporting Housing Finance Companies (HFCs).
- **Extension of loans to the Real Estate Sector:** The RBI has allowed extension of the loans by NBFCs to **delayed commercial real estate projects by a year without restructuring.**

Targeted Long-term Repo Operations

- **LTRO** is a tool that lets banks **borrow one to three-year funds** from the RBI at the **repo rate**, by providing **government securities with similar or higher tenure as collateral.**
- It is called **'Targeted' LTRO** as in this case, the RBI wants banks opting for funds under this option to be **specifically invested in investment-grade bonds.**
- The TLTRO was introduced by the RBI to help companies, including financial institutions, manage their cash flow issues in the wake of the **Covid-19 outbreak.**

Investment-grade bond

- It is a bond classification used to denote bonds that carry a **relatively low credit risk compared to other bonds.**

Commercial Paper

- It is a short-term debt instrument issued by companies to raise funds generally for a time period up to one year.

Non-convertible debentures

- The debentures which cannot be converted into shares.

National Housing Bank

- It is a statutory organization that was established on 9th July, 1988 under the **National Housing Bank Act, 1987.**
- It is the apex level financial institution for the housing sector in the country and a **wholly owned subsidiary of the RBI.**
- NHB aims to facilitate the **promotion of Housing Finance Institutions** and provides financial and other support to such institutions.

Non-Banking Financial Company

- NBFC is a company registered under the **Companies Act, 1956.**
- It is engaged in the **business of loans and advances, acquisition of shares/stocks/bonds/debentures/securities** issued by Government or local authority or **other marketable securities** of a like nature, leasing, hire-purchase, insurance business, chit business.
- However, it **does not include** any institution whose principal business is that of **agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/construction of 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 installments by way of contributions or in any other manner**, is also a non-banking financial company (Residuary non-banking company).
- **Features of NBFCs:**
 - 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.

Note:

RBI to Restart Operation Twist

Why in News

The Reserve Bank Of India (RBI) has decided to conduct **simultaneous purchase and sale of government securities under Open Market Operations (OMO)** for ₹10,000 crore each on April 27, 2020 considering the current and evolving liquidity and market conditions.

- Such Open Market Operations are known as 'Operation Twist,' which was used by the RBI in December, 2019 for the first time.

Key Points

- Operation Twist is the RBI's simultaneous **selling of short-term securities and buying of long term securities** through Open Market Operations (OMO) in order to **bring down long-term interest rates and bolster short-term rates.**
 - Operation Twist **was first used in 1961 by the US Federal Reserve** (central bank) as a way to strengthen the U.S. dollar and stimulate cash flow into the economy.
- Under this mechanism, **the short-term securities are transitioned into long-term securities.**
- **Impact of Operation Twist:**
 - As the central bank **buys long-term securities (bonds)**, their demand rises which in turn **pushes up their prices.**
 - However, the **bond yield comes down** with an increase in prices (**inverse relationship**).
 - Yield is the return an investor gets on his (bond) holding/investment.
 - The interest rate in an economy is determined by yield. If yield is low, interest rates decrease.
 - Thus, lower long-term interest rates mean people can **avail long-term loans** (such as buying houses, cars or financing projects) **at lower rates.**
 - This will lead to a boost in consumption and spending in the economy which in turn will revive the growth.

Government Security

- A G-Sec is a **tradable instrument** issued by the **Central Government or the State Governments.**
- It acknowledges the Government's debt obligation. Such securities are:

- Short term securities
 - They are usually called **treasury bills**, with original **maturities of less than one year**-presently issued in three tenors, namely, 91 day, 182 day and 364 day.
- Long term securities
 - They are usually called **Government bonds or dated securities** with original maturity of **one year or more.**
- In India, the **Central Government issues both treasury bills and bonds or dated securities** while the **State Governments issue only bonds or dated securities**, which are called the State Development Loans (SDLs).
- G-Secs carry practically **no risk of default** and, hence, are called **risk-free gilt-edged instruments.**

Open Market Operations

- Open Market Operations (OMO) is one of the **quantitative** monetary policy tools which is **employed by the central bank of a country to control the money supply in the economy.**
 - Other monetary policy tools are such as repo rate, cash reserve ratio and statutory liquidity ratio, etc.
- OMOs are conducted by the RBI by way of **sale or purchase of government securities (g-secs) to adjust money supply conditions.**
 - RBI carries out the OMO **through commercial banks** and does not directly deal with the public.

The central bank **sells g-secs to remove liquidity** from the system and **buys back g-secs to infuse liquidity** into the system.

WMA Borrowings of States

Why in News

Recently, states like Kerala, Punjab and Bihar have said that the **Reserve Bank of India's (RBI)** decision to allow 60% higher borrowing under **Ways and Means Advances (WMA)** compared 30th March 2020 limit, is inadequate given the mounting expenses of states to counter the **Covid-19 pandemic.**

Key Points

- The states welcomed the **RBI move to allow 60% higher borrowing under Ways and Means Advances**

Note:



(WMA), but said it is a temporary relief and will have only a marginal impact upon the fiscal crisis the states are facing.

- They are saying that they **can not go long for ways and means** and **have to slash their expenditure** to a large extent because they do not have many avenues left for revenue augmentation.
 - They said banks are not willing to lend for the long term large amounts of money because of their **liquidity preference**.
- They demanded from the Central government to **raise the fiscal borrowing** limits of states currently capped at 3% of the GSDP (**Gross State Domestic Product**) under the **Fiscal Responsibility and Budget Management (FRBM) Act**.
- The Centre can invoke **Section 5(3)** of Fiscal Responsibility and Budget Management Act, 2003 which allows the RBI to “**subscribe to the primary issues of Central Government securities**” under very specific grounds.
 - Those cover, among other things, “**act of war**” and “**national calamity**”.
- The RBI can also undertake increased **secondary market purchases** and **sales of Central as well as state government securities**.

Ways and Means Advances

- The WMA are **short-term loan facilities** which allow the **Centre and states** to borrow funds from the **RBI** to bridge their **temporary mismatch** between expenditure and receipts.
- The interest rate on WMA is the **RBI’s repo rate**.
 - **Repo rate** is basically the rate at which RBI lends short-term money to banks.
- The WMA loans have a **three-month tenure**.
- States are allowed an **overdraft facility** (to borrow in excess of WMA limit) of **21 days**.

Fiscal Responsibility and Budget Management Act, 2003

- It was enacted by the Parliament in 2003 to institutionalize fiscal discipline, reduce fiscal deficit, and improve macroeconomic management.
- The government was supposed to wipe out revenue deficit and cut fiscal deficit to 3% of GDP by 2008-09, thus bringing much needed fiscal discipline.

- **Fiscal deficit** is the total expenditure excluding revenue receipts, loan recoveries and receipts from disinvestment etc. It is a measure of the government borrowing in a year.
- The Act applies only to the central government and the **States have to enact suitable legislation to adopt the rules under the FRBM Act**.
- The implementation of the Act was **put on hold in 2007-08** due to the global financial crisis and the need for fiscal stimulus.
- In 2012, the FRBM Act was amended and it was decided that the FRBM Act would target an effective revenue deficit in place of revenue deficit.
 - **Effective revenue deficit** excludes capital expenditure from revenue deficit and thus provides space to the government to spend on formation of capital assets.
- In 2017, the **FRBM Review Committee** headed by former Revenue Secretary, **NK Singh** submitted its report to the Central Government. Few important recommendations being-
 - A debt to GDP ratio of 60% should be targeted with a 40% limit for the centre and 20% limit for the states;
 - Creation of an autonomous Fiscal Council;
 - An “escape clause”, i.e. the government can deviate from the targets in case of a national calamity, national security, etc.
 - The government **used an escape route** in its Budget for FY20, by taking a deviation of 0.5 percentage points from the fiscal deficit targets set out earlier.

Direct Monetisation

Why in News

The government’s (both centre and state) fiscal deficit is expected to **shoot up to around 15% of Gross Domestic Product (GDP)** when the **permissible limit is only 6%** according to **Fiscal Responsibility and Budget Management (FRBM)** obligations.

- The **possibility of direct monetisation** to alleviate the stress is being explored.

Key Points

- **Fiscal Deficit:**

Note:



- Fiscal deficit is the **total amount of borrowings required** to bridge the gap between government's spending and revenues.
- The borrowings can be from the internal sources (public, commercial banks, central bank etc.) or the external sources (foreign governments, international organisations etc.).
- At this time, for the government to borrow the money, the market should have it as savings.
 - Data show that savings of **domestic households** have been faltering and are **not enough to fund the government's existing borrowing needs**.
 - **Foreign investors have been pulling out** and moving to "safer" economies like the US, and are unwilling to lend in times of such uncertainty.
- **Ideal limit for government debt:**
 - According to economists developing economies like India **should not have debt higher than 80%-90% of the GDP**. At present, it is around 70% of GDP in India.
 - The government should commit to a predetermined amount of **additional borrowing and to reversing the action** once the crisis (Covid-19 outbreak) is over.
- **Direct monetisation (borrowing from the RBI):**
 - In direct monetisation, the government asks RBI to **print new currency in return for new bonds** that the government gives to the RBI.
 - **In lieu of printing new cash**, which is a liability for the RBI (since, every currency note has the RBI Governor promising to pay the bearer the designated sum of rupees), it gets government bonds, which are an asset for the RBI since such bonds carry **the government's promise to pay back the designated sum at a specified date**.
 - Now, the **government would have the cash to spend and alleviate the stress** in the economy via direct benefit transfers to the poor or starting construction of a hospital or providing wage subsidy to workers of small and medium enterprises etc.
 - This is different from the "**indirect**" monetisation that RBI does when it conducts the **Open Market Operations (OMOs)** and/ or purchases bonds in the secondary market.
- **Direct Monetisation by other countries in the wake of Covid-19:**
 - In the United Kingdom(UK) on April 9, 2020 the

Bank of England extended direct monetisation facility to the UK government.

- **Problems with direct monetisation of government deficit:**
 - **High Inflation**
 - Ideally, the direct monetisation provides an opportunity for the government to **boost overall demand at the time when private demand has fallen**.
 - Thus, it **fuels inflation**. A little increase in inflation is healthy as it encourages business activity.
 - However, **higher inflation and higher government debt** provide grounds for **macroeconomic instability**.
 - **Inefficient Spending:** The governments are considered **inefficient and corrupt** in their spending choices— for example, whom to help and to what extent.
 - **Crisis in the Past:** Earlier, the direct monetisation led to the **balance of payments crisis** in 1991, and a near-crisis in 2013.
 - Until 1997, the RBI "automatically" monetised the government's deficit.
 - In 1994, Manmohan Singh (then Finance Minister) and C Rangarajan, then RBI Governor, decided to end this facility by 1997.

India's New FDI Norms Violate WTO: China

Why in News

Recently, China has accused India of violating the **World Trade Organization (WTO)** "principle of non-discrimination" after the **India tweaked its Foreign Direct Investment (FDI) policy** to make its **approval mandatory for firms in neighbouring countries** to invest in Indian companies.

- **India tweaked its FDI policy, 2017** days after China's central bank, the People's Bank of China (**PBoC**), **raised its shareholding in Housing Development Finance Corporation (HDFC) to over 1%** during the recent stock market slump.

Key Points

- **China's Stand:** The **additional barriers** for investors from **neighbouring countries violate WTO's principle**

Note:

of **non-discrimination**, and go against the general trend of liberalization and facilitation of trade and investment.

- India's decision **do not conform to the consensus of G20 leaders and trade ministers** to realize a free, fair, non-discriminatory, transparent, predictable, and stable trade and investment environment, and to keep markets open.
- The **principle of non-discrimination** stipulates that a member **shall not discriminate between products from different trading partners** (giving them equally "**most favoured-nation**" or MFN status); and between its own and foreign products.
- **India's Stand: The amendments are not prohibiting investments**, It has just **changed the approval route** for these investments. There are **many sectors** in India that are already subject to this approval route.
- India said countries like **Germany, Australia and Spain** have also tightened their foreign investment policies to **prevent hostile takeovers by overseas investors**.
- India's move is seen as **checking "opportunistic takeovers"** of Indian firms hit by the ongoing Covid outbreak and lockdown.

Issues Involved

- India's new amendments to foreign investment **do not apply to all countries** but just those which **share borders with India**.
- There will be **different sets of procedures for the same set of investments** based on which country the company is investing from.
- The government could have adopted a more nuanced approach. **E.g.**
 - **Greenfield investments** should have been kept out of the purview as they do not pose a threat of takeover of existing business; to the contrary, they create new capacities and businesses in the country.
 - A distinction should also have been made based on the **class of investors**: venture capital funds are financial investors who may not necessarily be interested in taking over and running a business.
- While the FDI route has been plugged, it is not clear what happens to investments that **come through the market route**.

- Investments that are through entities **registered in countries that do not share a land border** with India but which may **trace their beneficial ownership to China**.

Foreign direct investment

- It is an investment from a party in one country into a business or corporation in another country with the intention of **establishing a lasting interest**.
- Lasting interest differentiates **FDI** from **foreign portfolio investments**, where investors passively hold securities from a foreign country.
- Foreign direct investment can be made by expanding one's business into a foreign country or by becoming the owner of a company in another country.
- **China's FDI in India**
 - China's FDI has grown five-fold since 2014 and as of December 2019, its cumulative investment in India has exceeded \$8 billion.
 - A Brookings India paper pegs the total current and planned Chinese investment in India as being over \$26 billion.

Commodity

Markets Outlook: World Bank

Why in News

According to the **World Bank's April 2020 Commodity Markets Outlook**, **Covid-19** is expected to **bring most commodity prices down** substantially in 2020.

- However, it also says that the outlooks are "**exceptionally uncertain**" and depend on the severity and duration of the pandemic and when mitigation measures are taken.

Key Points

- **Worst Hit:**
 - **Energy and metals commodities** are the most affected by the sudden stop to economic activity and the serious global slowdown that is anticipated.
 - Commodities associated with **transportation, including oil**, have experienced the steepest declines.
- **Agricultural prices** are likely to **stay broadly stable in 2020** because of relatively stable demand and all-time high levels of staple production and stock.

Note:



- However, **supply chain disruptions** and government steps to restrict exports or stockpile commodities raise concerns that **food security may be at risk** in places.
- **Gold prices were up 6.9%** in the last quarter (January-March, 2020) – its **sixth consecutive quarterly rise**.
 - The **strong investor demand** propped gold up despite weak jewelry demand in India and China.
- **Oil Prices:** These are expected to average at \$35 per barrel in 2020.
 - The decline in crude oil prices has been exacerbated by **uncertainty around production agreements among the Organization of the Petroleum Exporting Countries (OPEC) and other oil producers**.
- **Impact on Importers and Exporters:** They are likely to see some long-term shifts in their markets due to the pandemic. These include
 - **Increasing transport costs** due to enhanced border checks and thus **impact on supply chains**.
 - **Substituting for imports with domestic goods:** Companies might prefer to source from closer by for instance.
- **Other Observations: Changing consumer behaviour**, for instance, people may choose to work remotely, travel less, and this could impact permanent drops in demand for oil, **favourably impacting the accounts for oil importers**.
 - The reduction in emissions of the harmful gases caused by the restrictions **may also increase public pressure for greener transport and lowered fossil fuel use**.

Commodity Markets Outlook

- It provides **market analysis for major commodity groups** – energy, metals, agriculture, precious metals, and fertilizers.
- The report forecasts **prices for 46 key commodities**, including oil.
- It is **published by the World Bank in April and October**.

Impact of Covid-19 on Remittance: WB

Why in News

Recently, the **World Bank** released a report on the **impact of Covid-19 on migration and remittances**.

Key Points

- According to the report, **India's remittances** are projected to fall by **about 23 %** in 2020.
- **Globally remittances** are projected to decline by about **20 %** in 2020.
- The projected **fall is largely due to a fall in the wages and employment of migrant workers** due to the recession caused by the Covid-19 pandemic.
 - The migrant workers are vulnerable to loss of employment and wages during an economic crisis in a host country.
- The **sharp decline in crude prices will also hurt remittances from oil-producing countries** such as Saudi Arabia and the United Arab Emirates.
- This will lead to **loss of income for expatriate Indians working** in the Gulf and elsewhere across the world.

Remittance

- A remittance is **money sent to another party, usually one in another country**.
- The sender is typically an immigrant and the recipient a relative back home.
- Remittances represent one of the **largest sources of income for people in low-income and developing nations**. It often exceeds the amount of direct investment and official development assistance.
- Remittances **help families afford food, healthcare, and basic needs**.
- **India is the world's biggest recipient of remittances**. Remittances bolsters **India's foreign exchange reserves** and helps fund its **current account deficit**.

World Bank

- **The Bretton Woods Conference** held in 1944, created the **International Bank for Reconstruction and Development (IBRD)** along with the **International Monetary Fund (IMF)**.
- The **IBRD** later became the **World Bank**.
- The World Bank Group is a unique global partnership of five institutions working for **sustainable solutions** that **reduce poverty** and build shared prosperity in **developing countries**.
- It has 189 member countries.
- Few **important reports** released by the World Bank are:
 - **Ease of Doing Business**,

Note:

- **Human Capital Index** and
- **World Development Report**
- The five development institutions of the World Bank are.
 - **International Bank for Reconstruction and Development (IBRD)**: provides loans, credits, and grants.
 - **International Development Association (IDA)**: provides low- or no-interest loans to low-income countries.
 - **International Finance Corporation (IFC)**: provides investment, advice, and asset management to companies and governments.
 - **Multilateral Guarantee Agency (MIGA)**: insures lenders and investors against political risk such as war.
 - **International Centre for the Settlement of Investment Disputes (ICSID)**: settles investment-disputes between investors and countries.

Special Drawing Rights: IMF

Why in News

Recently, the Finance Minister of India opposed a general allocation of new **Special Drawing Rights (SDR)** by the **International Monetary Fund (IMF)** because it might not be effective in easing **Covid-19** driven financial pressures.

- The Finance Minister was concerned that such a major liquidity injection could **produce potentially costly side-effects** if countries used the funds for irrelevant purposes.
- The new SDR allocation will provide all 189 members with **new foreign exchange reserves with no conditions**.

Key Points

- The SDR is **neither a currency nor a claim on the IMF**. Rather, it is a potential claim on the freely usable currencies of IMF members. **SDRs can be exchanged for these currencies**.
- The SDR serves as the **unit of account of the IMF** and some other international organizations.
- The **currency value** of the SDR is determined by **summing the values in U.S. dollars**, based on market exchange rates, of a SDR basket of currencies.

- The **SDR basket of currencies** includes the **U.S. dollar, Euro, Japanese yen, pound sterling and the Chinese renminbi** (included in 2016).
- The SDR currency value is calculated daily (except on IMF holidays or whenever the IMF is closed for business) and the valuation basket is reviewed and adjusted every five years.
- **Quota** (the amount contributed to the IMF) of a country is denominated (expressed) in SDRs.
 - Members' **voting power** is related directly to their **quotas**.
- **India's Foreign exchange reserves** also incorporate SDR.
 - The Foreign exchange reserves of India also includes foreign currency assets, gold reserves and Reserve Tranche in the IMF.

Oil Prices Below Zero

Why in News

Recently, the prices of **West Texas Intermediate (WTI)**, the **best quality of crude oil** in the world, **fell to minus \$40.32 a barrel** in interlay trade in **New York (the USA)**.

- It means that the seller of crude oil would be paying the buyer \$40 for each barrel that is bought.
- It is the **lowest crude oil price ever recorded** below the zero mark while the **previous lowest** was recorded **immediately after World War II (WWII)**.

Oil Pricing

- Generally the **Organization of the Petroleum Exporting Countries (OPEC)** used to **work as a cartel and fix prices** in a favourable band.
 - OPEC is **led by Saudi Arabia**, which is the **largest exporter of crude oil in the world (single-handedly exporting 10% of the global demand)**.
 - It could bring down prices by increasing oil production and raise prices by cutting production.
- The global oil pricing mainly **depends upon the partnership between the global oil exporters** instead of well-functioning competition.
- **Cutting oil production** or **completely shutting down** an oil well is a difficult decision, because **restarting** it is immensely **costly and complicated**.
 - Moreover, if a country cuts production, it **risks losing market share** if other countries do not follow the suit.

Note:



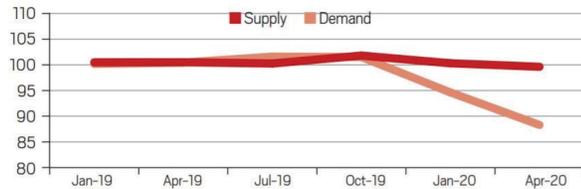
- Recently, OPEC has been working with **Russia, as OPEC+** to fix the global prices and supply.

Reasons for Price Fall

- Crude oil prices were **already falling before the global lockdown** due to the **higher supply and lower demand**.
 - They were close to \$60 a barrel at the start of 2020 and, by March-end, they were closer to \$20 a barrel.

TOO MUCH SUPPLY, FALLING PRICES

Chart 1: Liquid fuels produced and consumed worldwide
(in million barrels per day)



- Problems arose when **Saudi Arabia and Russia disagreed over the production cuts**, required to keep prices stable.
 - Consequently, Saudi Arabia led oil-exporting countries started **undercutting each other on price** while **producing the same quantities of oil**.
 - This strategy was **unsustainable** on its own and the global spread of **Covid-19 made it even worse** as it sharply **reduced the economic activity** and the **oil-demand**.
- Oil-exporting countries decided to **cut production by 10 million barrels a day** (the **highest production cuts**) and yet the demand for oil was reducing even further.
 - This **supply demand mismatch** resulted in **exhausted storage capacities**.
- It is important to highlight that the **US** became the **largest producer of crude oil in 2018** and the current US President has been pushing for **higher oil prices** instead of making efforts for lower prices like the previous US Presidents.
- The oil prices started falling steeply because the **May contracts for WTI were due to expire on 21st April, 2020** which posed **huge challenges** for both the **oil producers** and the **consumers (contractors/buyers)**.
 - **Producers:** They started selling the oil at unbelievably low prices because **shutting production would have been costlier to restart when compared to the marginal loss on May sales**.

- **Consumers:** They were facing the **problem of storage**. There is no space to store the oil even if they decided to buy and take the delivery.
 - Accepting the oil delivery, paying for the transportation and storage would have been costlier than the hit on contract price.
- In the short term, for both the holders of the delivery contract and the oil producers, it was less costly to pay \$40 a barrel and get rid of the oil instead of storing it (consumers/buyers) or stopping production (producers). So this led to the **negative WTI oil contract prices**.

Future of Oil Prices

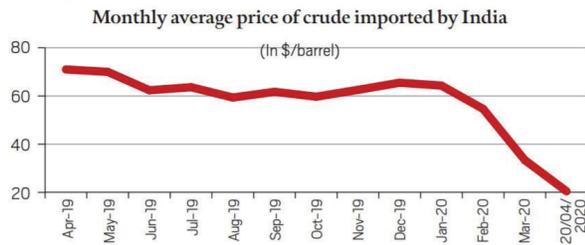
- It was the **WTI price for May in the US markets** that went **so low**. Crude oil prices at **other places fell but not too much**.
- Prices for **June and the coming months** are pegged **between \$20 and \$35 a barrel**.
- **Investment budgets of exploration and production companies** are **expected to drop** because of the **low shale oil prices**.
- Normally, this should force oil exporting countries to **cut back production and negate the excess supply, restoring balance** in the oil markets but the possibility of recent events from happening again cannot be ruled out.
- Eventually, it would be the **demand-supply mismatch** (adjusted for how much can be stored away) that will **decide the fate of oil prices**.

Impact on India

- There is **no direct impact** on India because Indian crude oil basket does not comprise WTI and it **only has Brent and oil from some of the Gulf countries**.
 - However, the **weakness in WTI reflects on the falling prices** of Indian basket as well because **oil is traded globally** and has **indirect impacts**.
- The lower price can be **beneficial for India in two ways**:
 - **For Individuals:** If the government passes on the **lower prices to consumers**, then **individual consumption will be boosted** whenever the **economic recovery** starts in India.
 - **For Governments:** If both, central and the state, governments decide to **levy higher taxes** on oil, it can **boost government revenues**.

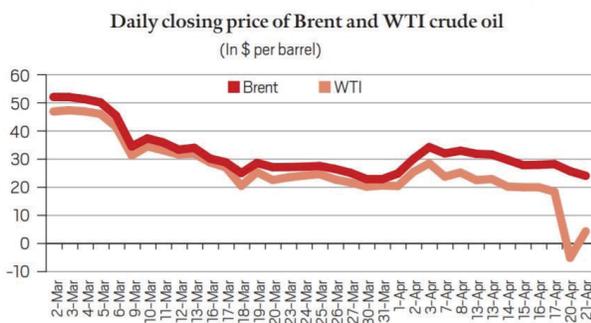
Note:





Difference between Brent and WTI

- **Brent crude oil** originates from oil fields in the **North Sea** between the Shetland Islands and Norway, while **West Texas Intermediate (WTI)** is sourced from **US oil fields**, primarily in Texas, Louisiana, and North Dakota.
- **WTI with a lower sulphur content (0.24%)** than **Brent (0.37%)**, is considered “**sweeter**”.
- Both oils are **relatively light**, but Brent has a slightly higher API gravity, making WTI the lighter of the two.
 - **American Petroleum Institute (API) gravity** is an indicator of the density of crude oil or refined products.
- **Brent crude price** is the international benchmark price used by the **OPEC** while **WTI crude price** is a benchmark for **US oil prices**.
 - Since **India imports primarily from OPEC** countries, Brent is the benchmark for oil prices in India.
- **Cost of shipping for Brent** crude is typically **lower**, since it is **produced near the sea** and it can be put on ships immediately. Shipping of WTI is priced higher since it is produced in landlocked areas like Cushing, Oklahoma where the storage facilities are limited.



Kisan Rath App

The **Ministry of Agriculture & Farmers Welfare** has launched ‘**Kisan Rath**’ mobile application (app) to facilitate

transportation of foodgrains and perishable **during lockdown**.

- The application has been developed by the **National Informatics Centre -NIC** (backed by the **Ministry of Electronics and Information Technology**).
- It will be **available in eight languages** initially, including english and hindi.

Key Points

- The app is expected to **connect farmers and traders to a network of more than 5 lakh trucks** and 20,000 tractors.
- It is meant to **help farmers and traders who are searching for vehicles to move produce**. This includes:
 - **Primary transport** from the farm to the mandis, local warehouses or the collection centres of **farmer producer organisations**.
 - **Secondary transport** from the local mandis to intra-and inter-State mandis, processing units, railway stations, warehouses or wholesalers.
- The **Government has granted relaxation in the nationwide lockdown for activities related to agriculture-farming** and allied activities with a view to address problems being faced by the farming community.
- The app will be a stepping stone towards provision of **timely transportation service at competitive rates** for farmers and traders, besides achieving a **reduction in food wastage**.
 - This will help in ensuring **better prices of the produce to farmers**.

Impact of Oil Price Crash and Covid-19 on Sugar

Why in News

Recently, the prices of raw sugar for May delivery in New York crashed to 9.75 cents/pound, the lowest since June, 2008.

- Earlier, the oil **prices of West Texas Intermediate grade crude fell** to an unprecedented minus \$40.32/ barrel in interlay trade in New York (the USA).

Key Points

- **Impact of Covid-19 lockdown on Sugar:** Subdued economic activity and lockdowns imposed by many

Note:

countries to combat the **Covid-19** pandemic has **reduced the demand** of many commodities including sugar.

- **Impact of crude oil prices on production of Sugar:** Usually, when oil prices are high, **mills (especially in Brazil) tend to divert cane for making ethanol** (alcohol of 99%-plus purity) that is used for blending with petrol.
 - With recent fall in oil prices, **mills will not find it attractive to divert cane for ethanol.** The juice from crushing sugarcane can be crystallised into sugar or fermented into ethanol.

Challenges/ Issues

- **Impact of low demand in sugar and low oil prices on India:** Dip in sugar consumption, together with higher Brazilian output, is bad news for both **Indian sugar mills and cane farmers.**
 - **Excess stocks** of sugar due to low demand and high dumping from Brazil will add to the woes of both farmers and industries.
- **India is already grappling with high dues to farmers** by the sugar industry.
 - **Slow down in exports and not much domestic lifting** of sugar by institutional consumers has significantly undermined the ability of mills to make cane payments.
- **Reduced offtake of alcohol:** The lockdown has also **reduced offtake of alcohol**, be it potable liquor or ethanol for blending with petrol.

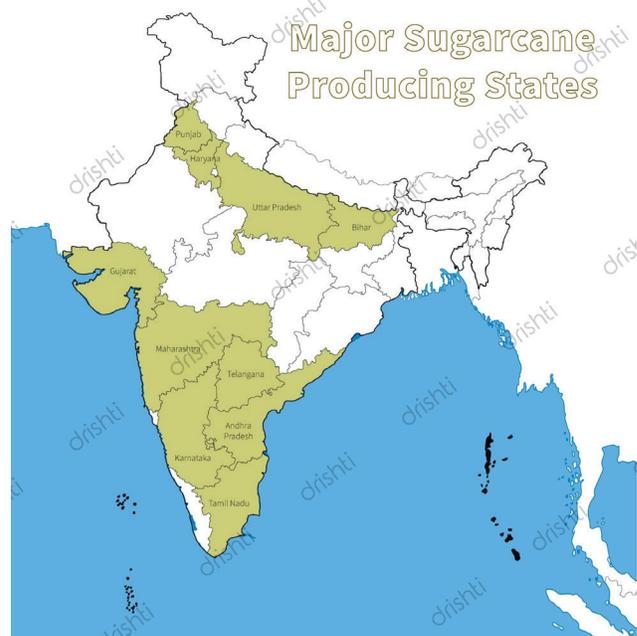
Scope of Opportunity

- India can supply sugar to **Indonesia's increased import requirements.**
 - **Higher Import Projections:** Indonesian refiners are projected to import 3.3 mt of raws this year, up from 2.6 mt in 2019.
 - **Absence of Alternatives:** Indonesia buys mostly from Thailand, which is experiencing a bad drought that could lead to its production falling.
 - **Reduced Duty:** Indonesia also slashed the duty on Indian raw sugar from 15% to 5% in March.

Sugarcane Cultivation

- **Temperature:** Between 21-27°C with hot and humid climate.

- **Rainfall:** Around 75-100 cm.
- **Soil Type:** Deep rich loamy soil. It can be grown on all varieties of soils ranging from **sandy loam to clay loam** given these soils should be **well drained.**
- **Yield:** The **yield of sugarcane is high in southern states** compared to northern states because of favourable climatic conditions, i.e dry weather with low humidity, bright sunshine hours, cooler nights with wide diurnal variations and very little rainfall during ripening period.
- **Top Sugarcane Producing States:** Uttar Pradesh > Maharashtra > Karnataka > Tamil Nadu > Bihar.
- India is the **second largest producer of sugarcane after Brazil.**



- It needs manual labour from sowing to harvesting.
- It is the main source of **sugar, gur (jaggery), khandsari and molasses.**
- **Scheme for Extending Financial Assistance to Sugar Undertakings (SEFASU) and National Policy on Biofuels** are two of the government initiatives to support sugarcane production and the sugar industry.

Food Crisis Amid Covid-19

Why in News

According to the **United Nations' World Food Programme (WFP)**, the **number of people facing acute**

Note:



food insecurity could nearly double to 265 million in 2020 due to the **economic fallout of Covid-19**.

- **Acute food insecurity** is any **manifestation of food insecurity at a specific point in time of a severity** that threatens lives, livelihoods or both, regardless of the causes, context or duration.

Key Points

- **Global Report on Food Crisis 2020**
 - This report was highlighted to show **links between conflict and rising levels of acute food insecurity**.
 - **135 million people** in 55 countries experienced acute food insecurity in **2019** nearly 60% of whom **lived in conflict or instability**.
 - **Yemen will see the world's worst food and malnutrition crisis in 2020** as the number of acutely food-insecure people there is "expected to exceed 17 million".
 - The report is produced by the **Global Network against Food Crises**, an international alliance working to address the root causes of extreme hunger.
- **Covid-19 Effect**
 - An **additional 130 million** are on the edge of starvation prompted by Coronavirus. Added with 135 million, the number rises to 265 million in 2020.
 - **Reasons:** The impact of **lost tourism revenues, falling remittances, unemployment, under-employment, shutdown of many factories and travel and other restrictions** linked to the coronavirus pandemic.
- **Suggestions**
 - Swift and unimpeded humanitarian access to vulnerable communities.
 - To set up a network of logistics hubs to keep worldwide humanitarian supply chains moving.
 - Strengthening food security systems.

UN World Food Programme

- World Food Programme (WFP) is the leading humanitarian organization saving lives and changing lives, delivering food assistance in emergencies and working with communities to improve nutrition and build resilience.
- The WFP was **established in 1963** by the FAO (Food and Agriculture Organization) and the United Nations General Assembly.

India's Step in Ensuring Food Security

- The Union Agriculture Minister participated in an Extraordinary virtual meeting of **G-20** Agriculture Ministers to address the issue of Covid-19 impacts on food security, safety and nutrition.
 - The G-20 Agriculture Ministers virtual meeting was **organized** through video conferencing **by the Saudi Presidency**.
 - The G-20 nations resolved to have **international cooperation** in the backdrop of the Covid-19 pandemic, to avoid food wastages and losses, **maintain the continuity of the food supply value chain** across borders.
 - They also resolved to work together for food security and nutrition, share best practices and lessons learnt, promote research, responsible investments, innovations and reforms that will improve the sustainability and resilience of agriculture and food systems.
 - Agreed to **develop science based international guidelines on stricter safety and hygienic measures for zoonosis control**.
- The **Government of India has exempted all agriculture operations during the lockdown period** and ensured continued availability of essential agriculture produce and supply, while adhering to protocol of social distancing, health and hygiene.

International Financial Services Centres Authority

Why in News

The central government has established **International Financial Services Centres Authority** to regulate all financial services in International Financial Services Centres (IFSCs) with headquarters in **Gandhinagar (Gujarat)**.

Key Points

- **Functions:**
 - The authority will **regulate financial products** such as securities, deposits or contracts of insurance, financial services, and financial institutions which have been **previously approved by any appropriate regulator such as Reserve Bank of India (RBI)**, the **Securities and Exchange Board of India (SEBI)** etc., in an IFSC.

Note:

- It will also regulate any other financial products, financial services, or financial institutions in an IFSC, which may be **notified by the central government**.
- It may also **recommend to the central government** any other financial products, financial services, or financial institutions, which may be permitted in an IFSC.
- **Members:**
 - The International Financial Services Centres Authority will consist of **nine members, appointed by the central government**.
 - They will include **chairperson** of the authority, a **member each from the RBI, SEBI, the Insurance Regulatory and Development Authority of India (IRDAI), and the Pension Fund Regulatory and Development Authority (PFRDA)**; and **two members from the Ministry of Finance**. In addition, two other members will be appointed on the **recommendation of a Selection Committee**.
 - **Term:** All members of the IFSC Authority will have a **term of three years, subject to reappointment**.
- **Possible Benefits:**
 - **Unification under one authority:** The banking, capital markets and insurance sectors in IFSC which are regulated by multiple regulators -- the RBI, SEBI, and IRDAI will be unified under the IFSC authority.
 - The single window regulatory institution would **accelerate the development of India's first IFSC at GIFT City, Gandhinagar**.

International Financial Services Centre

- An IFSC enables **bringing back the financial services and transactions that are currently carried out in offshore financial centres** by Indian corporate entities and overseas branches/subsidiaries of Financial Institutions (such as banks, insurance companies, etc.) to India.
 - It offers a **business and regulatory environment** that is **comparable to other leading international financial centres** in the world like London and Singapore.
- IFSCs are intended to provide Indian corporates with **easier access to global financial markets**, and to complement and promote further development of financial markets in India.
- The first IFSC in India has been set up at the **Gujarat International Finance Tec-City (GIFT City) in Gandhinagar**.

- **Both national and international institutions** dealing with international financial services would utilise the IFSC platform for **inbound and outbound investments with improved ease of doing business**, thereby making GIFT IFSC a **global financial hub**.

Final Report on National Infrastructure Pipeline

Why in News

Recently, the **task force headed by Atanu Chakraborty** (economic affairs secretary) on **National Infrastructure Pipeline (NIP)** submitted its final report to the Finance Minister.

Key Points

- **Revised Investment Need:** The taskforce has **forecast an investment need of ₹111 lakh crore** over the **next five years (2020-2025)** to build infrastructure projects and drive economic growth.
 - The final report has revised up NIP from earlier Rs 100 lakh crore in light of additional data provided by central ministries/state governments since the release of **summary NIP report**.
- **Bulk Share: Energy, roads, railways and urban projects** are estimated to account for the bulk of projects (around 70%).
- **Measures Suggested:**
 - Aggressive push towards asset sales.
 - Monetisation of infrastructure assets.
 - Setting up of development finance institutions.
 - Strengthening the municipal bond market.
- **Streamlining Process:** The task force **has also recommended to set up of three committees:**
 - **Timely Execution:** Panel to monitor NIP progress and eliminate delays.
 - **Follow Up:** Steering committee in each infrastructure ministry for following up implementation.
 - **Raising Financial Resources:** Committee in the Department of Economic Affairs for raising financial resources for the NIP

Background

- The **task force was set up** after the Prime Minister, in his Independence Day speech of 2019, promised to

Note:



roll out an **infrastructure push worth ₹100 lakh crore** over five years to make India a \$5 trillion economy.

- The summary report for, National Infrastructure Pipeline (NIP), 2020-25 was released by the finance minister on 31 December, 2019.
- Out of the total expected capital expenditure of Rs 111 lakh crore
 - Projects worth Rs 44 lakh crore (40 % of NIP) are **under implementation**.
 - Projects worth Rs 33 lakh crore (30 % of NIP) are at **conceptual stage**.
 - Projects worth Rs 22 lakh crore (20 % of NIP) are **under development**.

National Infrastructure Pipeline

- NIP will enable a forward outlook on **infrastructure projects which will create jobs, improve ease of living, and provide equitable access to infrastructure** for all, thereby making growth more inclusive.
- NIP includes **economic and social infrastructure** projects.
- It also includes both **greenfield and brownfield projects**.
- It will help in stepping-up annual infrastructure investment **to achieve the Gross Domestic Product (GDP) of \$5 trillion by 2024-25**.
- The Centre and states are expected to have almost equal share in implementing NIP, while the private sector contribution is expected to be around 21 %.

ESIC Funds

Why in News

The Union Labour Secretary has **ruled out appropriating funds of the Employees' State Insurance Corporation (ESIC)** for payment of wages to workers or to employers to meet their salary bill during the **Covid-19** lockdown.

Key Points

- Employees' state Insurance Corporation of India is a **multidimensional social system** which provides **socio-economic protection to the worker population and immediate dependent or family** covered under the ESI scheme.
- The **Employees' State Insurance Scheme (ESI)** is an integrated measure of social Insurance embodied in the **Employees' State Insurance Act, 1948**.

- ESI is designed to accomplish the task of protecting employees against the impact of incidences of sickness, maternity, disablement and death due to employment injury and to provide medical care to insured persons and their families.

➤ Coverage of the Scheme:

- The ESI Scheme applies to **factories and other establishment's** viz. Road Transport, Hotels, Restaurants, Cinemas, Newspaper, Shops, and Educational/Medical Institutions wherein 10 or more persons are employed.
 - However, in some States the threshold limit for coverage of establishments is 20.
- Employees of the aforesaid categories of factories and establishments, drawing **wages upto Rs.15,000/- a month**, are entitled to social security cover under the ESI Act.
 - However, ESI Corporation has also decided to enhance the wage ceiling for coverage of employees under the ESI Act **from Rs.15,000/- to Rs.21,000/-**.
- ESI Corporation has extended the benefits of the ESI Scheme to the **workers deployed on the construction sites** located in the implemented areas under ESI Scheme from 1st August, 2015.
 - The ESI Scheme is implemented district wise.
 - It is now notified in 526 Districts in 34 States and Union Territories.

➤ Contributions to the Scheme:

- The ESI Scheme is financed by **contributions from employers and employees**.
- In June,2020 the **government had reduced the rate of contribution** under the ESI Act from 6.5% to 4% (employers' contribution reduced from 4.75% to 3.25% and employees' contribution reduced from 1.75% to 0.75%).
- Employees, **earning less than Rs. 137/- a day as daily wages, are exempted** from payment of their share of contribution.

Centre Cuts

Non-urea Fertiliser Subsidy

Why in News

Recently, the **Cabinet Committee on Economic Affairs (CCEA)** has **cut the subsidy for non-urea fertilizers**.

Note:

- That is about **3% lower** than the estimated expenditure on the **nutrient based subsidies in 2019-20**.
- The CCEA has also **approved the inclusion of ammonium phosphate [(NH₄)₃PO₄]**, a complex fertiliser, under the **nutrient-based subsidy (NBS) scheme**.

Key Points

- Nutrient Based Subsidy Scheme is being **implemented from April 2010** by the **Department of Fertilizers, Ministry of Chemicals & Fertilizers**.
- Under NBS, a **fixed amount of subsidy decided on an annual basis**, is provided on each grade of subsidized **Phosphatic & Potassic (P&K) fertilizers, except for Urea**, based on the nutrient content present in them.
 - It is largely for **secondary nutrients** like **Nitrogen (N), Phosphorus (P), Potash (K) and Sulphur (S)** which are very important for crop growth and development.
- It aims to **ensure the availability of fertilizers to farmers at an affordable price**, as the retail prices of such non-urea fertilisers are decontrolled and set by manufacturers.

RBI's Liquidity Offer for Mutual Funds

Why in News

Recently, the **Reserve Bank of India (RBI)** announced a **special liquidity window of Rs 50,000 crore** to bail out mutual funds hit by the turmoil in the debt fund segment.

Key Points

- **Repo Operations:** Under the **special liquidity facility for mutual funds (SLF-MF)**, the RBI will conduct **repo (repurchase agreement) operations** of 90 days tenor at fixed rate for banks.
 - A repurchase agreement, or 'repo', is a **short-term agreement** to sell securities in order to buy them back at a slightly higher price.
 - The **one selling the repo (banks) is effectively borrowing** and the other party (the RBI) is lending.
- **Providing Liquidity to Mutual Funds**
 - Funds availed under the SLF-MF will be used by banks **exclusively for meeting the liquidity requirements of mutual funds**.

- Under the SLF-MF, **banks can extend loans to mutual funds** and undertake outright purchase of and repos against the collateral of investment grade corporate bonds, commercial papers (CPs), debentures and certificates of Deposit (CDs) held by mutual funds.

Features of the offer

- The RBI said liquidity support availed of under the SLF-MF would be eligible to be classified as **Held-To-Maturity (HTM)**.

Key Terms

- **Mutual Fund:** A mutual fund collects money from investors and invests the money, on their behalf, in securities (debt, equity or both). It charges a small fee for managing the money.
 - **Debt funds** aim to generate returns for investors by investing their money in avenues like bonds and other fixed-income securities.
 - **Credit-risk funds** are **debt funds** which have **at least 65% of their investments in less than AA-rated (i.e. in lower-rated) papers**.
 - **Held-to-maturity** securities are purchased to be owned until maturity. E.g bonds.
 - **Adjusted non-food Bank Credit** includes non-food bank credit and total **non-statutory liquidity ratio (SLR)** investments of banks in commercial papers, shares and bonds/debentures.
 - **Capital Market exposure** refers to the percentage of a portfolio, invested in a particular type of security, market sector or industry
 - It is also known as the exposure amount an investor can lose from the risks unique to a particular investment.
 - **Large Exposures Framework:** The large exposures framework **sets prudent limits to large exposures of banks**, which may result in a concentration of its assets to a single counterparty or a group of connected counterparties.
 - To address this concentration risk, RBI has fixed limits on bank exposures.
 - As per current guidelines of RBI, a bank's exposure to a single borrower is restricted to 15% and to a borrower group 40% of capital funds.
- The face value of securities acquired under the SLF-MF and kept in the HTM category would not be reckoned for computation of **Adjusted Non-food**

Note:

Bank Credit (ANBC) for determining priority-sector targets/sub-targets.

- Support extended to MFs under the SLF-MF shall be exempted from banks' **capital market exposure limits**.
- Exposure under this facility would not be reckoned under the **Large Exposure Framework (LEF)**.
- This is the **third time the RBI is opening the liquidity window** for the financial sector players in the last 15 years.
 - The RBI had opened a special liquidity repo window for mutual funds in 2008 at the time of the global financial crisis.
 - In July 2013 again RBI opened a special liquidity repo window, when returns on debt mutual funds dropped sharply after the rupee fell significantly against dollar.

➤ **Background**

- Volatility in capital markets has intensified the stress on mutual funds due to the redemption pressures related to the **closure of six debt schemes of Franklin Templeton** and potential contagious effects.
- The stress is, however, confined to the high-risk debt funds segment at this stage while the larger industry remains liquid.

➤ **Outcome**

- The RBI move on pumping liquidity will boost investor confidence in the mutual fund industry.
- The RBI's liquidity offer is expected to bring some degree of comfort in the debt market which is under huge redemption (paying back) pressure, especially in the **credit risk fund** category.



Note:



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International Relations

Highlights

- Islamophobia in India: OIC
- USCIRF Annual Report-2020
- Urge to Suspend H-1B
- 5th Annual Meeting of NDB
- UNGA Resolution on Covid-19
- Comprehensive Nuclear-Test-Ban Treaty
- U.S. Priority Watch List for IPR
- \$1.5 Billion ADB Loan to India
- NITI Aayog Questions GTI
- BRICS Foreign Ministers Meet
- Reforms in Saudi Arabia

Islamophobia in India: OIC

Why in News

Recently, the **Organisation of Islamic Cooperation (OIC)** has criticised the Indian government for what it called “growing Islamophobia” in India.

Key Points

- OIC asked the government to take **steps to protect Muslim minorities** who are being “negatively profiled,” facing “discrimination and violence” amidst the **Covid-19** crisis.
- OIC urged the government to **protect the rights of its minority** as per its obligations under **international Human Rights law**.
- It also asked the government to take urgent steps to **stop the growing tide of Islamophobia** (dislike of or prejudice against Islam or Muslims) **in India**.
 - A religious gathering of muslims (Tablighi Jamaat) was held in Delhi in March. The event was linked to many of the Covid-19 positive cases in India.
 - After this most sections of the media, people on social media blamed the Tablighi jamaat and muslims for deliberately spreading the Covid-19 in India.
- Earlier, the **U.S. Commission on International Religious Freedom (USCIRF)** has also criticised India of “increased stigmatisation” of its muslim minorities.
 - It criticized the government for the reports that Covid-19 patients were **religiously segregated at a hospital** in Ahmedabad.
- The **Indian government has denied all the allegations** levelled by the USCIRF and accused the USCIRF for spreading misguided reports on the professional medical protocols followed to deal with spread of Covid-19 in India.

Organisation of Islamic Cooperation

- The Organisation of Islamic Cooperation (OIC) is the **second largest intergovernmental organization** after the **United Nations** with a membership of 57 states.
- It is the **collective voice of the Muslim world**. It **endeavors to safeguard and protect the interests of the Muslim world** in the spirit of promoting international peace and harmony among various people of the world.
- It was **established** upon a decision of the **historical summit** which took place in **Rabat, Kingdom of Morocco on the 25th of September 1969**.
- Headquarters: **Jeddah, Saudi Arabia**.

OIC and India

- **India is not a member of the OIC**. However, India was invited as a guest of honour at the **46th Session of the Council of Foreign Minister** in 2019. 2019 is the 50th anniversary of OIC.
 - This marked a high point in New Delhi’s often tensed relations with the OIC.
- However, in recent months, the OIC has **repeatedly criticised the Indian government’s handling of the situation in Kashmir and attacks on Muslims**.
 - The external affairs ministry has rejected this criticism.

Note:



USCIRF Annual Report-2020

Why In News

Recently, the **U.S. Commission on International Religious Freedom (USCIRF)** has downgraded India to the lowest ranking of “**Countries of Particular Concern (CPC)**” in its 2020 report on religious freedom.

- USCIRF has placed **India alongside** China, North Korea, Saudi Arabia and Pakistan. India was categorised as a “**Tier 2 country**” in last year’s listing.
- This is the first time since 2004 that India has been placed in the CPC category.

Key Points

- Designation of the CPC is the top tier recommendation by the USCIRF when it comes to **violation of international religious freedom**. It is followed by **Special Watch List Countries** for severe violations.
- **Reasons:**
 - **India took a sharp downward turn in 2019**, which included specific concerns about the **Citizenship Amendment Act**, the proposed **National Register for Citizens**, anti-conversion laws and the situation in Jammu and Kashmir.
 - Indian government used its parliamentary majority to institute **national-level policies violating religious freedom of minorities**, especially for Muslims.
 - Earlier, the **Organisation of Islamic Cooperation (OIC)** had criticised the Indian government for “growing Islamophobia” in the country.
- **Steps suggested to U.S.:**
 - The U.S. government should take stringent action against India under the “**International Religious Freedom Act**” (IRFA).
 - The **International Religious Freedom Act of 1998** was passed to promote religious freedom as a **foreign policy of the United States**.
 - It **aims to promote greater religious freedom** in countries which engage in or tolerate violations of religious freedom, and to advocate on the behalf of individuals persecuted for their religious beliefs and activities in foreign countries.
 - To impose **targeted sanctions** on Indian government agencies and officials responsible for severe violations of religious freedom.

- **India’s stand:** The Indian government has rejected the USCIRF report and termed it “**biased and tendentious**”.

U.S. Commission on International Religious Freedom (USCIRF)

- USCIRF is an **independent, bipartisan U.S. federal government commission**, dedicated to **defending the universal right to freedom of religion or belief abroad**.
- The USCIRF is also an **advisory body** to the US Congress.
- USCIRF reviews **the facts and circumstances of religious freedom violations** and makes policy recommendations to the President, the Secretary of State, and Congress.
- It is **Headquartered at Washington DC**.

Urge to Suspend H-1B

Why in News

The **US President** has been **requested to suspend the foreign workers programme**, including **H-1B** as a huge number of Americans have lost their jobs due to the **Covid-19 pandemic**.

Key Points

- A lawmaker in the US has sought **suspension of the H-1B, H4, L1, B1, B2, Optional Practical Training Program and guest worker admissions**.
- The Congressional Select Committee on the Coronavirus Crisis has also been **urged to take action to protect medical professionals holding H-1B visas** because they are essential to confront and combat the current crisis.
 - Due to the **loss of revenues**, many **health centres are closing down** which will impact H-1B visa holders currently practicing medicine at these facilities.
- **Indians and H-1B Visa**
 - **Indians** are the **largest beneficiaries** of the H1B visas and held three out of four H1B visas as of 2018, data from the **United States Citizenship and Immigration Service (USCIS)** shows.
 - Indians held 309,986 H1B visas as of 2018, which was 73.9% of the total H1B visas issued.
 - Indians comprised 68% of H1B registrations for Financial Year 2020-21, followed by China, which accounted for 13.2%.

Note:



- The latest move will hamper Indians who are working in the US on such visas by **decreasing the chances of employment**.
- Earlier, the US temporarily suspended approval of some **Green Cards**.
 - This step ensures the policy of **America First**.

Green Card

- It is officially known as a **Permanent Resident Card**.
- It is **issued to immigrants** to the US under the **Immigration and Nationality Act (INA), 1952**.
- It **allows a person to live and work permanently** in the US.

H-1B Visa

- It is a **non-immigrant visa** that allows US companies to employ **graduate level foreign workers in specialty occupations**. Speciality occupations requires:
 - **Theoretical or technical expertise** in specialized fields such as in IT, finance, accounting, architecture, engineering, mathematics, science, medicine, etc.
 - **Any professional level job** that usually requires a bachelor's degree or higher can come under the H-1B visa for specialty occupations.
- The US H1-B visa is **designed to be used for staff in specialty occupations**. H-1B has an **option of green card application**.
- H-1B visa holders can **bring their spouse and children under 21 years** of age to the US **under the H4 Visa category as dependents**.
 - An H4 Visa holder is allowed to remain in the US as long as the H-1B visa holder remains in legal status.
 - While an H4 visa holder is **not eligible to work** in the US, they may **attend school, obtain a driver's license and open a bank account** while in the US.

5th Annual Meeting of NDB

Why in News

Recently, the **Union Minister of Finance** attended the **5th Annual Meeting of the Board of Governors of New Development Bank (NDB)** through **video-conference** in **New Delhi**.

Key Highlights of the Meeting

- **India appreciated NDB's efforts** in establishing itself as a **credible Global Financial Institution**, delivering

its mandate successfully by taking a more sustainable and inclusive approach.

- **NDB fast-tracked financial assistance of about \$5 billion to BRICS countries** including **Emergency Assistance of \$1 billion to India** to combat **Covid-19 pandemic**.
 - The assistance under this facility was **suggested to be enhanced to \$10 billion**.
- **Brazil thanked India for sending critical drugs** for timely management of **novel coronavirus** in Brazil.
- NDB was encouraged to take **appropriate actions to join the G-20 forum** along with other **Multilateral Development Banks (MDBs) and International Financial Institutions (IFIs)** like the **World Bank, Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB)**, etc.
- India urged NDB to follow **novel practices in supporting the BRICS nations** for achieving their **Sustainable Development Goals**.
- **Measures taken by India** to respond to the health crisis and to mitigate its impact were highlighted. **Few of them are:**
 - **India Covid-19 Emergency Response and Health System Preparedness Package: Allocation of \$2 Billion (₹15,000 crore)** by the Government of India for **strengthening the healthcare system**.
 - **Pradhan Mantri Garib Kalyan Yojana:** Announcement of a scheme of social support measures amounting to **\$23 Billion (₹1.70 lakh crore)** to **alleviate the hardship of the poor and the vulnerable**.
 - **Insurance cover of \$67,000 (₹50 lakh) per person** to over 2.2 million **frontline health workers and others provision of relief** to firms in statutory and regulatory compliance matters
 - **Easing of monetary policy** by the **Reserve Bank of India (RBI)** and **three-month moratorium** on loan instalments.
 - Creation of a **Covid-19 Emergency Fund** for **SAARC countries**.
 - India's **efforts in supplying critical medicine to the countries in need (e.g. Operation Sanjeevani)**, to tackle the Covid-19.

New Development Bank

- It is a **multilateral development bank** jointly founded by the **BRICS countries (Brazil, Russia, India, China and South Africa)** at the **6th BRICS Summit in Fortaleza, Brazil in 2014**.

Note:

- It was **formed to support** infrastructure and sustainable development efforts in BRICS and other underserved, emerging economies for faster development through innovation and cutting-edge technology.
- It is **headquartered at Shanghai, China**.
- In **2018**, the NDB received **observer status** in the **United Nations General Assembly**, establishing a firm basis for active and fruitful cooperation with the UN.
- **Objectives:**
 - Fostering development of member countries.
 - Supporting economic growth.
 - Promoting competitiveness and facilitating job creation.
 - Building a knowledge sharing platform among developing countries.
- To fulfill its purpose, the Bank **supports public or private projects** through **loans, guarantees, equity participation and other financial instruments**.
- NDB has so far **approved 14 projects in India** for an amount of \$4,183 million.

UNGA

Resolution on Covid-19

Why in News

Recently, the **United Nations General Assembly** has adopted a resolution, calling for global cooperation to ensure '**equitable and fair**' access to medicines, vaccines and medical equipment for all nations to battle the **Covid-19 pandemic**.

Key Points

- The UNGA resolution which was **drafted by Mexico** was adopted through consensus.
- The resolution:
 - **Prevent any undue stockpiling** of essential medical supplies.
 - **Recognised the importance of international cooperation** and **effective multilateralism** to ensure that all States have in place effective national protective measures, access to and flow of vital medical supplies, medicines and vaccines.
 - Encourages member states **to work in partnership** with all relevant stakeholders to increase research

and development funding for vaccines and medicines.

- Called to **bolster coordination with the private sector** towards rapid development, manufacturing and distribution of diagnostics, antiviral medicines, personal protective equipment and vaccines, adhering to the objectives of efficacy, safety, equity, accessibility, and affordability.
- Earlier, the United Nations General Assembly had unanimously adopted a resolution, **calling for intensified international cooperation** to defeat the pandemic that is causing severe disruption to societies and economies.

United Nations General Assembly

- The General Assembly is the **main deliberative, policymaking and representative organ of the UN**.
- **All 193 Member States** of the UN are represented in the General Assembly, making it the only UN body with **universal representation**.
- Each year, in **September**, the full UN membership meets in the General Assembly Hall in **New York** for the **annual General Assembly session**, and general debate, which many heads of state attend and address.
- Decisions on important questions, such as those on **peace and security, admission of new members** and budgetary matters, require a **two-thirds majority** of the General Assembly.
 - Decisions on other questions are **by simple majority**.
- **The President** of the General Assembly is elected each year by assembly to serve a one-year term of office.

Comprehensive Nuclear-Test-Ban Treaty

Why in News

Recently, the **United States State Department** has accused **China** and **Russia** of conducting nuclear tests with low yields, in violation of the **Comprehensive Nuclear Test-Ban Treaty (CTBT)**.

Key Points

- CTBT was negotiated at the **Conference on Disarmament**

Note:

in Geneva and adopted by the **United Nations General Assembly** in 1996.

- The Treaty intends to **ban all nuclear explosions** - everywhere, by everyone. It was opened for signature in 1996 and since then 182 countries have **signed** the Treaty, most recently Ghana has **ratified** the treaty in 2011.
 - A comprehensive test ban has been defined as a **“zero yield”** test ban that would prohibit **supercritical hydro-nuclear tests** but not **sub-critical hydrodynamic nuclear tests**.
 - **Hydronuclear tests** study nuclear materials under the conditions of explosive shock compression. Their yield ranges from negligible all the way up to a substantial fraction of full weapon.
 - **Subcritical (or cold) tests** are types of tests involving nuclear materials and possibly high-explosives that purposely result in no yield.
- The **Treaty will enter into force after all 44 States listed in Annex 2** to the Treaty **will ratify it**.
 - These States had nuclear facilities at the time the Treaty was negotiated and adopted.
- As of August 2011, **36** of these States have **ratified** the Treaty. Eight States still need to do so: **China, North Korea, Egypt, India, Iran, Israel, Pakistan and the United States**.
 - **India, North Korea and Pakistan have not yet signed the Treaty**.
 - All three have also undertaken tests after 1996; India and Pakistan in May 1998 and North Korea six times between 2006 and 2017.
 - The **CTBT has therefore not entered into force and lacks legal authority**.
- **Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO)**:
 - The organization **promotes the Treaty** so that it can enter into force.
 - It establishes a **verification regime** to monitor adherence to the Treaty. The verification system is built around a network of over 325 seismic, radionuclide, infrasound and hydroacoustic (underwater) monitoring stations.
 - The organization was founded in 1996. It is **headquartered in Vienna**. It employs a staff of roughly 260 from the CTBT's Member States.

U.S. Priority Watch List for IPR

Why in News

India continues to be on the **‘Priority Watch List’** of the **United States Trade Representative (USTR)** for lack of adequate **Intellectual Property (IP) rights protection and enforcement**, according to the USTR's **Annual Special 301 Report**.

Key Points

- **Concerns:**
 - Copyright laws not incentivising the creation and commercialisation of content.
 - An outdated trade secrets framework.
 - India **restricted the transparency of information** provided on state-issued pharmaceutical manufacturing licenses.
 - India continues to apply **restrictive patentability criteria** to reject pharmaceutical patents.
 - Absence of an effective system for protecting against the **unfair means** to obtain marketing approval for **pharmaceuticals and certain agricultural chemical products**.
 - India maintains extremely **high customs duties** directed to IP-intensive products such as medical devices, pharmaceuticals, Information and Communications Technology (ICT) products, solar energy equipment, and capital goods.
 - India was ranked among the **top five source countries for fake goods** by the **Organization of Economic Development and Cooperation (OECD)** in 2019.
 - The **government's 2019 draft Copyright Amendment Rules**, if implemented, would have “severe” consequences for Internet-content rights holders as the proposed rules broadened the scope of compulsory licensing **from radio and television broadcasting to online broadcasting**.
 - **Trademarks:** Trademark counterfeiting levels were “problematic” and there were “excessive delays” in obtaining trademarks due to a **lack of examination quality**.
 - It urged India to join the **Singapore Treaty on the Law of Trademarks**, a treaty that harmonises trademark registration.

Note:



➤ Progress Noted

- India had made “**meaningful progress**” to enhance IP protection and enforcement in some areas in 2019 and had acceded to the **World Intellectual Property Organization (WIPO) Internet Treaties** and the **Nice Agreement**.
 - The Nice Agreement establishes a classification of goods and services for the purposes of registering trademarks and service marks (the Nice Classification).
- **Online IP enforcement:** Online IP enforcement in India has improved but progress is undercut by factors including :
 - Weak enforcement by courts and the police.
 - Lack of familiarity with investigative techniques.
 - No centralised IP enforcement agency.

Special 301 Report

- The Special 301 Report identifies trading partners that **do not adequately or effectively protect and enforce Intellectual Property (IP) rights** or otherwise **deny market access to U.S. innovators and creators that rely on protection of their IP rights**.
- The report is released **annually by the United States Trade Representative (USTR)**.
- Trading partners that currently present the most significant concerns regarding IP rights **are placed on the Priority Watch List or Watch List**. USTR identified **33 countries for these lists in the Special 301 Report**:
 - Algeria, Argentina, Chile, China, India, Indonesia, Russia, Saudi Arabia, Ukraine and Venezuela are on the **Priority Watch List**.
 - Barbados, Bolivia, Brazil, Canada, Colombia, Dominican Republic, Ecuador, Egypt, Guatemala, Kuwait, Lebanon, Mexico, Pakistan, Paraguay, Peru, Romania, Thailand, Trinidad & Tobago, Turkey, Turkmenistan, the United Arab Emirates, Uzbekistan and Vietnam are on the **Watch List**.

\$1.5 Billion ADB Loan to India

Why in News

Recently, the **Asian Development Bank (ADB)** has provided a \$1.5 billion loan to India to fund India’s immediate response to the **Covid-19 pandemic**.

- Earlier, the Asian Development Bank (ADB) **had assured Indian government of \$2.2 billion (about Rs 16,500 crore)** support to fight against the Covid-19 pandemic.

Key Points

- The loan will help the Central government to focus on immediate priorities such as:
 - Covid-19 containment and prevention.
 - Social protection for the poor and economically vulnerable sections of the society.
- The loan has been provided under ADB’s **Covid-19 Active Response and Expenditure Support (CARES) Programme**.
 - The CARES Programme
 - **support the government’s stimulus package** geared to expand existing social assistance programs,
 - **boost resources for Covid-19 prevention and control,**
 - **safeguard productive sectors and workers from the economic downturn.**
 - The CARES Program is **funded through the Covid-19 Pandemic Response Option (CPRO)** under ADB’s Countercyclical Support Facility.
 - CPRO was introduced as part of a \$20 billion package approved by ADB on 13th April, 2020 to assist its developing member countries in their fight against Covid-19.
 - It will be **implemented through a country engagement framework** focused on policy dialogue and monitoring of the government’s countercyclical strategy and measures.

Asian Development Bank

- ADB is a **regional development bank** established on **19th December 1966**.
- ADB now has **68 members, 49 from within Asia**.
- **Japan holds the largest proportion** of shares in ADB followed by the USA.
- It aims to promote social and economic development in Asia.
- ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty.
- ADB is **headquartered in Manila, Philippines**.

Note:

NITI Aayog Questions GTI

Why in News

A report compiled by **NITI Aayog** has **questioned the methodology** adopted by the **Institute for Economics and Peace (IEP)**, to rank India as the seventh worst terrorism affected country.

- IEP is an **Australian based institute** which releases the **annual Global Terrorism Index (GTI)**.
- GTI is based on **four parameters**:
 - Number of terrorist incidents per year.
 - Number of fatalities caused by terrorists per year.
 - Number of injuries caused by terrorists per year.
 - Total property damage caused by terrorism per year.

Key Points

- In **GTI 2019**, India has moved to the **seventh** position from the **previous year's eighth** position.
 - **Countries Ahead**: Afghanistan, Iraq, Nigeria, Syria, Pakistan and Somalia (top 6).
 - **Countries Behind**: Democratic Republic of Congo, South Sudan, Sudan, Burkina Faso, Palestine and Lebanon (at different ranks).
- NITI Aayog was being asked to **track various global indices**. The **purpose** was to see:
 - How they can **help drive reforms and growth**.
 - Which of these **require some amount of engagement with the publishing agency** to make the indices more relevant.
 - In **2017**, India challenged at the **International Labour Organisation (ILO)**, the country's ranking in a **Global Slavery Report** published by the **Walk Free Foundation, Australia**.
- **Use of GTI scores in other rankings**:
 - **Direct Use**: In **Global Peace Index**, the **Global Slavery Report**
 - **Indirect Use**: In the **World Economic Forum's Travel and Tourism Competitiveness and Global Competitiveness Indices** and compilation of **Safe Cities Index** by the **Economist Intelligence Unit**.
 - The position in the global indices **impact investments and other global opportunities**.

Highlights of the Report

- The NITI Aayog **questioned the rankings** as well as the **funding of the IEP**.
 - The funding source and the list of donors **has not been revealed**.
- **Findings**:
 - The GTI is based **solely on unclassified media articles**, with more than 100 structured variables such as each attack's location, tactics and weapons, perpetrators, casualties and consequences etc.
 - The organisation has **only 12 full-time staff, 12 full-time equivalent staff and 6 volunteers**.
 - It is something to focus on how the organization is able to annually collect, meaningfully analyse and disseminate data about 163 countries in the Global Terrorism and Peace Indices and provide country wise national peace reports with such **minimal resources**.
- Criticism of the Methodology:
 - The GTI **lacks mechanisms to engage with Governments** or to further **classify and verify open source media reports** through Government databases in any of the 163 countries it covers.
 - The **lack of a universally accepted definition of terrorism** leads to **ambiguity**.
 - The **Comprehensive Convention on International Terrorism (CCIT)** is pending in the **United Nations General Assembly** since 2014.
 - The **definition of mass shootings** used in the GTI is **limited to indiscriminate rampages in public places resulting in four or more victims killed by the attacker**.
 - It **leaves out lone wolf attacks** which may have lesser fatalities and more injuries, and **attacks foiled by security and intelligence agencies**.
- The NITI Aayog report concluded that the GTI has **low direct value for policymakers** due to the **absence of a robust data collection and analysis methodology** and any **engagement with Governments** facing the scourge of terrorism.
 - Given the reasons, it **cannot be used as an aid to understand and alleviate challenges** to countries from domestic and cross border terrorism.

Note:



BRICS Foreign Ministers Meet

Why in News

Recently, the External Affairs Minister of India attended the BRICS Foreign Ministers meet through video conferencing.

- This meeting was convened by Russia to discuss the impact of the [coronavirus pandemic](#).

Key Points

- BRICS nations have set up a “**special loan instrument**” of **\$15 billion fund** for member nations to revive the economy amid Covid-19 pandemic
- BRICS nations exchanged views on possible joint measures to be taken by the member states to counter Covid-19 and overcome the financial, trade, economic and social consequences of the pandemic.
- **India showcased its pharmaceutical support to around 85 countries** to deal with the viral infection. It also highlighted the **need for reforms in the multilateral bodies** like the United Nations.
 - The [UN Security Council](#) members are currently discussing draft resolutions on the Covid-19 pandemic.

BRICS

- BRICS is an **acronym** for the grouping of the world’s leading emerging economies, namely **Brazil, Russia, India, China, and South Africa**.
 - In 2001, the British Economist **Jim O’Neill** coined the term BRIC to describe the four emerging economies of Brazil, Russia, India, and China.
 - The grouping was formalised during the first meeting of BRIC Foreign Ministers in 2006.
 - South Africa was invited to join BRIC in December 2010, after which the group adopted the acronym BRICS.
- It comprises 42% of the world’s population, has 23% of the global GDP and around 17% of the world trade.
- The **chairmanship of the forum is rotated annually** among the members, in accordance with the acronym B-R-I-C-S.
- The BRICS Leaders’ Summit is convened annually.
- During the Sixth BRICS Summit in Fortaleza (2014) the leaders signed the Agreement establishing the



New Development Bank (NDB). They also signed the BRICS Contingent Reserve Arrangement.

Reforms in Saudi Arabia

Why in News

Recently, **Saudi Arabia** has **abolished flogging** (whipping or lashing) as a form of punishment and the **death sentence for minors**.

- The Islamic kingdom has **no codified system of law**. The individual judges **interpret Islamic law** (Sharia) and come up with their own sentences.

Key Points

- Abolition of Flogging as Punishment:
 - Before abolition, flogging was **mandatory as a form of corporal punishment** and could extend to hundreds of lashes.
 - Courts ordered it for **murder, breach of peace, homosexuality, consumption or possession of alcohol, adultery and insulting Islam**, among others.
- Abolition of Death Sentence for Minors:
 - It ensures that **no-one who committed crimes as minors could receive the death sentence for those crimes**. Instead, the individual will receive a **prison sentence of no longer than 10 years in a juvenile detention facility**.
 - However, there is a **possibility of exception** for people who carry out **terrorism-related crimes as minors**.
 - The practise of capital punishment for crimes committed by people under the age of 18 was in **contradiction to the United Nations Convention on the Rights of the Child**.

Note:

- However, the country **still practices public executions** and other forms of **corporal punishment** such as amputation for theft. It has been **criticised** for them as well.
 - Human rights organization **Amnesty International** lists Saudi Arabia as **one of the world's most prolific executioners, after Iran and China**. In its latest report, it said the kingdom had executed 184 people in 2019.
 - The country has also been **widely criticized for the continued repression of dissidents and political activists**.
 - The **Specialised Criminal Court (SCC)** jurisdiction was expanded from the trials of **alleged violent extremists** to include **political dissidents, religious minorities and human rights activists**.
 - SSC was created in 2008 to prosecute detainees held after the 2003 terrorist attack claimed by **al-Qaeda**.
- **Reforms Taken**
 - Saudi Arabia's **Crown Prince Mohammed bin Salman** has overseen a series of **social and economic reforms** known as '**Saudi Vision 2030**'.
 - These are aimed at **modernising the country, reducing its dependence on oil, expanding its economy, developing the public service sector** and bringing it **in line with international human rights norms**.

Other Earlier Reforms

- In **2018**, Saudi Arabia **lifted the ban on women drivers**.
 - Before the ban was lifted, the law made it **compulsory for every woman to have a male guardian and seek their consent** for almost everything.
 - Prior to the change in the law, **Saudi Arabia was the only country in the world** that did not allow women to drive.
- In **2019**, the country **reformed the laws relating to women**.
 - **Women over the age of 21** would be able to **receive passports and travel abroad without permission from a male guardian**.
 - Apart from that, women can also be **able to register the marriage, divorce or the birth of children and obtain family documents**.
 - They can now **also be the legal guardian of their children**, a position hitherto reserved for men.



Note:



Science and Technology

Highlights

- Blood Shortage Due to Lockdown
- Social Vaccine
- Antiviral Nano-coatings
- Human Activities Responsible for Zoonoses
- Classical Swine Fever
- Inactivated Virus Vaccine in Focus for Covid-19
- Chitra GeneLAMP-N for Covid-19 Test
- Sepsivac to be Tested for Covid-19
- Portable Sensor for Heavy Metal Detection in Water
- Human Challenge Trials
- Covid-19 Related Disease
- Reverse Vaccinology
- Merger of Two Black Holes with Unequal Masses
- Deep Fakes
- Hydrogen Fuel Cell Based Bus and Car Project
- PRACRITI: IIT Delhi

Blood Shortage Due to Lockdown

Why in News

Due to **Covid-19 lockdown** hospitals across India are **facing acute shortage of blood** and have started contacting individual blood donors to meet the demand.

Key Points

- Hospitals are calling listed donors and those with rare blood groups to come in and donate.
- The **Indian Red Cross Society Blood Bank** has also noted that there is a drop in blood collection. The crisis is such that there is a shortage of the most **commonly seen B-positive blood group**.
- According to the **World Health Organization (WHO)** recommendation, **blood requirement of 1% of a country's population** be used as an estimate of its **blood needs**.
 - By this measure, **India was short of 1.9 million units of blood** as per data presented to the Lok Sabha in 2018.
- **Worst Hit Due to Blood Shortage:**
 - Patients requiring **dialysis, having blood disorders and pregnant women** are the worst hit due to blood shortage.
 - Patients from **small cities and villages** are also the worst hit.
- **Thalassemics Fearful:**

- Thalassemia patients need repeated blood transfusions to survive. Many thalasseemics take blood for their transfusions from the Indian Red Cross Society Blood Bank, whose camps are being cancelled.

- According to the **National Blood Transfusion Council (NBTC)**, there are 2,023 blood banks in India, which receive 78% of their blood supply from voluntary donors.

Issues Involved

- Due to lockdown **blood banks collection camps are cancelled**.
- **Donors are hesitant to travel** to hospitals to donate blood amid strict lockdown.
 - Also, **donor passes had not been made** by some hospitals, which is adding to the problem.
- **Transportation almost closed** due to lockdown.

Government Initiative

- The **Health Ministry** has asked hospitals to start working on **ensuring sufficient stock of blood for transfusion** by promoting voluntary blood donors and utilising various services like mobile blood collection vans with the help of the Indian Red Cross Society.
- It has asked the Indian Red Cross Society to **send mobile blood collection vans to the premises of regular blood donors** to facilitate them for blood donation.

Note:



Thalassemia

- It is a **blood disorder passed down through families (inherited)** in which the body makes an **abnormal form or inadequate amount of hemoglobin**.
- Thalassemia is caused by mutations in the gene that make hemoglobin.
- The disorder results in large numbers of red blood cells being destroyed, which leads to **anemia**.
- Hemoglobin is the protein in red blood cells that carries oxygen.

Indian Red Cross Society

- It was established in 1920 under the **Indian Red Cross Society Act**.
- The **President of India is the President** and the **Union Health Minister is the Chairman of the Society**.
- The Indian Red Cross is a **voluntary humanitarian organization** providing relief in times of disasters/emergencies and promotes health & care of the vulnerable people and communities.
- The **Mission** of the Indian Red Cross is to inspire, encourage and initiate at all times all forms of humanitarian activities so that human suffering can be minimized and even prevented and thus contribute to creating more congenial climate for peace.
- It is a leading member of the largest independent humanitarian organization in the world, the **International Red Cross & Red Crescent Movement**.
- The movement has three main components:
 - International Committee of Red Cross (ICRC)
 - 192 National Societies and International Federation of Red Cross
 - Red Crescent Societies

National Blood Transfusion Council

- It was constituted in **1996** under the **Ministry of Health and Family Welfare**.
- **Objective:** To promote voluntary blood donation, ensure safe blood transfusion, provide infrastructure to blood centres, develop human resources and formulate and implement the Blood Policy.
- NBTC is the **apex body** in relation to all matters pertaining to operation of blood centres.
- The NBTC is the **central body** that **coordinates** the **State Blood Transfusion Councils (SBTCs)** and also ensures involvement of other Ministries and other health programmes for various activities related to Blood Transfusion Services (BTS).

Social Vaccine

Why in News

The Union Health Minister has recently asserted that **lockdowns and social distancing** are the most effective “**social vaccines**” available to fight the **Covid-19 pandemic**.

Key Points

- **Social Vaccine**
 - It is a metaphor for a **series of social and behavioural measures** that governments can use to **raise public consciousness about unhealthy situations**.
 - This is made possible through social mobilisation.
 - **Social mobilisation** is a process whereby people are organized in order to enable them to collectively think and act upon their development.
 - It can **empower populations** to resist unhealthy practices, increase resilience, and foster advocacy for change. This can ultimately **drive political will** to take action in the interests of society.
 - A social vaccine **addresses barriers and facilitators of behaviour change** (attitudinal, social, cultural or economic) and supplements **Information, Education, and Communication (IEC)** with targeted **Social and Behaviour Change Communication (SBCC)** strategies.
 - **SBCC** is the strategic use of communication approaches to promote changes in knowledge, attitudes, norms, beliefs and behaviors.
- **Effectiveness of a social vaccine during Pandemic**
 - When applied to pandemics, the effectiveness of a social vaccine is **determined by the extent of dissemination and uptake of accurate information** about personal infection risk and methods to reduce the risk.
 - **Uganda and Thailand used SBCC strategies effectively during the HIV/AIDS pandemic** to bring down the incidence of HIV infection, **before Highly Active Antiretroviral Treatment (HAART) was introduced** in 1995.
 - These countries demonstrated how an effective social vaccine helped “**flatten the curve**” till effective treatments were discovered that dramatically reduced mortality, viral loads and infection transmission.

Note:

➤ Social Vaccine amidst Covid-19

- The skills and experiences from controlling HIV/AIDS pandemic can be innovatively adapted for the current pandemic.
- **Use of IEC and SBCC strategies:**
 - Maintaining physical distancing in social situations and wearing cloth masks or facial coverings in public by 100% of people is key to preventing infection along with regular disinfection of oneself and one's surroundings.
 - **People are more likely to practise these behaviours if all leaders (without exception) promote them** publicly and consistently, the whole community believes in their importance, and if proper information, support, and materials are available and accessible.
 - **Building trust** is key if government-imposed mitigation strategies are to be embraced by the population.
- **Practising Social Mobilisation**
 - This will make people to hold leaders accountable to invest in: rapidly scaling-up testing; meeting the basic needs of vulnerable sections; not communalising or politicising the pandemic; providing adequate Personal Protective Equipment (PPE) to front-line workers in health, etc. and not compromising the privacy and dignity of infected individuals.

Role of Social Vaccine in Controlling HIV/AIDS Pandemic

- **Outbreak of the Disease:** The **Human Immunodeficiency Virus (HIV)** that causes the **Acquired Immune Deficiency Syndrome (AIDS)** is believed to have made the zoonotic jump through chimpanzees on humans in Africa as early as the 1920s, but the HIV/AIDS epidemic was detected in 1981 and was a pandemic by 1985.
- **Panic Situation:** The cause was unknown (till 1984) and diagnostic tests were unavailable (till 1985). Since there was no treatment, a diagnosis of HIV infection was a death sentence.
- **Impact**
 - **Widespread fears** of infection rendered many infected people homeless and unemployed. Many were denied access to care.
 - **Stigma, discrimination and violence** towards infected individuals, their families, social groups

(sex-workers, gay men, drug users, truck drivers, migrants), and even health workers, were common.

- **Conspiracy theories, misinformation and unproven remedies** were widely propagated.

- **The unpreparedness of health systems**, societal prejudices and socio-economic inequities were starkly exposed.

➤ Use of Social Vaccine

- Reducing HIV transmission centred on acknowledging that everybody was potentially infected — even those apparently healthy — and that infection occurred predominantly through sexual transmission and intravenous drug use.
- The **core preventive messages** involved being faithful to one sexual partner or having safe sex, etc. These measures conflicted with prevailing cultural, social, religious, behavioural and legal norms.
- However, IEC and SBCC activities targeted (and partnered) individuals, families, community leaders, and social and health systems to change attitudes and behaviours. Religious and community leaders were key change agents.
 - Thailand used humour to defuse social taboos about publicly discussing sex.
 - Coercive or punitive methods acted counter-productive in controlling HIV/AIDS.
- These strategies and advocacy against stigma and discrimination were also successfully adapted in India.

Way Forward

- There is still no biomedical vaccine for HIV/AIDS. Considering the limited efficacy and uptake of influenza vaccines, vaccines for SARS-CoV-2/Covid-19 may not provide a panacea.
- Effective treatments to reduce deaths with Covid-19 may emerge, but till then, and even afterwards, **a social vaccine is needed.**
- A social vaccine can build societal immunity to the devastating effects of future pandemics by the lessons learned about addressing the root causes, and our responses to the current one.

Note:

Antiviral Nano-coatings

Why in News

Recently, the **Department of Science and Technology (DST)** has approved the use of antiviral nano-coatings on **anti-Covid-19** masks.

- These coatings have been approved for **Triple Layer Medical masks** and **N-95 respirator**, as a part of the **Mission on Nano Science and Technology (MNST or commonly known as Nano Mission)**.

Key Points

- The antiviral nano-coating has been developed using **N9 blue silver** which will be modified to form **nanocomplexes with Zinc (Zn, atomic number-30) compounds** to achieve a synergistic effect. Subsequently, it will be **applied as coatings on facemasks** and other **Personal Protection Equipment (PPEs)**.
 - Nano-coatings have **99.99% effectiveness** and these can **work on multiple levels** at the same time like **antiviral, bacterial and fungal and self-cleaning**.
 - These can be **applied to various surfaces** such as **glass, metal, stone, textiles and plastics** by **spraying or dipping**.
 - N9 blue nanosilver is a **highly potent antimicrobial agent** and has been developed at **SMITA Research Lab, Indian Institute of Technology (IIT) Delhi**.
 - **Silver (Ag, atomic number-47)** is known to have strong antimicrobial activity against bacteria, viruses and fungus.
 - In experiments, **strains of bacteria and viruses** have **shown either resistance or sensitivity** when **exposed to silver** which confirms **silver resistance and toxicity** in them.
- After the **evaluation of shelf life of the coatings and their efficacy** under different conditions such as **temperature, humidity and time**, the masks and PPEs will be **prepared and provided to the medical workers for field trials**.
- The use of highly effective antimicrobial nanoparticles on masks, PPEs, etc is a useful application providing an **extra layer of protection for the high risk settings**, such as for the medical workers.

Mission on Nano Science and Technology

- It was launched by the **Government of India** in **May 2007** as an **“umbrella capacity-building programme”**

to build upon the promotional activities in the highly promising and competitive area of Nano Science and Technology.

- The **DST is the nodal agency** for its implementation.
- **Objectives:**
 - Basic research promotion.
 - Infrastructure development.
 - Nano applications and technology development.
 - Human Resource development.
 - International collaborations.
- Due to its efforts, India is **amongst the top five nations in the world** in terms of scientific publications in nano science and technology.
- In **2014**, recognizing its success, the Union Cabinet accorded **approval for continuation** of the Nano Mission in its **Phase-II during the 12th Plan period (2012-17)** with an allocation of ₹650 crore.
- The Nano Mission has **resulted in useful products** like nano hydrogel based eye drops, pesticide removal technology for drinking water, water filters for arsenic and fluoride removal, nanosilver based antimicrobial textile coating, etc.
- It has orchestrated national dialogues to promote R&D in development of standards for nanotechnology and for laying down a **National Regulatory Framework Road-Map for Nanotechnology (NRFR-Nanotech)**.

Human Activities Responsible for Zoonoses

Why in News

According to the **UN Environment Programme (UNEP)**, **60% of human infectious diseases originate from animals**.

Key Points

- **Zoonoses**
 - It is the name given to **diseases transmitted from animals to humans**.
 - It is **based on the Greek words** for “animal” and “sickness”.
 - **Examples: Tuberculosis** (cattle), rabies (rabid dogs), **Ebola** (fruit bats), West Nile virus (infected mosquitoes), the **Zika virus** (infected Aedes species mosquito)—and the most recent - the novel coronavirus **Covid-19 (bat/pangolin)**.

Note:



➤ Data Related to Zoonoses

- On an average, **one new infectious disease emerges in humans every four months.**
 - A study by American researchers that was completed before the new coronavirus outbreak identifies **rodents, primates and bats as hosts of three-quarters of viruses transmitted to humans.**
 - **Domestic animals** also carry about **50% of the zoonoses** identified.
- In 2016, the UNEP pointed out that **75% of all emerging infectious diseases** (such as Ebola, HIV, avian flu, Zika, or SARS) in humans are zoonotic (pertaining to zoonoses).
- According to it, these zoonotic diseases are **closely interlinked with the health of ecosystems.**
- **Deaths due to Zoonoses:** Beyond the current outbreak of coronavirus, the **Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)** estimates that zoonoses **kill some 700,000 people a year.**

➤ Changed Ecosystems

- Zoonoses are opportunistic and thrive where there are changes in the **environment**, changes in **animal or human populations** that serve as hosts for certain pathogens, or **changes in the pathogen** (disease causing microorganisms), itself.
- In the last century, a combination of **population growth and reduction in ecosystems and biodiversity** has culminated in unprecedented opportunities for pathogens to pass between animals and people.

➤ Humans-led Changes in the Environment

- **By altering land use**—for settlement, agriculture, logging, extractive or other industries and their associated infrastructure—humans fragment and encroach into animal habitats.
- **Destruction of natural buffer zones** that would normally separate humans from animals, thus creating opportunities for pathogens to spill over from wild animals to people.
- **Climate change**—primarily the result of greenhouse gas emissions—exacerbates the situation. Changes in temperature, humidity and seasonality directly **affect the survival of microbes in the environment.**

- **Proximity to different species** through wet markets (live animal market) or consumption of wild animals can also facilitate animal to human transmission.
- **Resistance to Drugs:** One example of this is the emerging resistance of pathogens to antimicrobial drugs—such as antibiotics, antifungals, antiretrovirals and antimalarials—often resulting from the misuse of the drugs, either by people or in veterinary medicine.
- **Domesticated animals** are often a “bridge” between pathogens from the wild and humans.

➤ Global Action

- UNEP, the UN Food and Agriculture Organization, and hundreds of partners across the planet have launched a 10-year effort to prevent, halt and **reverse the degradation of ecosystems worldwide.**
- **Known as the UN Decade on Ecosystem Restoration 2021-2030**, this globally-coordinated response to the loss and degradation of habitats will focus on building political will and capacity to restore humankind’s relation with nature.

➤ Suggestions

- **Addressing** zoonotic disease emergence requires addressing its root cause—primarily, the **impact of human activities on ecosystems.**
 - Ecosystems are inherently resilient and adaptable and, by supporting diverse species, they help to regulate diseases. The **more biodiverse an ecosystem is, the more difficult** it is for one pathogen to spread rapidly or dominate.
- There is a need to recognise the close relationships between human, animal and environmental health. It calls for collaborative, multisectoral, transdisciplinary and international efforts, as encapsulated by the **One Health approach.** At last, a **strong will** is necessary.

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

- IPBES is an **independent intergovernmental body** established to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development.
- It was **established in Panama City (US)**, in April 2012.
- It is **not a United Nations body.**

Note:

Classical Swine Fever

Why in News

Recently, few districts of **eastern Assam** have reported the death of more than 1,300 pigs within a week due to the **classical swine fever** (CSF).

Key Points

- It has **added to the worries of the pig farmers** who are already troubled due to the **Covid-19 lockdown**.
- **Assam** has the **most farmed pigs in the country** according to the **20th livestock census from 2012-2019**.
 - The **pork market** in the region is **more than \$1 billion**.
 - Data shows that the **eight north-eastern States with Assam** at its core **consume more than 65%** of the 4.26 lakh metric tonnes of pork produced in the country.
- **Classical Swine Fever** is also known as **hog cholera** and is a **contagious viral disease of domestic and wild swine**.
- Unlike **Swine Flu (H1N1)** that **attacks humans**, **classical swine fever** is a **viral disease that affects pigs only**. It **can be controlled by proper vaccination** of pigs in time.
 - **African Swine Fever** is another kind of swine fever.
- **Prevention and Control:**
 - **Treatment is not attempted.**
 - Affected pigs must be slaughtered and the carcass buried or burnt.
 - The **first barrier to prevent** an outbreak of the CSF is to **apply strict and rigorous sanitary treatment**.
 - **Vaccination can prevent the spread** of the disease.
 - The OIE Terrestrial Animal Health Code **defines the requirements for a country or a zone** to be considered **free of the disease**.

World Organisation for Animal Health

- OIE is an **intergovernmental organisation** responsible for improving animal health worldwide.
- In 2018, it had a total of **182 Member Countries**. **India is one of the member countries**.
- OIE standards are **recognised by the World Trade Organization** as reference international sanitary rules.
- It is headquartered in **Paris, France**.

Inactivated Virus Vaccine in Focus for Covid-19

Why in News

Recently, researchers from the **Centre for Cellular and Molecular Biology (CCMB)** have started developing an **inactivated virus vaccine** for the **novel coronavirus** (SARS-CoV-2).

Key Points

- Vaccination is thought to be the most effective and sure way to arrest the progress and deadly effect of the virus.
- Inactivated vaccines are known for their safety and easy production.
- **Inactivated Vaccines**
 - **Active pathogens are grown** in large numbers and **then killed** either by a chemical or heat. Although the pathogen is killed, or made to lose its reproduction capacity, **various parts of the pathogen are intact**. E.g The antigen (the chemical structure) that is recognised by the immune system is left unimpaired.
 - When this dead microbe is introduced in the body, **the immune system is tricked to respond by producing antibodies** against specific antigens still left intact, without knowing that the pathogen is defective.
 - As the pathogen is dead, it cannot reproduce nor cause even a mild disease. Thus, it is safe to administer to even people with lesser immunity, like the old and those who have comorbidity.
 - Inactivated **polio vaccine and the rabies vaccine** are made this way.
- **Benefit:** If a **large amount of coronavirus is grown and inactivated**, that will be material for candidate vaccines to be injected.
- **Challenges:** The important technological challenge is **growing the coronavirus outside of the human host**.
 - As the novel coronavirus has evolved to life on human cells, locating the **right source of the cell line to grow the virus outside of the human body** is key to this technology.
- CCMB is using the **epithelial cell line from African green monkeys** to artificially grow and harvest the deadly virus.

Note:



- The cells will be observed and if **the cells show changes, including dying of cells and release of the virus, then the culture is positive.**
- Finding a right cell growing technology for the novel coronavirus **will also help in drug development.**

Other Types of Vaccine

- **Live-attenuated vaccines**
 - Live vaccines use a **weakened (or attenuated) form of the germ** that causes a disease.
 - Because these vaccines are so **similar to the natural infection** that they help prevent, they create a strong and long-lasting immune response.
 - Just one or two doses of most live vaccines can give you a lifetime of protection against a germ and the disease it causes.
 - The limitation of this approach is that these vaccines usually **cannot be given to people with weakened immune systems**
 - Live vaccines are used against: **Measles, mumps, rubella** (MMR combined vaccine), **Rotavirus, Smallpox** among others.
- **Subunit, recombinant, polysaccharide, and conjugate vaccines**
 - They use **specific pieces of the germ** — like its protein, sugar, or capsid (a casing around the germ). They give a very strong immune response.
 - They can also be used on people with weakened immune systems and long-term health problems.
 - These vaccines are used to protect against: **Hib** (Haemophilus influenzae type b) disease, **Hepatitis B, HPV** (Human papillomavirus), **Pneumococcal disease** among others.
- **Toxoid vaccines**
 - Toxoid vaccines use a toxin made by the germ that causes a disease. Toxoid vaccines are used to protect against: Diphtheria, Tetanus.

Chitra GeneLAMP-N for Covid-19 Test

Why in News

- **Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST)**, Trivandrum (Kerala), has **developed a diagnostic test kit that can confirm Covid-19 in 2 hours at low cost.**

- SCTIMST is an Institute of National Importance under the **Department of Science and Technology (DST).**

Key Points

- The test kit, funded by the DST called **Chitra GeneLAMP-N**, is highly specific for **SARS-CoV-2 N-gene** and can **detect two regions of the gene.**
 - This would ensure that the test does not fail even if one region of the viral gene undergoes mutation during its current spread.
- It is a confirmatory diagnostic test, which detects the N Gene of SARS- COV2 using **reverse transcriptase loop-mediated amplification of viral nucleic acid (RT-LAMP).**
- The results can be read from the machine from the **change in fluorescence.**
 - Fluorescence is the **emission of light by a substance** that has absorbed light or other electromagnetic radiation.
- The tests performed at National Institute of Virology (NIV), Alappuzha (Kerala)(authorized by Indian Council of Medical Research (ICMR)) show that Chitra GeneLAMP- N has **100% accuracy** and match with test results using **Reverse Transcription Polymerase Chain Reaction (RT-PCR).**
- This has been intimated to Indian Council of Medical Research (ICMR), the authority to approve it, for Covid-19 testing in India, following which License needs to be obtained from Central Drugs Standard Control Organisation (CDSCO) for manufacture.
- **Advantages**
 - A total of 30 samples can be tested in a single batch in a single machine allowing a **large number of samples to be tested each day.**
 - Current Polymerase Chain Reaction (PCR) kits in India enable detection of E gene for screening and RdRp gene for confirmation. Chitra GeneLAMP-N gene testing will allow confirmation in one test **without the need for a screening test and at much lower costs** (less than Rs. 1000/test).
 - Chitra GeneLAMP-N makes confirmatory tests results of Covid-19 possible in 2 hours.
 - The detection time is 10 minutes, and the sample to result time (from RNA extraction in swab to RT-LAMP detection time) **will be less than 2 hours.**

Note:

- The testing facility can be **easily set up** even in the laboratories of district hospitals with **limited facilities and trained laboratory technicians**.

Gene

- Gene, unit of **hereditary information**.
- Genes achieve their effects by directing the **synthesis of proteins**.
- Genes are composed of **Deoxyribonucleic acid (DNA)**, except in some viruses, which have genes consisting of a closely related compound called **Ribonucleic acid (RNA)**.

Reverse Transcription-based Loop Mediated Isothermal Amplification (RT-LAMP)

- It is a simple **quantitative detection method**.
- In this method, a **DNA copy of the viral RNA is generated** by reverse transcriptase, and then **isothermal amplification is carried out to increase the amount of total DNA**.
 - A reverse transcriptase (RT) is an enzyme used to generate complementary DNA (DNA) from an RNA template, a process termed reverse transcription.
 - Isothermal amplification enables rapid and specific amplification of DNA at constant temperature (60-65 °C).

Sepsivac to be Tested for Covid-19

Why in News

The **Council of Scientific and Industrial Research (CSIR)** has decided to **test its new drug against Sepsis**, named **Sepsivac** to treat critical patients of **Covid-19**.

Key Points

- **New Drug Against Sepsis**
 - The new drug has **recently been approved for marketing** in India and would be available commercially as Sepsivac® from Ahmedabad-based Cadila Pharmaceuticals Limited.
 - The pharmaceutical company was **supported by CSIR laboratories led by Indian Institute of Integrative Medicine (IIIM)**, Jammu in development of this drug, which has **also been found effective for leprosy patients**.

➤ Gram Negative Sepsis and Covid-19

- **Sepsis** is a serious life-threatening condition caused when the body's response to any kind of infection goes out of balance, triggering changes that can lead to **multi-organ failure**.
- **Gram negative bacteremia** (presence of bacteria in the bloodstream) in the critically ill patient is **synonymous with gram negative sepsis**.
 - **Gram-negative bacteria** have built-in abilities to find new ways to be resistant and can pass along genetic materials that allow other bacteria to become drug-resistant as well.
- According to scientists, there are **some clinical similarities between patients suffering from gram-negative Sepsis and Covid-19**.
- A Covid-19 infection **leads to a cytokine storm**, quite **similar to the one seen in Sepsis**, when there is a **heightened immune response** and over production of immune cells because of which the body starts attacking its own cells. There is inflammation and it reduces the lung's capacity to absorb oxygen.

➤ Effectiveness of Sepsivac

- Previous randomised trials in sepsis patients showed **11% absolute reduction and 55.5% relative reduction in mortality**. Sepsivac reduces the days on ventilator, in ICU and hospital and incidence of secondary infection.
- The drug **uses the Mycobacterium w** (formally known as mycobacterium indicus pranii) as it produces a different immune-system response.
 - The United States and Australia are also going to start testing the efficacy of the **BCG, or tuberculosis vaccine**, that also employs a different strain of mycobacterium, in health care workers at the frontline of treating Covid-19 patients.

➤ CSIR's Plan for Mycobacterium w

- CSIR has also planned to **evaluate Mw for faster recovery of hospitalised Covid-19 infected patients** and minimise the spread of disease through them as well for providing **preventive treatment (prophylaxis) to persons coming in contact with Covid-19 infected patients** like family members and health care workers.

Council of Scientific and Industrial Research

- CSIR was established by the Government of India in **September 1942 as an autonomous body**.

Note:



- It is known for its cutting edge R&D knowledge base in diverse S&T areas.
- Council of Scientific and Industrial Research (CSIR) has been **ranked first in the Nature Ranking Index-2020**.
 - The Nature Index provides a close to real-time proxy of high-quality research output and collaboration at the institutional, national and regional level.

Portable Sensor for Heavy Metal Detection in Water

Why in News

Recently, the **Centre for Nano and Soft Matter Sciences (CeNS)** has developed a **compact solid-state sensor to detect the heavy metal ions in water**.

- It is a **portable** device which can help onsite detection in remote areas.

Key Points

- The compact solid-state sensor can detect the heavy metal ions like **lead ions (Pb²⁺) down to 0.4 parts per billion (ppb)**.
- **Mechanism:**
 - A sensor film was prepared by **forming a composite between manganese doped zinc sulfide quantum dots and reduced graphene oxide on a glass substrate**.
 - These particular quantum dots are **water-soluble** and have **high photoluminescence (~30%) quantum yield**, making them suitable for **luminescence-based sensing**.
 - Luminescence is emission of light by certain materials when they are relatively cool. It may be seen in neon and fluorescent lamps.
 - These quantum dots can be **excited with handheld UV (ultra-violet) light of 254 nm, thus making them portable** even to remote areas.
 - Excitation, in physics, refers to the addition of a discrete amount of energy (called excitation energy) to a system—such as an atom, or a molecule—that results in its alteration, ordinarily from the condition of lowest energy (ground state) to one of higher energy (excited state).

- If a **drop of water containing heavy metal ions** such as **mercury (Hg), lead (Pb), cadmium (Cd)**, etc. are **added to the composite film**, the **emission of the film extinguishes within seconds**.
- The development of efficient and portable sensors for rapid onsite detection of heavy metal ions becomes important due to the **health hazards associated with them**.
 - Heavy metal ions pose severe potential threats to living beings (kidney damage, bone fractures, etc.).
 - They can be **accumulated in the body easily and cannot be detoxified** by any chemical or biological processes.
- This study demonstrates the easy detection of heavy metal ions in water. However, **strategies are being developed to improve the selectivity of the detection**.

Centre for Nano and Soft Matter Sciences

- It is an **autonomous research institute** under the **Department of Science and Technology (DST)**, Government of India.
- DST provides **core support** to the Centre in the form of a **grant-in-aid for conducting basic and applied research** in nano and soft matter sciences.
- CeNS is located at **Jalahalli, Bengaluru**.
- It is being mentored by **Nano-Mission** of the Government of India.
- It is **engaged in materials research** at all relevant length scales.
 - The current activities are focussed on a variety of metal and semiconductor nanostructures, liquid crystals, gels, membranes and hybrid materials.
- The Centre was **established in 1991** by an **eminent liquid crystal scientist, Prof. S. Chandrasekhar, FRS**. After years of expansion and name changes, in **2014**, it became the **Centre for Nano and Soft Matter Sciences (CeNS)**.

Nano Mission

- It was **launched in 2007** as an **umbrella capacity-building programme** by the Government of India.
- It is being implemented by the **Department of Science and Technology**.
- Objectives:
 - Basic research promotion.
 - Infrastructure development.
 - Nano applications and technology development.

Note:

- Human Resource development.
- International collaborations.
- The Nano Mission has established national dialogues to promote R&D in the development of standards for nanotechnology and for laying down a **National Regulatory Framework Road-Map for Nanotechnology (NRFR-Nanotech)**.

Human Challenge Trials

Why in News

In the race to **develop a vaccine for the novel coronavirus**, many people have volunteered to take part in the **Human Challenge Trials (HCTs)**.

- It involves **intentionally infecting volunteers** with the novel coronavirus, in order to **speed up the vaccination development**.

Key Points

- **Vaccine Development**
 - In most of the regulatory regimes, vaccines take several **years to develop** and their development typically proceeds through **three phases of clinical trials**.
 - **Phase 1:** Small groups of people receive the trial vaccine.
 - **Phase 2:** Clinical study is expanded and the vaccine is given to people who have characteristics (such as age and physical health) similar to those for whom the new vaccine is intended.
 - **Phase 3:** Vaccine is given to several thousand people and tested for efficacy and safety. During this phase, participants either receive the vaccine or a placebo.
 - **Placebo** is anything which **looks like real treatment but it is actually not**. For example- sugar pills and saline injections.
 - The vaccine's **efficacy is determined by comparing the prevalence of infection in the group that was administered the vaccine with the one which received a placebo**.
 - The **hypothesis** that those in the vaccine group will be infected significantly less is thus tested.
- **Human Challenge Trials**

- Under HCTs, participants of both the vaccine group and placebo group are **deliberately exposed to the infection** after their **consent** and thus are **challenged by the disease organism**.
- HCTs are **not new** and they are usually carried out in developing medications for **diseases** which are considered **less lethal and have been better understood** by scientists over the years like **malaria**.
- Few scientists have suggested **replacing the conventional Phase 3 testing** of vaccines by **controlled HCTs** of **Covid-19 (SARS-CoV-2)** vaccine which can **accelerate the testing** and potential rollout of efficacious vaccines.
 - Such trials **may reduce many months from the licensure process**, making efficacious vaccines available **more quickly** and will also **require significantly less number of people** than regular Phase 3 trials.

Ethical Concerns

- HCTs for Covid-19 have been questioned by critics because it is a **potentially deadly disease for even those who are less at risk**, and has **not been studied fully yet**.
- In 2016, the **World Health Organisation (WHO)** emphasised on the **ethical framework of the challenge studies** and also highlighted the **importance of informed consent**.
- Human challenge studies should be **conducted with abundant forethought, caution, and oversight**. The **value of the information** to be gained should clearly **justify the risks to human subjects**.

Covid-19 Related Disease

Why in News

Recently, the **Paediatric Intensive Care Society (PICS)** of the **United Kingdom** has observed an apparent rise in the number of children suffering from a **multi-system inflammatory state**. Doctors believe that it **could be related to Covid-19**.

Key Points

- **Multi-system Inflammatory State**
 - It is a **rare illness** that causes **inflammation of the blood vessels** leading to **low blood pressure**. It affects the entire body as it **causes a build-up of fluid in the lungs and other organs**.

Note:



- Patients suffering from it require **intensive care to support** the lungs, heart and other organs.
- **Symptoms:**
 - Abdominal and gastrointestinal symptoms.
 - Cardiac inflammation.
 - Overlapping symptoms of **Toxic Shock Syndrome (TSS)** and **Kawasaki disease** as well.

➤ Toxic Shock Syndrome

- It is a **rare** condition which is caused by certain **bacteria** which enter the body and **release harmful toxins**.
- It could be **fatal if not treated in time**.
- **Symptoms:** High temperature, headache, sore throat, cough, diarrhea, dizziness or fainting, difficulty breathing and confusion.

➤ Kawasaki Disease

- It is an **acute inflammatory disease of the blood vessels** and usually occurs in **children below the age of five**.
- The **inflammation** in the **coronary arteries** that are responsible for supplying blood to the heart results in **enlargement or in the formation of aneurysms** (swelling of the wall of an artery), leading to **heart attacks**.
- **Symptoms:** Fever, rashes, redness of the cornea, red and cracked lips, a red tongue and lymph node enlargement of the neck.

➤ Relation to Covid-19

- **Only a few children** with the symptoms of the multi-system inflammatory state **tested positive for Covid-19**. So, it **remains unclear** if and how the inflammatory syndrome is related to the virus.
- It is suggested by some doctors that the illness **may be a post-infection inflammatory response**, where the immune system gets over-stimulated.
 - A syndrome **associated with an overstimulated immune system response** is the **Cytokine Storm syndrome**.
 - This syndrome may develop as a response to **coronavirus**, leading to **sepsis, multiple organ failures and even death**.
- This could be the reason for the negative Covid-19 test results in some children with this illness because they **could have already recovered from the virus before the inflammation set in** or the **tests simply did not detect the virus**.

- These diseases and conditions are rare but it is **important that clinicians are made aware of any potential emerging links** so that they are able to give children and young people the **right care swiftly on time**.

Reverse Vaccinology

Why in News

The Tamil Nadu Dr. MGR Medical University has developed a **vaccine candidate** (i.e. potential vaccine) against **SARS-CoV-2** (Covid-19) through '**reverse vaccinology**'.

Key Points

- The **use of genomic information with the aid of computers** for the preparation of vaccines **without culturing microorganism** is known as reverse vaccinology.
- **Reverse vaccinology** helps in the **examination of the genome** of an organism in order to identify novel antigens and epitopes that might constitute vaccine candidates.
 - Antigen is a **toxin or other foreign substance** which induces an immune response in the body,
 - Epitope is a **portion of a foreign protein, or antigen**, that is capable of stimulating an immune response.
- With the unwrapping of the entire **genomic sequence**, it is possible to know what molecules make the genomic sequence.
- Reverse vaccinology has been used for developing vaccinations for **meningococcal and staphylococcal infections** all through the world.
 - Meningococcal meningitis is caused by **Neisseria meningitidis** bacteria. It is a serious **infection of the thin lining that surrounds the brain and spinal cord**.
 - Staphylococcal infections are caused by **staphylococcus bacteria** commonly **found on the skin or in the nose** of even healthy individuals.
- The technique has been available for the **last 10 to 15 years**.
- In reverse vaccinology identification of candidate antigens (potential target for vaccine preparation) is possible without the need to grow the pathogen in a shorter time.

Note:



- Earlier, a viral culture had to be done in the laboratory to develop a vaccine which was **time-consuming**. It would take time to find out the protein in the virus.

Merger of Two Black Holes with Unequal Masses

Why in News

- The gravitational wave observatories at **Laser Interferometer Gravitational-Wave Observatory (LIGO)** have detected a merger of **two unequal-mass black holes for the first time**.

Key Points

- The event, dubbed **GW190412**, was observed on 12th April, 2019. The event came almost **five years after the first ever detection of gravitational wave signals** by LIGO detectors.
 - On 14th September, 2015 the LIGO Observatories detected a signal from GW150914.
- **GW190412**: It involved the merger of two black holes weighing approximately **8 and 30 Solar masses**, respectively. The merger took place at a distance of **2.5 billion light years away**.
 - A solar mass is the mass of the sun equal to **approximately 2×10^{30} kg**.
 - It is a **standard unit of mass in astronomy**,
- The new unequal mass system is a **unique discovery** since all binaries observed previously by the LIGO and Virgo detectors consisted of two roughly similar masses. This will make it possible to infer many more things such as:
 - A more **accurate determination of the distance** from the event.
 - The **spin or angular momentum** of the black hole with more mass.
 - The **orientation of the whole event** with respect to viewers on Earth.
- **Difference between binary blackholes of equal masses and unequal masses:**
 - Dominant emission of gravitational waves happens at **twice the orbital frequency** of the binary blackholes of **equal masses** and is negligible.

- In binary blackholes with unequal masses, the emission happens at a **frequency that is three times the orbital frequency**.
 - Orbital frequency is a scalar **measure of rotation rate**.
- Also, in the merger of unequal black holes, the **spin of the more massive black hole** can be determined from the **extra features in the signal waveform**.
 - The spin of the heavier black hole plays a more prominent role in the dynamics of the binary.
- **Verification with the prediction of General Relativity:**
 - This observation once again confirms Einstein's theory of general relativity, which predicts the existence of higher harmonics, i.e. gravitational waves at two or three times the fundamental frequency.
 - General relativity, also known as the general theory of relativity, is the geometric theory of gravitation **published by Albert Einstein in 1915**.
 - **The key predictions of Einstein's theory:** the first direct **detection of gravitational waves** and the first **observation of the collision and merger of a pair of black holes**.

Black hole

- A black hole is a place in space where **gravity pulls so much that even light can not get out**. The gravity is so strong because **matter has been squeezed into a tiny space**.

Laser Interferometer Gravitational Wave Observatory

- LIGO is the **world's largest gravitational wave observatory**.
- It comprises **two enormous laser interferometers located 3000 kilometers apart**.
- LIGO exploits the **physical properties of light and of space** to detect and **understand the origins of Gravitational Waves (GW)**.
- Though its mission is to detect gravitational waves from some of the most violent and energetic processes in the Universe, the data LIGO collects may have effects on many areas of physics including **gravitation, relativity, astrophysics, cosmology, particle physics and nuclear physics**.

Note:

Deep Fakes

Why in News

Recently, cybercrime officials in India have been tracking certain apps and websites that produce nude photographs of innocent people using **Artificial Intelligence (AI)** algorithms.

Key Points

- **Deep Fake:**
 - Deep fakes or deep nudes are **computer-generated images and videos**. Cybercriminals use AI softwares to **superimpose a digital composite** (assembling multiple media files to make a final one) **onto an existing video, photo or audio**.
 - Using AI algorithms a person's words, head movements and expressions are transferred onto another person in such a seamless way that it becomes difficult to tell that it is a deep fake, unless one closely observes the media file.
- Deep fakes **first came into notice in 2017** when a Reddit user posted explicit videos of celebrities. After that several instances have been reported.
- **Concerns:**
 - The technology becomes **vulnerable** because deep fake images, audio and videos are very **realistic** and can be **used by cybercriminals to spread misinformation to intimidate or blackmail people, seek revenge or commit fraud** on social networking and dating sites.
 - It has become **one of the modern frauds of cyberspace**, along with **fake news, spam/phishing attacks, social engineering fraud, catfishing and academic fraud**.
 - It can be used to **create fake pornographic videos** and to make **politicians appear to say things they did not**, so the potential for damage to individuals, organisations and societies is vast.
 - With the **improvement in technology**, deep fakes are also getting better.
 - **Initially, an individual with advanced knowledge** of machine learning and access to the victim's publicly-available social media profile **could only make deep fakes**.
 - **Development of apps and websites capable** of such editing became **more frequent and easily accessible** to an average user.

- **Legality:**
 - In the US, the legality of deep fakes is **complicated**. An affected person **may claim defamation** but removing such content could be considered **censorship**.
 - Then, it will be a **violation of the First Amendment** which guarantees Americans the freedom concerning religion, expression, assembly and the right to petition.
 - Also, **46 states in the US have revenge porn laws**.
 - **Revenge porn** refers to the creation of sexually explicit videos or images that are posted on the Internet without the consent of the subject as a way to harass them.
 - However, the **Right to be Forgotten**, allows a user to request companies such as Facebook and Google, that have collected his/her data to take it down.
- **Protection:**
 - **Ensuring strict privacy settings on social media platforms** because keeping track of who downloads and misuses a user's pictures is impossible.
 - **Using freely available reverse image search tools** to find images that are similar to users in case it is feared that someone is using the original user's pictures.
 - **Staying mindful of virtual interactions** and **checking other user's profiles** to help determine if the person is genuine or not.

Phishing

- The email or text message carrying a link appears to come from a trusted source like a bank.
- The link takes the user to a fake website and once details like login name and passwords are entered, the login credentials reach the hacker.

Catfish Account

- It refers to the practice of setting up fictitious online profiles, generally, for luring another person into a fraudulent romantic relationship.

Hydrogen Fuel Cell Based Bus and Car Project

Why in News

Recently, **National Thermal Power Corporation (NTPC) Limited** has announced the launch of its new

Note:

project involving **hydrogen Fuel Cell Electric Vehicles (FCEV)** to run in Delhi and Leh.

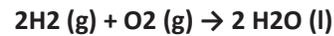
Key Points

- NTPC Limited has **invited Global Expression of Interest (Eoi)** to provide 10 Hydrogen **Fuel Cell (FC)** based buses and an equal number of such cars in Leh and Delhi.
 - The Eoi has been issued by NTPC's wholly owned subsidiary, **NTPC Vidyut Vyapar Nigam (NVTN) Limited**.
- This will be the **first time such a project will be undertaken in India**, wherein a complete solution from **green energy** to fuel cell vehicle would be developed.
 - The move **aims at decarbonizing the mobility segment**.
 - **Tata Motors** launched Starbus Electric 9m, Starbus Electric 12m and the Starbus Hybrid 12m range of buses which are **made in India** and are **powered by alternative fuels** (like Biofuels).
 - These buses produce **only water and heat as a byproduct**, thus, producing **zero emissions**.
- The initiative has been undertaken with the **support of the Ministry of New and Renewable Energy**.
 - The ministry will **also harness renewable energy for the generation of hydrogen and develop its storage and dispensation facilities** as part of pilot projects at Leh and Delhi.
- NTPC's initiatives for **complete e-mobility solutions for public transport** include:
 - **Creation of public charging infrastructure:** 90 public charging stations in various cities and battery charging and swapping stations for electric 3-wheelers have been commissioned.
 - **Providing electric buses to state/city transport undertakings.** For example, e-bus solutions for Andaman & Nicobar Administration are under implementation.
- **Other Initiatives:**
 - The Government of India launched the **FAME India Scheme** with the **objective to support hybrid/electric vehicles market development and manufacturing ecosystem**.

Fuel Cell Electric Vehicle

- **Mechanism:** The FCEV combines hydrogen and oxygen to generate an electric current.

Hydrogen + Oxygen = Electricity + Water Vapour



- FCEV engines are **similar to the conventional internal combustion engines** because they also rely on a constant supply of fuel (hydrogen) and oxygen.
 - However, there are **no moving parts** in the fuel cell, so they are **more efficient and reliable**.
- **Advantages:**
 - FCEVs produce much **smaller quantities of greenhouse gases** (GHGs) and none of the air pollutants that cause health problems.
 - Fuel cells **emit only heat and water as a byproduct** and are far **more energy-efficient** than traditional combustion technologies.
 - FCEVs **do not need to be plugged in for charging**, like battery-powered EVs.
 - There is a **wide availability of resources for producing hydrogen**.
- **Disadvantages:**
 - The **process of making hydrogen needs energy**, often from fossil fuel sources, which raises questions over hydrogen's green credentials.
 - **Handling of hydrogen is a safety concern** because it is **more explosive** than petrol.
 - These vehicles are **expensive** and **fuel dispensing pumps are scarce**.

PRACRITI: IIT Delhi

Why in News

Researchers at the **Indian Institute of Technology in Delhi** have developed a web-based dashboard **PRACRITI** for **predicting the spread of Covid-19** in India.

- PRACRITI is the acronym for PRediction and Assessment of CoRona Infections and Transmission in India.

Key Points

- **Prediction of Covid-19 Cases**
 - The dashboard gives detailed **State-wise and district-wise predictions** of Covid-19 cases in India for a **three-week period**.
 - The data is **updated on a weekly basis** to accommodate **various effects due to administrative interventions, severity of viral strain, change of weather patterns**.

Note:



- It also accounts for the **effect of different lockdown scenarios** such as the effect of locking down district boundaries, and implementing different levels of lockdown within a district.
- It also **includes the effect of movement of population** across district/state borders in the wake of Covid-19.
- **Provides R0 Value**
 - PRACRITI provides the **R0 values of each district and State** based on data available from the Ministry of Health and Family Welfare, **National Disaster Management Authority (NDMA)**, and the **World Health Organization (WHO)**. Reduction of R0 is key in **controlling and mitigating Covid-19** in India.
 - **Reproduction number (R0):**
 - Reproduction number (R0), pronounced 'R naught' refers to the **number of people to whom the disease spreads from a single infected person**.
 - For instance, if an active Covid-19 patient infects two uninfected persons, the R0 value is two.
- **Working:**
 - Predictions are based on a recent mathematical model, namely, **Adaptive, Interacting, Cluster-based, Susceptible, Exposed, Infected, Removed (AICSEIR) model**.
- This is a modified form of the traditional SEIR model and it caters for the interactions that occur between subpopulations such as districts or states. The model **divides population into following four classes:**
 - Susceptible refers to people who have **not been exposed to the coronavirus**.
 - Exposed refers to those who have been **exposed to the virus from an infected person**.
 - Infected refers to those who are **actively infected with Covid-19**.
 - Removed refers to those who are **no longer a carrier of the virus**.
- **Benefits**
 - Such a platform will be highly useful for **healthcare organisations as well as local and central authorities** to efficiently plan for different future scenarios and resource allocation.
 - These predictions can help the districts and states **having higher R0 to take rigorous measures** to control the spread of Covid-19, while for those with **low R0 they need to sustain measures and remain very vigilant**.



Note:

Environment and Ecology

Highlights

- Conversion of Surplus Rice to Ethanol
- Water Quality Improves in Yamuna
- No Improvement in Ganga Water Quality
- Godavari Valley Area and Covid-19
- Aerosol Levels Hit 20-year Low
- XI Petersberg Climate Dialogue
- Dehing Patkai Wildlife Sanctuary
- Earth Day
- World Malaria Day

Conversion of Surplus Rice to Ethanol

Why in News

Recently, the **Central Government** has allowed the **conversion of surplus rice to ethanol**.

- Ethanol produced from this will be used for **utilisation in making alcohol-based hand sanitizers and blending in petrol**.
- Ethanol is one of the most variable alternatives amongst **biofuels**.

Key Points

- The **National Biofuel Coordination Committee (NBCC)** took the decision which will lead to utilisation of part of a **huge stockpile of 30.57 million tonnes (MT) of rice** which is **almost 128% more** than the buffer stock and strategic requirement norms.
 - At present, the **Food Corporation of India (FCI)** has huge rice stock from previous years excluding the unmilled paddy lying with millers on behalf of FCI.
- Using surplus rice for ethanol will **address the concern of about 750 million litres of grain-based distillery capacities lying idle**, due to the **lack of feedstock**.
 - In India, the **total capacity of grain-based distilleries** is **close to 2 billion litres**, of which around **38% (750 million litres) was lying unused**.
- The **National Policy on Biofuels, 2018** allows **conversion of surplus quantities of food grains to ethanol** when there is a projected oversupply of food grains.

Major Criticism

- This move has been **criticised** on the grounds that **how can the government waste food stock for fuel** when the considerable number of the population **doesn't have food** and is **suffering from malnutrition**.
- On 26th March 2020, the government decided to give 5 kg wheat or rice and 1 kg of preferred pulses free of cost to 800 million people, under the **National Food Security Act, 2013 (NFSA)** in the wake of the **Covid-19 pandemic**.
 - However, **many poor people are unable to get the benefit out of it**, due to loopholes in the PDS network.
 - For example, a large chunk of **ration card holders may not be eligible for the free grains**, as they are not covered under the NFSA.
 - The **NFSA, based on the 2011 census**, had not **factored in the population increase in over nine years**, leaving a huge number of people out of its ambit.

National Policy on Biofuels, 2018

- It **categorises biofuels in various categories** to enable extension of appropriate financial and fiscal incentives under each category.
 - **Basic Biofuels or First Generation (1G)**: Bioalcohols, Biodiesel, etc.
 - **Advanced Biofuels or Second Generation (2G)**: Ethanol, Municipal Solid Waste (MSW) to drop-in fuels, etc.
 - **Third Generation (3G)**: Butanol.
 - **Fourth Generation (4G)**: Fuel from genetically engineered crops.

Note:



National Policy on Biofuels 2018

Salient features

 <p>An indicative target of 20% blending of ethanol in petrol and 5% blending of biodiesel in diesel is proposed by 2030.</p>	 <p>With a thrust on Advanced Biofuels, the Policy indicates a viability gap funding scheme for 2G ethanol Bio refineries of Rs.5000 crore in 6 years in addition to additional tax incentives, higher purchase price as compared to 1G biofuels.</p>	 <p>Categorization of Biofuels into Basic Biofuels - First generation(1G) Bioethanol & biodiesel and "Advanced Biofuels"- Second Generation(2G) ethanol, drop-in fuels, algae based Third Generation(3G) Biofuels.</p>	 <p>Increase scope of raw material for ethanol procurement by encouraging intermediate (B-Molasses), Sugarcane Juice, other Sugar containing materials and damaged as well as surplus food grains.</p>
 <p>Develop National Biomass repository by conducting appraisal of biomass across the Country.</p>	 <p>Bio diesel production to be encouraged from non edible oilseeds, used cooking oil, short gestation crops and development of supply chain mechanisms.</p>	 <p>Thrust on research, development and demonstration in the field of Biofuel feedstock production, advanced conversion technologies from identified feedstock.</p>	 <p>Setting up of National Biofuel coordination committee (NBCC) under Ministry of Petroleum & Natural Gas and Working Group on Biofuels.</p>

- It expands the scope of raw material for ethanol production by allowing use of sugarcane juice, sugar containing materials like sugar beet, sweet sorghum, starch containing materials like corn, cassava, damaged food grains like wheat, broken rice, rotten potatoes which are unfit for human consumption.
- **Objective:**
 - To achieve 20% ethanol-blending and 5% biodiesel-blending by the year 2030.
 - It also expands the scope of feedstock for ethanol production and has provided for incentives for production of advanced biofuels.

Water Quality Improves in Yamuna

Why in News

According to a report by the Delhi Pollution Control Committee (DPCC), the quality of water in the river Yamuna has improved along the Delhi stretch, compared to April 2019.

- DPCC, along with the Central Pollution Control Board (CPCB) carried out the study after being asked by a National Green Tribunal (NGT) appointed monitoring committee.
- Earlier, less air pollution and improved air quality were also noticed in various cities.

Key Points

- **Data Analysis:**

- DPCC collected water samples from nine locations along the Yamuna and twenty locations of drains and compared the different parameters with values from April 2019.
- According to the report, the pollution has reduced between 18% to 21% at various places.
- Five locations have shown 18%-33% reduction in Biochemical Oxygen Demand (BOD) levels. The rest of the locations have shown slight to considerable increase in BOD levels.
- Four of the nine locations where Dissolved Oxygen (DO) was nil in 2019 showed DO levels of 2.3-4.8 mg/l in 2020.

- However, the Yamuna has still not met the "water quality criteria".
- **Reasons behind improved quality:**
 - **Lockdown:** Earlier, a Delhi Jal Board (DJB) report had also highlighted the improved quality of water due to the Covid-19 lockdown.
 - **Increased Flow:** Haryana has increased the discharge of water which has also contributed to less pollution due to dilution of polluted water.

Biochemical Oxygen Demand

- It is the amount of dissolved oxygen needed by microorganisms to decompose organic matter under aerobic reaction (in the presence of oxygen) at a specified temperature.
- A higher BOD level means that more oxygen is needed to decompose a large quantity of organic matter present in the water.
- The BOD is therefore a reliable gauge of the organic pollution of a water body.
- One of the main reasons for treating wastewater prior to its discharge into a water resource is to lower its BOD i.e. to reduce its need of oxygen and thereby lessen its demand from the streams, lakes, rivers, or estuaries into which it is released.
- **Dissolved Oxygen:**
 - Oxygen is measured in its dissolved form as dissolved oxygen (DO). DO tells a lot about the water quality.
 - As the DO level decreases the water quality deteriorates and some aquatic animals may move away, weaken, or die.

Note:

Yamuna

- The river Yamuna, a **major tributary of river Ganges**, originates from the **Yamunotri glacier** near **Bandarpunch peaks** in the **Mussoorie range of the lower Himalayas**, in **Uttarkashi district of Uttarakhand**.
- It **meets the Ganges at the Sangam (where Kumbh mela is held) in Prayagraj, Uttar Pradesh** after flowing through **Uttarakhand, Himachal Pradesh, Haryana and Delhi**.
- **Length:** 1376 km
- **Important Dam:** Lakhwar-Vyasi Dam (Uttarakhand), Tajewala Barrage Dam (Haryana) etc.
- **Important Tributaries:** **Chambal, Sindh, Betwa and Ken**.

No Improvement in Ganga Water Quality

Why in News

According to a report published by the **Central Pollution Control Board (CPCB)**, the **pollution in Ganga has not reduced significantly during lockdown**.

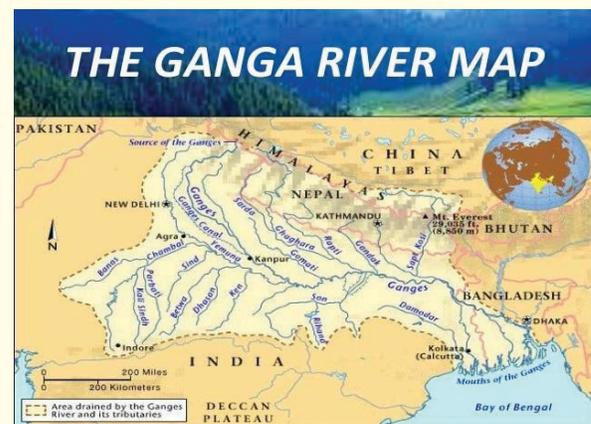
- The CPCB assessed pollution a week before lockdown and weeks after at 36 locations in Uttar Pradesh and West Bengal.

Key Points

- The **Dissolved Oxygen (DO)** concentration **improved marginally**.
 - There is a **gradual increase in Biological Oxygen Demand (BOD)** levels towards downstream stretches of the river, with the maximum values in West Bengal.
 - There is **marginal reduction in Chemical Oxygen Demand (COD)** levels which is attributed due to the stoppage of industrial activities.
 - COD measures the amount of oxygen in parts per million required to oxidise organic (biodegradable and non-biodegradable) and oxidizable inorganic compounds in the water sample.
- The **pollution in Ganga is highest in Uttar Pradesh**.
- **Causes of Pollution:** Domestic wastewater from 97 towns situated near river Ganga, and industrial effluents, are the main sources of water pollution in the river.
- There was notable **improvement in water quality in the Yamuna**.

The Ganga River System

- The headwaters of the Ganga called the '**Bhagirathi**' is fed by the **Gangotri Glacier** and joined by the **Alaknanda at Devprayag** in Uttarakhand.
- At Haridwar, Ganga emerges from the mountains to the plains.
- The Ganga is joined by many tributaries from the Himalayas, a few of them being major rivers such as the Yamuna, the Ghaghara, the Gandak and the Kosi.
- The **Ganga bifurcates at Farakka Barrage**; the Bhagirathi-Hooghly (a distributary) flows southwards through the deltaic plains to the Bay of Bengal. The mainstream flows southwards into Bangladesh and is joined by the Brahmaputra leading to the Sunderbans Delta.



Central Pollution Control Board

- The Central Pollution Control Board (CPCB) of India is a statutory organisation under the **Ministry of Environment, Forest and Climate Change**.
- It was established in 1974 under the Water (Prevention and Control of Pollution) Act, 1974.
- The CPCB is also entrusted with the powers and functions under the Air (Prevention and Control of Pollution) Act, 1981.

Godavari Valley Area and Covid-19

Why in News

Recently, a petition has been filed in the Supreme Court for directing the Andhra Pradesh government to conduct **Covid-19** tests among the tribal population living along the **Godavari river valley area**.

Note:

Key Points

- The petition said the Godavari river valley area, where the tribal people live, is close to the **Polavaram irrigation project area**.
- The Godavari river valley area spreads across Andhra Pradesh, Telangana, Odisha and Chhattisgarh.
- The Covid-19 **lockdown has been blatantly violated** for the construction of the Polavaram irrigation project on Godavari river in Andhra Pradesh.
- A large number of migrant workers work on the project site without sanitisers and masks. These workers live in close proximity to the tribal population.
- **Lack of awareness among the tribal people**, who live in dense forest and other scheduled areas of the river valley, made them **more prone to Covid-19 infections**.
- **Konda reddy, Koyas and Kolam** are the popular tribes living in godavari valley.
 - Konda reddy and Kolam are part of **Particularly Vulnerable Tribal Groups (PVTG)**.

Polavaram Irrigation Project

- **Polavaram Project** is located in Andhra Pradesh on the river Godavari, near Polavaram village.
- It is a **multi-purpose irrigation project** as the project once completed will provide **Irrigation benefits** and will generate **HydroElectric Power**. In addition, this project will also **supply drinking water**.
- It will facilitate an **inter-basin transfer to the Krishna river** basin through its Right canal.
- It will also provide indirect benefits such as development of Pisciculture (breeding and rearing of fish), tourism and urbanisation.

Godavari River

- **Source:** Godavari river rises from Trimbakeshwar near Nasik in Maharashtra and flows for a length of about 1465 km before outfalling into the Bay of Bengal.
- **Drainage Basin:** The Godavari basin extends over states of Maharashtra, Andhra Pradesh, Chhattisgarh and Odisha in addition to smaller parts in Madhya Pradesh, Karnataka and Union territory of Puducherry.
- **Tributaries:** Pravara, Purna, Manjra, Penganga, Wardha, Wainganga, Pranhita (combined flow of Wainganga, Penganga, Wardha), Indravati, Maner and the Sabri.

- The Project has been **accorded national project status by the union government in 2014** (under Section-90 of Andhra Pradesh Reorganization Act, 2014).

Aerosol Levels Hit 20-year Low

Why in News

According to the data published by the **National Aeronautics and Space Administration (NASA)**, **aerosol levels in northern India at the beginning of April were significantly below** the normal for this time of year.

- The levels were the **lowest in 20 years of Moderate Resolution Imaging Spectroradiometer (MODIS) observations**.
- MODIS is a key instrument on NASA's satellites designed to monitor the Earth's atmosphere, ocean, and land surface. Data provided by it **assists policymakers in making sound decisions concerning the protection of the environment**.

Aerosols

- Aerosols are defined as a combination of **liquid or solid particles** suspended in a **gaseous or liquid environment**.
- In the atmosphere, these particles are mainly situated in the **low layers of the atmosphere (< 1.5 km)** since aerosol sources are located on the terrestrial surface.
- However, certain aerosols **can still be found in the stratosphere, especially volcanic aerosols** ejected into the high altitude layers.
- The origin of atmospheric aerosols is either **natural or the result of anthropogenic** activities.
 - **Natural sources of aerosols** include sea salt generated from breaking waves, mineral dust blown from the surface by wind, and volcanoes.
 - **Anthropogenic aerosols** include sulfate, nitrate, and carbonaceous aerosols, and are mainly from fossil fuel combustion sources.
- Effects of aerosols:
 - They affect the **atmospheric chemical composition**.
 - They can reduce **visibility**.
 - They have important impacts on **air quality and human health** (e.g. aerosols can cause damage to heart and lungs).
 - They serve as **nuclei for cloud droplets or ice crystals in ice clouds**.

Note:

Key Points

- **Use of Aerosol Optical Depth:** The data published with maps show **Aerosol Optical Depth (AOD) in 2020** compared to the average for 2016-2019. On the day of the **lockdown** on March 25, 2020, it was 0.3 over north India. The AOD fell to 0.2 around April 1 and was found to be 0.1 on April 5.
 - Aerosol optical depth is a measure of **how light is absorbed or reflected by airborne particles** as it travels through the atmosphere.
 - If aerosols are concentrated near the surface, an **optical depth of 1 or above** indicates **very hazy conditions**.
 - An optical depth, or thickness, of **less than 0.1** over the entire atmospheric vertical column is **considered clean**.
- The findings are in line with the analysis of the government's **air monitoring service, System of Air Quality and Weather Forecasting and Research (SAFAR)**, which also found **significant reduction in PM10, PM2.5 and nitrogen oxides levels** in major cities, including the national capital, after the lockdown was imposed.
- **Impact of lockdown:**
 - Every year, aerosols from anthropogenic (human-made) sources contribute to **unhealthy levels of air pollution** in many Indian cities.
 - Human activities — driving vehicles, operating coal-fired power plants and factories, etc — **produce nitrates and sulphates that contribute to heavy concentration of aerosols** across the Indo-Gangetic Plains, every year.
 - On March 25, 2020 the Indian government placed its 1.3 billion citizens under a strict **lockdown to reduce the spread of Covid-19**.
 - The countrywide mandate **decreased activity at factories and severely reduced car, bus, truck and airplane traffic**. This has **contributed to the decreased levels of aerosols**.
- **Different conditions in southern India:**
 - Satellite data show aerosol levels have not yet decreased to the same extent. In fact, levels seem to be **slightly higher than in the past four years**.
 - The reasons are unclear but could be related to recent **weather patterns, agricultural fires, winds or other factors**.

XI Petersberg Climate Dialogue

Why in News

Recently, the **Union Minister for Environment, Forest and Climate Change** attended the **11th Petersberg Climate Dialogue**.

- The dialogue was **held virtually for the first time** in the wake of the **Covid-19 pandemic**.

Key Points

- **Petersberg Climate Dialogue**
 - It has been **hosted by Germany since 2010** to provide a **forum for informal high-level political discussions**, focusing both on **international climate negotiations** and the **advancement of climate action**.
 - The virtual XI Petersberg Climate Dialogue was **co-chaired by Germany and the United Kingdom (UK)** and was attended by about 30 countries including India.
 - The UK is the incoming Presidency of the 26th Conference of Parties (COP 26) to the **United Nations Framework Convention on Climate Change (UNFCCC)**.
 - **COP 25** was held at **Madrid, Spain in December 2019**.
 - This year's dialogue was crucial because of the efforts to contain **coronavirus** as well as countries preparing to move into the **implementation phase of the Paris Agreement 2015 in the post-2020 period**.
- **India's Contributions in the Dialogue:**
 - India **expressed solidarity with the world** as it combats the Covid-19 pandemic and **emphasised on adopting more sustainable consumption patterns** in line with the requirement of sustainable lifestyles.
 - India **suggested having climate technology as an open source** available to all countries at affordable prices.
 - India **stressed on climate finance** and urged to plan for 1 trillion USD in grants to the developing world immediately.
 - India **highlighted its Nationally Determined Contributions** spanning a ten-year time frame and in compliance with the **temperature goal** of the Paris Agreement.

Note:

- India **focused on the opportunity to accelerate renewable energy deployment** and create new green jobs in the renewable energy and energy efficiency sector.

Paris Agreement 2015

- **Parties to UNFCCC** agreed to **strive to limit the rise in global warming to well under 2 degrees Celsius, over pre-industrial levels, by 2100**, under Paris Agreement 2015.
- **Nationally Determined Contributions (NDCs)** were conceived at the Paris summit which require each Party to prepare, communicate and maintain successive NDCs that it intends to achieve.
- Parties shall **pursue domestic mitigation measures**, with the aim of achieving the objectives of such contributions.
- Paris Agreement **replaced** earlier agreement to deal with climate change, **Kyoto Protocol**.

Kyoto Protocol

- It was an **international agreement** linked to the UNFCCC, which committed its parties by **setting internationally binding emission reduction targets**.
- It was adopted in **Kyoto, Japan in 1997** and entered into **force in 2005**.
- It recognized that **developed countries are principally responsible for the current high levels of greenhouse gases (GHG) emissions** in the atmosphere as a result of more than 150 years of industrial activity.
- The detailed rules for the implementation of the Protocol were adopted at **COP-7 in Marrakesh, in 2001** and are referred to as the **Marrakesh Accords**.
 - **Kyoto Protocol Phase-1 (2005-12)** gave the target of cutting down emissions by 5%.
 - **Phase-2 (2013-20)** gave the target of reducing emissions by at least 18% by the industrialized countries.

Dehing Patkai Wildlife Sanctuary

Why in News

Recently, the **National Board for Wild Life (NBWL)** has recommended coal mining in a part of an Dehing Patkai elephant reserve in Assam.

- Dehing Patkai Elephant Reserve includes the Dehing Patkai Wildlife Sanctuary.

Key Points

- The Dehing Patkai Wildlife Sanctuary is also known as the **Jeypore Rainforest**.
- It is located in the Dibrugarh and Tinsukia districts of Assam.
- **Dehing is the name of the river** that flows through this forest and **Patkai is the hill** at the foot of which the sanctuary lies.
- **Fauna:** Rare fauna found in the region include **Chinese pangolin, flying fox, wild pig, sambar, barking deer, gaur, serow and Malayan giant squirrels**.
 - It is the **only sanctuary in India** which is **home to seven different species of wild cats** - tiger, leopard, clouded leopard, leopard cat, golden cat, jungle cat and marbled cat.
 - **Assamese macaque**, a primate found in the forest, is in the red list of near threatened species.
- **Flora:** Dehing Patkai is a **deciduous rainforest** interspersed with semi-evergreen and lush green flora.

National Board for Wildlife

- It is a **statutory Board** constituted officially in **2003** under the **Wild Life (Protection) Act, 1972**.
- The NBWL is under the **Ministry of Environment, Forest and Climate Change (MoEFCC)**.
- The NBWL is **chaired by the Prime Minister** and is **responsible for promotion of conservation and development of wildlife and forests**.
- The **board is 'advisory' in nature** and can only advise the Government on policy making for conservation of wildlife.
- The **standing committee** of NBWL is **chaired by the Minister of Environment, Forest and Climate Change**.
 - The standing committee approves all the projects falling within protected wildlife areas or within 10 km of them.

Earth Day

Why in News

- Every year, **22nd April** is celebrated as **Earth Day** to raise public awareness about the environment and inspire people to save and protect it.

Note:

Earth Day Network

- Earth Day Network is a nonprofit organization whose mission is to diversify, educate and activate the environmental movement worldwide.
- EDN main office is located in Washington DC, USA.

Note:

- 22 March: **World Water Day**
- 22 April: Earth Day
- 22 May : **World Biodiversity Day**
- Recently the **Earth Hour** was observed on 28th March, 2020. It encourages people to switch off the lights from 8.30 pm to 9.30 pm as per their local time.

- The year 2020 marks 50 years since the start of this **modern environmental movement in 1970**.
- The theme of Earth Day 2020 is **“Climate Action”**.

Key Points

- It was first celebrated in 1970 and is now coordinated globally by the **Earth Day Network** and celebrated in more than 193 countries each year.
- The idea of commemorating such a day was propounded by **Gaylord Nelson**, an American environmentalist and politician.
- The Earth Day also recognizes a **collective responsibility**, as called for in the **1992 Rio Declaration (Earth Summit)**, to promote harmony with nature and the Earth to achieve a just balance among the economic, social and environmental needs of present and future generations of humanity.
- The **Paris Agreement** was also opened for signature on **22nd April 2016 – Earth Day – at United Nations Headquarters in New York**.
- World Earth Day encourages people to take more steps for the protection of nature and to thank mother earth for the rich environment.

World Earth day 2020: Digital Celebration

- Google marked the 50th anniversary of the Earth Day with a special interactive doodle dedicated to one of the smallest and most critical organisms - **the bees**.

- As people have to stay inside their homes amid **Covid-19 lockdown**, World Earth Day 2020 is all set to be celebrated digitally. People who plan on participating can join **‘24 hours of action’**.
- One can also take 22 challenges that include measuring your carbon footprint, doing a plastic audit, skype a scientist, work for the earth, zero waste for one day and consume 1 meal per day this week on a plant-based diet.

World Malaria Day

- It is celebrated on **25th April** every year, to highlight the need for **continued investment and sustained political commitment** for **malaria** prevention and control.
 - Malaria is **preventable as well as curable**.
- **Theme for 2020: “Zero malaria starts with me”**
 - It is a grassroots campaign that aims to keep malaria high on the political agenda, mobilize additional resources, and empower communities to take ownership of malaria prevention and care.
- The **World Health Organisation (WHO)** releases the **World Malaria Report**.
 - The **2019 report** showed **no global gains in reducing new infections** over the period 2014 to 2018.
- **High burden to high impact:** It is a **new approach** to get the malaria fight back on track, **particularly in countries that carry the highest burden** of disease. It is **founded on 4 pillars**:
 - Political will to reduce malaria deaths.
 - Strategic information to drive impact.
 - Better guidance, policies and strategies.
 - A coordinated national malaria response.
- WHO **officially endorses disease-specific global awareness days for only four diseases including malaria**:
 - **1st December - World AIDS Day.**
 - **24th March - World Tuberculosis Day.**
 - **28th July - World Hepatitis Day.**



Note:



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Geography

Highlights

- Kasowal Bridge on River Ravi
- Daporijo Bridge
- Kaleshwaram Lift Irrigation Project
- Seismic Noise
- BRO Opens Rohtang Pass
- Ozone Layer Hole Over Arctic Closed

Kasowal Bridge on River Ravi

Why in News

The **Border Roads Organisation (BRO)** has constructed a **permanent bridge on the Ravi river** to connect Kasowal enclave in Punjab along the India - Pakistan border to the rest of the country.

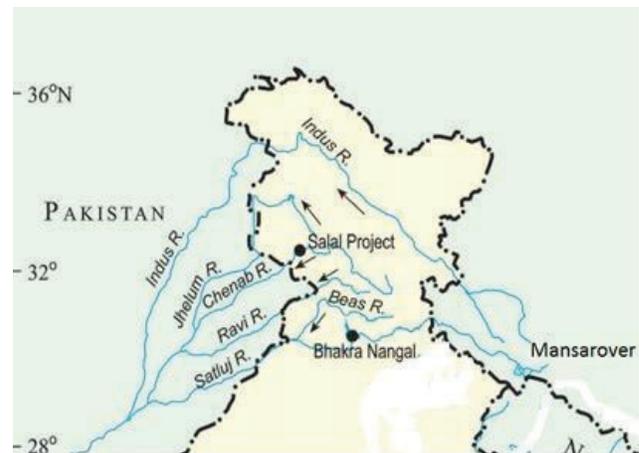
- The 484-meter bridge was built under the **Project Chetak** of BRO.

Key Points

- **Project Chetak**
 - This project of the BRO was **raised in June 1962** at Dehradun for construction of Joshimath-Malari-Rinkin road.
 - In 1980, the project was re-raised for expanding and improving the road networks and ditch-cum-bunds.
 - The jurisdiction of the project is **spread across the states of Rajasthan, Haryana and Punjab.**
- **Ravi River**
 - It is **one of the five tributaries of the Indus River** that give the Punjab (meaning "Five Rivers") its name.
 - **Other tributaries are:** Jhelum, Chenab, Beas and Sutlej.
 - **Transboundary River:** It rises in the Himalayas in Himachal Pradesh (India) and flows to the Pakistani border and along with it for more than 80 km before entering Pakistan's Punjab province.
 - **Sharing of Water:** The **Indus Waters Treaty in 1960** allocated the water of the **Eastern rivers - Sutlej, Beas and Ravi** - to India for **unrestricted use**. Pakistan has rights of unrestricted use of the

waters of the **Indus and its western tributaries (Jhelum and Chenab).**

- India has also been permitted to take from the Western rivers for domestic non-consumptive uses, for run-of-the river hydroelectric plants and specified agricultural use and construction of storage works.
- **Important Projects: Ujh Multipurpose Project** (River Ujh is a tributary of the Ravi), Shahpurkandi Dam Project



Border Roads Organisation

- It was conceived and raised in **1960** by Pandit Jawaharlal Nehru for coordinating the speedy development of a network of roads in the North and the North Eastern border regions of the country.
- It works under the administrative control of the **Ministry of Defence.**
 - It has **diversified into a large spectrum of construction and development works** comprising airfields, building projects, defence works and tunneling and has endeared itself to the people.

Note:

Daporijo Bridge

Why in News

The **Border Roads Organisation (BRO)** constructed the **Daporijo bridge** over **Subansiri river** in **Arunachal Pradesh** in a **record span of just 27 days**.

Key Points

- The bridge is of utmost importance in strategic connectivity as it **links roads leading upto the Line of Actual Control (LAC)** between India and China.
- **Subansiri River**
 - Subansiri River (**gold river**), originates in the **Tibet Plateau** and **enters India through Miri hills in Arunachal Pradesh**.
 - It is the **largest tributary of Brahmaputra River**.

Kaleshwaram Lift Irrigation Project

- The Kaleshwaram Lift Irrigation Scheme of Telangana is a multi-purpose irrigation project on the **Godavari River in Kaleshwaram, Bhupalpally, Telangana**.
- The project starts at the **confluence point of Pranahita River and Godavari River**.

Godavari River

- The Godavari is **India's second longest river** after the Ganga.
- **Source:** Trimbakeshwar, Maharashtra.
- **Areas drained:** It flows east for 1,465 kilometres, draining the states of **Maharashtra, Telangana, Andhra Pradesh, Chhattisgarh, Odisha, and Karnataka**, ultimately emptying into the Bay of Bengal through its extensive network of tributaries.
- **Tributaries:** The major tributaries of the river are classified as the **left bank tributaries** which include the Purna, Pranahita, Indravati and Sabari river and the **right bank tributaries** are Pravara, Manjira, Manair.

Pranahita River

- Pranahita river is the largest tributary of the Godavari river covering about 34% of its drainage basin.
- It is a confluence of various other smaller tributaries like Wardha, Penganga and Wainganga Rivers.

- Originally called **Pranahita-Chevella project** in erstwhile Andhra Pradesh, it was redesigned, extended and renamed as **Kaleshwaram project in Telangana in 2014**.

Benefits of the Project

- It would bring **drinking water and irrigation** to the backward areas of Telangana.
- It will also help to **restore the ground water level** to its original state by the way of shifting from usage of groundwater for irrigation to usage of surface water.
- The project will also support **Mission Kakatiya** and **Mission Bhagiratha** schemes designed to provide drinking water to many villages and improve the capacities of tanks.

Mission Kakatiya

It is a flagship programme launched by the Government of Telangana which aims at **rejuvenation of water tanks and other water storage structures** to provide assistance and help to the **small and marginal farmers** of the state.

Mission Bhagiratha

- It is a project for **safe drinking water for every village and city household** in Telangana State.
- It aims to provide **piped water** to 2.32 crore people in 20 lakh households in **urban and 60 lakhs in rural areas** of Telangana.
- The project will supply **clean drinking water** to all households in the state through water sourced from **River Godavari and River Krishna**.

Seismic Noise

Why in News

Scientists at the British Geological Survey (BGS) have reported a **change in the Earth's seismic noise and vibrations amid the coronavirus lockdown**.

- These findings have come two weeks after seismologists at the Royal Observatory in Belgium observed a **30-50% fall in levels of seismic noise** since schools and businesses were closed in mid-March.

Key Points

- **Seismic noise**
 - In geology (study of rocks), **seismic noise refers to the relatively persistent vibration of the ground** due to a multitude of causes.

Note:



- This noise includes vibrations caused due to **human activity**, such as transport and manufacturing.
- Scientists **first observed** this seismic noise — everything recorded on seismograms that cannot be attributed to earthquakes — at the end of the **19th century**.
- It is the **unwanted component of signals recorded by a seismometer** and makes it difficult for scientists to study seismic data that is more valuable.
- Apart from geology, seismic noise is also studied in other fields such as oil exploration, hydrology, and earthquake engineering.
- **Benefits of reduction in seismic noise**
 - Usually, to measure seismic activity accurately and reduce the effect of seismic noise, geologists **place their detectors 100 metres below the Earth's surface**.
 - Because, the **seismic noise vibrations caused by human activity are of high frequency** (between 1-100 Hz), and travel through the Earth's surface layers.
 - However, **since the lockdown**, researchers have said that **they were able to study natural vibrations even from surface readings**, owing to lesser seismic noise.
 - Due to lower noise levels, scientists are now hoping that **they would be able to detect smaller earthquakes and tremors** that had slipped past their instruments so far.

Seismometer

- Seismometer is the **scientific instrument that records ground motions**, such as those **caused by earthquakes, volcanic eruptions, and explosions**.
- These are incredibly **sensitive** so they also pick up other sources of vibration too, including human activity, such as road traffic, machinery and even people walking past.

BRO Opens Rohtang Pass

Why in News

The **Border Roads Organisation (BRO)** has opened the Rohtang Pass, three weeks in advance, for transporting essential supplies and relief materials to Lahaul and Spiti districts of Himachal Pradesh amid the lockdown due to **Covid-19**.

Key Points

- The pass is at 13,058 feet on the **eastern Pir Panjal Range of the Himalayas**.
- The Pass connects **Leh and Manali**. The road serves as the **only mode of connectivity between the tribal population of Lahaul Valley** in Himachal Pradesh and the rest of the country.
- It is also a crucial lifeline for the **Army troops deployed on the eastern border in the Ladakh region**.
- The pass remains **snow-bound for almost six months**, from mid-November to mid-May, isolating Lahaul and Spiti districts from the rest of the country.
 - The valley depends on **air traffic for external logistics and supplies during winters**.
- **Atal tunnel under Rohtang Pass:**
 - It is a **8.8-kilometre long tunnel** and will be the **world's longest tunnel** above an altitude of 3,000 metres.
 - It will reduce the **distance between Manali and Leh by 46 kilometres and saves transport costs**.
 - It will provide **all weather connectivity** to remote border areas of Himachal Pradesh and Ladakh which otherwise remained cut off from the rest of the country for about six months during winters.

Pass	Link/Features
Banihal Pass	Kashmir Valley with the outer Himalaya and the plains to the south.
Bara-Lacha-La Pass	Lahaul district in Himachal Pradesh with Leh district in Ladakh.
Fotu La Pass	Leh with Kargil of Ladakh.
Rohtang Pass	Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh.
Shipki La Pass	Kinnaur district of Himachal Pradesh with Autonomous Region of Tibet, China.
Jelep La Pass	Sikkim with Autonomous Region of Tibet, China.
Nathu La Pass	Sikkim with Autonomous Region of Tibet, China.
Lipu Lekh Pass	Chaudans valley of India with Autonomous Region of Tibet, China. It is located close to the tri junction of Uttarakhand (India), China and Nepal.
Khardung La	Ladakh with Siachen glacier. It is the highest motorable pass in the world.
Bom di La	It is in Arunachal Pradesh.

Note:

Border Roads Organisation

- BRO was conceived and raised in 1960 by Pandit Jawaharlal Nehru for coordinating the speedy development of a **network of roads in the North and the North Eastern border** regions of the country.
- It works under the administrative control of the **Ministry of Defence**.
- It has diversified into a large spectrum of construction and development works comprising **airfields, building projects, defence works and tunneling** and has endeared itself to the people.

Ozone Layer Hole Over Arctic Closed

Why in News

Recently, the **European Union's Copernicus Atmosphere Monitoring Service (CAMS)** announced that a hole in the Arctic ozone layer, believed to be the biggest reported over the Arctic, has closed.

- The ozone hole's closing was because of a phenomenon called the **polar vortex, and not because of reduced pollution levels** due to **Covid-19 lockdowns around the world**.
- CAMS is one of **six services that form Copernicus**, the European Union's Earth observation programme.
 - It provides consistent and quality-controlled information related to **air pollution and health, solar energy, greenhouse gases and climate forcing**, everywhere in the world.

Key Points

- **Ozone Hole:**
 - It refers to a region in the **stratosphere where the concentration of ozone becomes extremely low in certain months**.
 - Ozone (chemically, a molecule of three oxygen atoms) is found mainly in the upper atmosphere, an area called the **stratosphere, between 10 and 50 km from the earth's surface**.
 - Ozone **absorbs the harmful UltraViolet (UV) radiations** from the sun eliminating a big threat to life forms on earth. UV rays can cause skin cancer and other diseases and deformities in plants and animals.

Ozone Holes over Antarctica

- The ozone holes most commonly refer to the depletions over Antarctica, forming each year in the months of **September, October and November**, due to a set of **special meteorological and chemical conditions that arise at the South Pole**, and can reach sizes of around 20 to 25 million sq km.
- **Formation:**
 - Polar vortex leads to the most depletion of stratospheric ozone. As winter arrives, a vortex of winds develops around the pole and isolates the polar stratosphere.
 - When temperatures drop below -78°C (-109°F), thin clouds **form ice, nitric acid, and sulphuric acid mixtures**.
 - **Chemical reactions on the surfaces of ice crystals** in the clouds **release active forms of CFCs** and ozone depletion begins.
 - In spring, **temperatures begin to rise, the ice evaporates**, and the ozone layer starts to recover.
- Such holes are much **smaller in size in the North Pole** due to the warmer temperatures than the South Pole.

Polar Vortex

- A polar vortex is a **large area of low pressure and cold air** that surrounds **both of Earth's poles**.
- Polar vortices always exist, but they typically **weaken during the summer and strengthen in the winter**.
- The polar vortex in the **Arctic is typically weaker** due to the presence of nearby **land as well as mountain ranges that disturb the weather** more so than its counterpart to the south.

Reasons Behind the Biggest Ozone Hole over the Arctic:

- In 2020, the ozone depletion over the Arctic was much larger. Before this year, the last sizable Arctic ozone hole was reported in 2011.
- The hole in the North Pole's ozone layer was **first detected in February, 2020** had since reached a **maximum extension of around 1 million sq km**.
- Scientists believe that **unusual atmospheric conditions, including freezing temperatures in the stratosphere**, were responsible.
- As per a European Space Agency report, **cold temperatures (below -80°C), sunlight, wind fields**

Note:



and substances such as chlorofluorocarbons (CFCs) were responsible for the degradation of the Arctic ozone layer.

- Although Arctic temperatures do not usually fall as low as in Antarctica, this year, **powerful winds flowing around the North Pole trapped cold air within what is known as the polar vortex**— a circling whirlpool of stratospheric winds.
- However, the size of hole was still small compared to that usually observed in the southern hemisphere.

➤ **Closing of the hole and Ozone recovery:**

- Scientists believe that the closing of the hole is

because of the same **polar vortex and not because of the lower pollution levels during the Covid-19 lockdown.**

- As per the Scientific Assessment of Ozone Depletion data of 2018:
 - The ozone layer in parts of the stratosphere has recovered at a rate of **1-3% per decade since 2000.**
 - At these projected rates, the **Northern Hemisphere and mid-latitude ozone is predicted to recover by around 2030**, followed by the **Southern Hemisphere around 2050, and polar regions by 2060.**



Note:



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History

Highlights

- Kartarpur Sahib Damage
- Basava Jayanthi
- Khudai Khidmatgar Movement

Kartarpur Sahib Damage

Why in News

India has asked Pakistan to attend to repair and reconstruction of parts of **Kartarpur Sahib gurdwara** that were damaged in a storm on 18th April, 2020.

- The shrine in Pakistan's Narowal district, built where **founder of the Sikh faith, Guru Nanak Dev**, lived the last years of his life, is highly revered by followers of the faith and other worshippers in India and the world.

Key Points

- Kartarpur Sahib is in the midst of year long festivities associated with the **550th birth anniversary of Guru Nanak**.
- It has emerged as a major centre of Sikh pilgrimage in Pakistan over the last few months, after the **corridor from India was operationalised**.
- The corridor connects the **Kartar Sahib Gurdwara** in Narowal district of **Pakistan** with the **Dera Baba Nanak shrine** in Gurdaspur district in **India's Punjab province**.
- **Katarpur Sahib**
 - Guru Nanak Dev travelled through many countries spreading the message of universal peace, harmony and love before finally arriving in **Kartarpur in 1521**.
 - The then-governor of the region, Duni Chand, donated 100 acres of land on the bank of river Ravi to him.
 - Kartarpur became a **religious site after he settled there**.
 - The foundation stone of the gurdwara in Kartarpur was laid in 1572 and **Maharaja Ranjit Singh covered its dome with gold**.

- The present structure was built by **Bhupinder Singh, the Maharaja of Patiala in 1925**.

Guru Nanak Dev

- Guru Nanak Dev Jayanti is observed to celebrate the birth of Guru Nanak Dev (1469-1539), who is **first of the 10 Sikh Gurus** and the founder of Sikhism.
- He advocated the **'Nirguna' (devotion to and worship of formless divine) form of bhakti**.
- He rejected sacrifices, ritual baths, image worship, austerities and the scriptures **of both Hindus and Muslims**.
- He organised his followers into a community. He set up rules for congregational worship (**Sangat**) involving collective recitation.
- The fifth preceptor, Guru Arjan Dev, compiled Guru Nanak Dev's hymns along with those of his four successors and other religious poets like Baba Farid, Ravidas (also known as Raidas) and Kabir in the **Adi Granth Sahib**.
- These hymns, called **'Gurbani', are composed in many languages**.
- In the late seventeenth century the tenth preceptor, Guru Gobind Singh, included the compositions of the ninth guru, Guru Tegh Bahadur and this scripture was called the **Guru Granth Sahib**.

Basava Jayanthi

Why in News

The Prime Minister greeted the people on Global Basava Jayanthi, 2020 held digitally on 26th April, 2020, connecting followers in India and abroad.



Note:



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- Basava Jayanthi is an annual event celebrated in the honour of the **birth of Vishwaguru Basaveshwara, the 12th century philosopher and social reformer** who gave a unique spiritual path to mankind.

Key Points

- Basaveshwara was born in **Bagevadi (of undivided Bijapur district in Karnataka) during 1131 AD**. He is the **founding saint of the Lingayat sect**.
- His spiritual discipline was based on the principles of **Arivu (true knowledge), Achara (right conduct), and Anubhava (divine experience)** and it brought social, religious and economical revolution in the 12th century.
- This path advocates a **holistic approach of Lingangayoga (union with the divine)**. This comprehensive discipline encompasses **bhakti (devotion), jnana (knowledge), and kriya (action)** in a well balanced manner.
- In Kalyana, the **Kalchuri king Bijjala (1157-1167, AD)** appointed Basaveshwara as a karanika (Accountant) in the initial stage, in his court and later as the Prime minister.
- Here, Basaveshwara **revolted against all the social evils** of the traditionalistic society and brought a drastic change in various facets.
- His practical approach and act of establishment of **'Kalyana Rajya' (Welfare state)** brought a new status and position for all the citizens of the society, irrespective of **class, caste, creed and sex**.
- **Anubhava Mantapa:**
 - He established the Anubhava Mantapa, which was a common forum for all to discuss the prevailing problems of socio, economic and political strata **including religious and spiritual principles along with personal problems**.
 - Thus, it was the first and foremost Parliament of India, where **Sharanas (citizens of welfare society)** sat together and discussed the **socialistic principles of a Democratic set up**.
 - All those **discussions of Sharanas** were written in the form of **Vachanas**.
 - Vachanas were an innovative literary form written in **simple Kannada language**.
- Basaveshwara gave two more very **important socio-economic principles**. They are:
 - **Kayaka (Divine work):** According to this, every individual of the society should take up the job of his choice and perform it with all sincerity.

Dasoha (Equal distribution):

- There must be an equal income for equal work.
 - The worker (Kayakajeevi) may lead his day-to-day life by his hard earned income. But he should not preserve the money or property for tomorrow. He must utilise the surplus money for the society and poor.
- On 14th November 2015, the Prime Minister of India inaugurated the statue of Basavanna along the bank of the river Thames at Lambeth in London.

Khudai Khidmatgar Movement

Why in News

- It is 90 years for Qissa Khwani Bazaar massacre.
- Qissa Khwani bazar was the site of a massacre perpetrated by British soldiers against **non-violent protesters of the Khudai Khidmatgar movement on April 23, 1930**.

Key Points

- **Khudai Khidmatgar Movement**
 - The Khudai Khidmatgar was a **non-violent movement** against British occupation of the Indian subcontinent led by **Abdul Ghaffar Khan, a Pashtun freedom fighter, in the North-West Frontier Province**.

Abdul Ghaffar Khan

- Abdul Ghaffar Khan (1890-1988), the foremost 20th-century leader of the Pashtuns (a Muslim ethnic group of Pakistan and Afghanistan) was a follower of Mahatma Gandhi and was **called the "Frontier Gandhi"**.
- **Ghaffar Khan met Gandhi and entered politics in 1919** during agitation over the Rowlatt Acts, which allowed the confinement of political dissidents without trial.
- In 1920 he **joined the Khilafat movement**, which sought to strengthen the spiritual ties of Indian Muslims to the Turkish sultan
- In 1921 he was **elected president of a district Khilafat committee** in his native North-West Frontier Province.

Note:

- Soon after attending an Indian National Congress (Congress Party) gathering in 1929, **Ghaffar Khan founded the Red Shirt movement (Khudai Khitmatgar)** among the Pashtuns.
- In **1987 he was awarded the Bharat Ratna Prize**, the highest Indian honour that can be given to civilians. He was the **first foreigner to receive this honour**.
 - Another foreigner to receive Bharat Ratna is **Nelson Mandela(1990)**.
 - **Mother Teresa, in 1980**, became the first and only naturalised citizen to be awarded the Bharat Ratna.
- Over time, the movement turned **political**, leading to the British taking notice of its growing prominence in the region.
- Following the arrest of Khan and other leaders in 1929, the movement formally joined the **Indian National Congress** after they failed to receive support from the All-India Muslim League.

- Members of the Khudai Khidmatgar were organised and the men stood out because of the bright **red shirts they wore as uniforms**, while the **women wore black garments**.
- The Khudai Khidmatgar opposed Partition, a stance that many interpreted as the movement not being in favour of the **creation of the independent nation of Pakistan**.
- **Reasons for Qissa Khwani Bazaar massacre:**
 - **Abdul Ghaffar Khan and other leaders of the Khudai Khidmatgar were arrested on April 23, 1930** by British police after he gave a speech at a gathering in the town of Utmanzai in the North-West Frontier Province.
 - Protests spilled into the **Qissa Khwani Bazaar in Peshawar** on the day of Khan's arrest.
 - **British soldiers entered the market area** to disperse crowds that had refused to leave and the British army vehicles drove into the crowds, killing several protesters and bystanders.



Note:



Art & Culture

Highlights

- Ambubachi Mela Cancelled
- Draft National List of Intangible Cultural Heritage
- Raja Ravi Varma

Ambubachi Mela Cancelled

Why in News

In the wake of the **Covid-19 pandemic**, the **annual Ambubachi Mela in Assam** will not be organised this year.

- The fair is organised from **21st to 25th June, every year**.

Key Points

- The festival marks the **annual menstruation of the presiding Goddess** in the **Kamakhya Temple, Guwahati, Assam**.
 - The temple's sanctum sanctorum houses the **yoni (female genital)** symbolised by a rock.
- Kamakhya is **one of 51 shakti peethas** or holy sites for the followers of the **Shakti cult**, each representing a body part of the **Sati**, Lord Shiva's companion.
- The temple is situated on the **Nilachal Hills**, whose **northern face slopes down to the Brahmaputra river**.
- According to the **legends**, it was **built by the demon king Narakasura** but **records are available only from 1565** when **Koch king Naranarayana** rebuilt the temple.



Importance

- **Cultural:** The ritualistic fair celebrates the Goddess' period due to which **taboo associated with menstruation is less in Assam** compared to other parts of India.
 - The **attainment of womanhood of girls in Assam is celebrated** with a ritual called **Tuloni Biya**, meaning **small wedding**.
- **Social:** The fair is also an occasion to **promote menstrual hygiene** among the visitors **through the use of sanitary pads**.
- **Financial:** Assam records a **footfall of at least 5 lakh devotees** during the fair mainly from West Bengal, Bihar, Uttar Pradesh and Jharkhand. **Foreigners also visit** which **boost the state tourism and the revenues** associated.

Draft National List of Intangible Cultural Heritage

Why in News

The Ministry of Culture has launched the draft **National List of Intangible Cultural Heritage (ICH)** of India.

Key Points

- The National ICH List is an attempt to **recognize the diversity of Indian culture embedded in its intangible heritage**.
- It aims to **raise awareness** about the various intangible cultural heritage elements from different states of India at national and international level and ensure their protection.
- This initiative is also a part of the **Vision 2024 of the Ministry of Culture**.
- The list has more than 100 elements which also include **13 elements recognized by the United**

Note:

Nations Educational, Scientific and Cultural Organization (UNESCO) as Intangible Cultural Heritage of Humanity.

➤ Following **UNESCO's 2003 Convention for Safeguarding of Intangible Cultural Heritage**, this list has been classified into five broad domains in which intangible cultural heritage is manifested.

- The 2003 Convention is a part of the Convention Concerning the Protection of World Cultural and Natural Heritage which was adopted by the **General Conference of UNESCO in 1972** in order to promote the **identification, protection and safeguarding of natural cultural heritage**.
- The five domains are:
 - Oral traditions and expressions, including language as a vehicle of the intangible cultural heritage.
 - Performing arts.
 - Social practices, rituals and festive events.
 - Knowledge and practices concerning nature and the universe.
 - Traditional craftsmanship.
- **Kerala's** martial art form, **Kalaripayattu**, and the practice of making designs at the entrance of homes and temples called **kolam** in Kerala, Andhra Pradesh, Tamil Nadu and Andhra Pradesh are included in the draft list.
- The present items in the list have been collated from the projects sanctioned under the scheme for '**Safeguarding the Intangible Cultural Heritage and Diverse Cultural Traditions of India**' formulated by the Ministry of Culture in 2013.

Scheme for Safeguarding the Intangible Heritage and Diverse Cultural Traditions of India

- The scheme was set up under the **Ministry of Culture (MoC) during 2013-14**.
- The objective of the Scheme is to support and strengthen the **efforts of various stakeholders** vis-a-vis wider recognition and acceptance, dissemination, preservation and promotion of the rich, diverse and vast ICH of India including recognition of the same by UNESCO.

13 ICH traditions recognised by UNESCO

1.	Tradition of Vedic chanting, 2008	8.	Buddhist chanting of Ladakh: recitation of sacred Buddhist texts in the trans-Himalayan Ladakh region, Jammu and Kashmir, India, 2012
2.	Ramila, the traditional performance of the Ramayana, 2008	9.	Sankirtana, ritual singing, drumming and dancing of Manipur, 2013
3.	Kutiyattam, Sanskrit theatre, 2008	10.	Traditional brass and copper craft of utensil making among the Thatheras of Jandiala Guru, Punjab, India, 2014
4.	Ramman, religious festival and ritual theatre of the Garhwal Himalayas, India, 2009	11.	Yoga, 2016
5.	Mudiyettu, ritual theatre and dance drama of Kerala, 2010	12.	Nowruz, 2016
6.	Kalbelia folk songs and dances of Rajasthan, 2010	13.	Kumbh Mela, 2017
7.	Chhau dance, 2010		

- The Scheme aims to support
 - Institutions / Universities / State Govts / UT Administrations / non-MoC Institutions / Societies / Non-government organisations, **involved in the preservation and propagation of intangible cultural heritage, cultural expressions etc.**
 - Individuals, researchers, scholars, professionals who are involved in the **research, training, preservation, perpetuation, dissemination, and propagation of intangible cultural heritage, cultural expressions etc.**

Raja Ravi Varma

Why in News

29th April is the **birth anniversary** of the famed **Indian painter Raja Ravi Varma (1848-1906)**.

- He is remembered for giving Indians their western, classical representations of Hindu gods and goddesses.

Key Points

- **Early days and training:**
 - Varma was born into an **aristocratic family in Travancore (Kerala)**.
 - At the age of 14, Varma was **patronised by Ayilyam Thirunal**, the then **ruler of Travancore**, and went on to receive training in **watercolours from Ramaswamy Naidu, the royal painter**.
- **Contributions:**
 - Made around **7,000 paintings**.
 - Apart from painting Hindu mythological figures, Varma also made **portraits of many Indians as well as Europeans**.

Note:

- Varma worked on both **portrait and landscape paintings**, and is considered **among the first Indian artists to use oil paints**.



- He continues to be regarded as the most important representative of the **Europeanised school of painting in India**.
- **Lithographic press:** He mastered the **reproduction of his work** on the lithographic press – through which his paintings spread far and wide.
- Lithographic press is a method of printing based on the principle that **oil and water do not mix**.

- Paintings were earlier sent to Germany and Austria to be lithographed.
- Varma set up his **own printing press in Maharashtra** – first in Ghatkopar and eventually in Lonavala in 1894.
- Through his printing press, Varma's **paintings travelled into the prayer and living rooms of working-class homes**.

➤ **Famous works:** Damayanti Talking to a Swan, Shakuntala Looking for Dushyanta, Nair Lady Adorning Her Hair, and Shantanu and Matsyagandha.

➤ **Awards and Honours:**

- In 1904, the British colonial government awarded Varma with the **Kaiser-i-Hind Gold Medal**.
- In 2013, a **crater on the planet Mercury** was named in his honour.



Note:



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Social Issues

Highlights

- *Social Recession due to Covid-19*
- *Personal Protective Equipment for Sanitation Workers*
- *Woes of Migrants Amid Covid-19*
- *Global Report on Internal Displacement 2020*
- *e-Raktosh Portal*

Social Recession due to Covid-19

Why in News

As the **coronavirus pandemic** threatens to cause an economic recession, it **may also cause a “social recession”**.

Key Points

- **Social Recession:** It is a **collapse in social contacts**.
 - Just after a few weeks of social distancing and self-isolation because of Covid-19, we have noticed the **decline in our social interactions** and **might have felt the change in our mental and physical health**.
- **Possible Impact of social recession (Flight or Fight Response):** Human beings thrive on social engagements and are wired to stay connected. When these connections are threatened or unavailable, the nervous system may go out of order and thus many negative effects on the body follow:
 - Both loneliness (the feeling of being alone) and social isolation (physical state of being alone) can **trigger a cascade of stress hormones** that produce **physiological changes like increased heart rate, thickening of blood, etc.** Together, these physiological changes are called the **fight-or-flight response**.
 - **Fight-or-flight response:** In response to stress, the body's sympathetic nervous system is activated and it **stimulates the adrenal glands** triggering the release of adrenaline and noradrenaline.
 - These hormones, together with direct actions of autonomic nerves, cause the heart to beat faster, respiration rate to increase blood vessels in the arms and legs to dilate, digestive process to change and glucose levels (sugar energy) in the bloodstream to increase **to deal with the emergency**.

- Fight-or-flight response has evolved as a **survival mechanism enabling us to cope with physical and psychological threats**.
- Different **Studies related to Social Recession**
 - A recent meta-analysis published in Neuroscience and Biobehavioral Reviews revealed that people who are more socially isolated have **higher levels of C-reactive protein (CRP) and fibrinogen**
 - CRP is a **protein made by the liver**. CRP levels in the blood increase when there is a condition causing inflammation somewhere in the body.
 - Fibrinogen is a soluble protein that helps blood to clot.
 - Both of these are associated with chronic inflammation and poor physical and mental health.
 - Another study in Perspectives on Psychological Science indicated that lack of social connection and living alone can be detrimental to a person's health, respectively **increasing mortality risk by 29% and 32%**.
 - They also pointed out that social isolation can lead to several chronic conditions like **hypertension, increased heart rate, increased levels of stress hormones and even accelerated ageing**.
- **Coping with isolation**
 - Usually when things get tough, people tend to lean towards personal relationships to seek their advice and support. But, this cannot be done during lockdown.
 - There are no quick solutions to deal with increasing anxiety due to social isolation. However, some approaches can help:

Note:



- People have to begin by acknowledging that these are situations unlike what they have seen before and it is quite **normal to feel anxious and lonely**.
- It is important to know that the whole world is in the same state as them, and **everyone is together**.
- People have to use this time to **establish forgotten connections** via technology and catch up with friends and family.
- Most importantly, they should put the focus back on **self-care, eat well, exercise regularly, find ways to calm and focus on themselves**.

Personal Protective Equipment for Sanitation Workers

Why in News

The **National Safai Karamcharis Finance and Development Corporation (NSFDC)** has issued advisory to **municipalities, panchayats** urging them to ensure that all sanitation workers are provided **Personal Protective Equipment (PPE)** to remain safe during the **novel coronavirus pandemic**.

National Safai Karamcharis Finance and Development Corporation

- It is a wholly owned Government of India Undertaking under the **Ministry of Social Justice & Empowerment**.
- It was set up in 1997 as a **“Not for Profit”** Company under **Section 25 of the Companies Act, 1956** (now Section 8 of Companies Act 2013).
- It is an apex Corporation for the all round **socio-economic upliftment of the Safai Karamcharis, Scavengers and their dependents** throughout India, through various **loan and non-loan based schemes**.
- NSFDC is also playing a vital role in elimination of **manual scavenging**-the worst surviving **symbol of untouchability**.
- NSFDC has been designated as the Nodal Agency for implementation of the **Central Sector Self Employment Scheme for Rehabilitation of Manual Scavengers (SRMS)** under the aegis of the Ministry of Social Justice & Empowerment.

Section 25 of the Companies Act, 1956

- It provides an alternative to those who want to promote charity without creating a Trust or a Society for the purpose.
 - It can be noted that **non-profit companies are established under Section 8 of the Companies Act, 2013** which broadly is **similar to Section 25 of the Companies Act, 1956**.
- It allows the formation of a company existing as a legal entity in its own right, separate from the person promoting it.
 - However any company under this section must **necessarily re-invest any and all income towards promoting the said object or charity**.
 - In essence, unlike a regular company, where owners and shareholders can make profits or receive dividends, no money gets out of a Section 25 company.
- **Benefits under Section 25:**
 - Exempt from **statutory requirements of minimum paid-up capital**.
 - They are much easier to run than Trusts and Societies, as board meetings require a **smaller quorum** and requirements for calling such meetings are less rigid.
 - It is easier to increase the number of directors.
 - It is easier for people donating money to join or leave or transfer shares to others.
 - Such a company is obliged to fulfill **far less stringent book-keeping** and auditing requirements as against a regular company. These enjoy **significant tax benefits**. Such companies are also exempt from stamp duty payments.
 - Depending on how it is registered under the Income-Tax Act, companies could benefit from **income-tax exemptions**, or from the provision wherein people donating money to these companies receive income deductions in their income-tax liability.

Woes of Migrants Amid Covid-19

Why in News

The **Covid-19 pandemic** and the imposition of **lockdown** in order to curb it has brought the **perils of migrant workers** into the light.

Note:

Challenges

- Most of the migrant workers are **not routed through licensed contractors** so a huge number is excluded from getting any benefit out of the **Inter-State Migrant Workmen (ISMW) Act, 1979**.
- The Act is **only applicable** to any **establishment which has five or more inter-State migrant workers as employees** which again leaves a significant number of workers.
 - In reality, a **small proportion** of migrant workmen are **placed under such establishments**.
 - Migrants from establishments with less than five migrant employees also cease to be migrants, legally.
- The ISMW Act is also **not legally enforceable**.
- **Coronavirus** crisis has exposed the **inadequacy of the ISMW Act** highlighting needs for legal safeguards and welfare measures for migrants.

Suggestions

- **Repealing of the ISMW Act, 1979 and replacing it with a new Act, or by enlarging the scope of Unorganised Workers' Social Security (UWSS) Act, 2008** to include legal entitlements, to define the migrant workman as a subset, to provide for contingencies of livelihood loss and to make the Act legally enforceable.
- **Universalisation of registration and issuance of Aadhaar-based Unique Worker's Identification Number (UWIN)**.
- Schemes like **MGNREGA, Public Distribution Scheme (PDS) and Ujjwala** need to be **made portable and extensive**.
- **Geofencing** of different benefits enabling a migrant worker to choose location-wise benefits.
- Preparing a **comprehensive database of the migrant workers'** source and destination, demography, employment patterns and skill sets.
 - It will help in skill development, providing social security benefits, planning for mass transit of migrant labour and preparing for any contingency plan in emergency situations.
- **Empowering the Inter-State Council**, set up under **Article 263 of the Constitution** to effectively and comprehensively deal with larger issues related to migrant workers.
 - Migrant worker issues have **complex Centre-State and inter-State dimensions**.

Steps Taken by Government

- **The UWSS Act, 2008:** It provides for **social security and welfare of unorganised workers**.
 - The UWSS Act defines **unorganised workers as home-based worker, self-employed worker or wage worker in the unorganised sector**.
 - It has **two features**:
 - Registration of unorganised workers.
 - Portable smart I-card with a **UWIN**.
- **Pradhan Mantri Shram Yogi Maan-dhan Yojana:** To ensure **old age protection** for unorganised workers.
- **Atal Pension Yojana:** It is a **social security scheme** launched under the **National Pension System (NPS)** and **aims at providing a steady stream of income** after the **age of 60** to all citizens of India including the migrants and labourers.
- **Pradhan Mantri Jeevan Jyoti Bima Yojana and Pradhan Mantri Suraksha Bima Yojana** (under the **Gram Swaraj Abhiyan**): Both of the schemes provide for **life insurance and accident insurance respectively** to the migrants and labourers.
- **Pradhan Mantri Jan Arogya Yojana (Ayushman Bharat):** It aims at **providing health cover** to protect the migrants among others against the financial risk arising out of catastrophic health episodes.

Global Report on Internal Displacement 2020

Why in News

The 'Global Report on Internal Displacement 2020' revealed that **conflict, violence and disasters** led to 50.8 million internal displacement across the world at the end of 2019.

- **Internal Displacement** refers to the forced **movement of people within the country** they live in due to conflict, violence, development projects, disasters and climate change.
- Report is published by **Norwegian Refugee Council's Internal Displacement Monitoring Centre (IDMC)**.

Key Highlights

- **Displacement due to conflict**
 - All regions are affected by conflict displacement, but it is **highly concentrated in a few countries**.

Note:

of the global total of 45.7 million people displaced due to conflict and violence in 2019, three-quarters or 34.5 million, were in just 10 countries.

- **Top Five countries with highest displacement by conflict and violence are:** Syria, Democratic Republic of Congo, Ethiopia, Burkina Faso and Afghanistan.
- **Displacement related to disasters**
 - Nearly 1,900 disasters sparked **24.9 million new displacements** across 140 countries and territories in 2019.
 - This is the **highest figure recorded since 2012**.
 - Out of the 24.9 million displaced due to disasters, 23.9 were weather-related, and “much of this displacement took place in form of pre-emptive evacuations”.
- **Noted efforts to prevent and respond to internal displacement**
 - Countries including Afghanistan, Iraq and the Philippines, **incorporated displacement in their development plans**, in their reporting on the Sustainable Development Goals, or when updating risk management strategies in line with the Sendai Framework for Disaster Risk Reduction.
 - The combination of **official monitoring of disaster displacement in the Philippines** with mobile phone tracking data and social media analysis helped improve planning for shelters, reconstruction and long term urban recovery.
 - **Improvements in the quantity and quality of data available** also enabled better reporting and analysis, which in turn informed more effective responses and risk mitigation measures.

Data Related to India

- Nearly **five million people** were displaced in India in 2019
 - It is the **highest in the world**.
- **Reasons:** The displacements were prompted by increased hazard intensity, high population and social and economic vulnerability.
 - **Southwest Monsoon:** More than 2.6 million people suffered displacement due to the southwest monsoon. 2019 was the seventh warmest year since 1901 and the monsoon was the wettest in 25 years.
 - **Cyclones** Fani and Bulbul also led to huge displacements.

- Evacuations save lives, but many evacuees had their displacement prolonged because their homes had been damaged or destroyed.

- Over **19,000 conflicts and violence** also prompted the phenomenon.
 - Political and electoral violence, especially in Tripura and West Bengal, led to the displacement of more than 7,600 people.

e-Raktkosh Portal

Why in News

Recently, the Union Health Minister urged the **use of the e-Raktkosh portal as a single point for maintaining real-time information on the status of stocks of each blood group**.

- The Health Minister has termed the **availability of blood in blood banks as ‘essential’**.
- In **several blood disorders** like thalassemia and haemophilia regular transfusion of the blood is necessary.

Key Points

- e-Raktkosh portal is a **Centralized Blood Bank Management System**.
- It is a **comprehensive IT solution** to standardize and streamline the standard operating procedures,

Blood Disorder

- A blood disorder is any condition that **impacts one or more parts of the blood**, usually interfering with its ability to work correctly.
- Blood disorder can be categorised as **Common Blood Disorder** like anaemia and **Rare Blood Disorder** like thalassemia.
- **Types of Blood Disorder**
 1. Blood Disorders **Affecting Red Blood Cells** like Anemia, Pernicious anemia (B12 deficiency), Aplastic anemia, Autoimmune hemolytic anemia etc.
 2. Blood disorders **Affecting White Blood Cells** like Lymphoma, Leukemia, Multiple myeloma.
 3. Blood Disorders **Affecting Blood Plasma** like **hemophilia**
 4. Blood Disorders **Affecting Platelets** like **thrombocytopenia**.

Note:

guidelines and workflow of blood banks across the nation.

- It was **inaugurated on 7th April 2016** by then Minister of Health and Family Welfare (MoHFW)
- It **enforces Drug & Cosmetic Act, National Blood Policy standards** and guidelines ensuring proper management of blood.
- e-Rakt Kosh has components for management of the blood donation life cycle which includes:

- The biometric Donor Management System
- Blood grouping,
- Transmissible Transfusion Infections (TTI) screening,
- Antibody screening,
- A centralized Blood Inventory Management System
- Bio-Medical Waste Management System for disposal of discarded blood.



Note:



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Security

Highlights

- Unified Commanders Conference
- Civil Defence Volunteers Against Covid-19

Unified Commanders Conference

Why in News

The **Unified Commanders Conference (UCC)** which was scheduled to be held on 22nd-23rd April, 2020 has been postponed in the wake of the **Covid-19 pandemic**.

Key Points

- It is the **annual meeting of three armed force services** (Army, Navy and Air Force) and the **Ministry of Defence** to plan India's **long term security**.
- It provides a **platform for discussions at the apex level on all the Joint Issues** and **enables stock taking of the previous year** and **planning the way ahead for the next year**.
- It is **chaired by the Defence Minister, Minister of State (Defence)** and also **attended by** the ministry top officials, **National Security Advisor (NSA)**, **Chief of Defence Staff (CDS)**, service chiefs and senior officers of the three services.

National Security Advisor

- The National Security Advisor **acts as the secretary of the National Security Council (NSC)** of India and is also the **primary advisor to the Prime Minister**.
- The current National Security Advisor is **Ajit Doval**.

National Security Council

- It is a **three-tiered organization** that **oversees political, economic, energy and security issues of strategic concern**.
- India formed it in **1999**, where all aspects of national security are deliberated upon by it.
- NSC acts as the **apex body, headed by the Prime Minister**.

- It operates **within the executive office of the Prime Minister of India**, liaising between the government's executive branch and the intelligence services, advising leadership on intelligence and security issues.

- The Ministers of Home Affairs, Defence, External Affairs and Finance are its **members**.
- NSC comprises the three tier structure- **Strategic Policy Group (SPG)**, the **National Security Advisory Board (NSAB)** and the **National Security Council Secretariat**.
 - The SPG chaired by the Cabinet Secretary is the principal forum for **inter-ministerial coordination and integration** of the relevant inputs.
- The NSAB **undertakes long-term analysis and provides perspectives** on issues of national security.

Chief of Defence Staff

- The **Cabinet Committee on Security** approved the creation of the CDS on 24th December 2019. **General Bipin Rawat** is the first CDS.
- The CDS acts as the **principal military adviser to the defence minister** on all matters relating to tri-services.
- The CDS also serves as the **permanent chairman of the Chiefs of Staff Committee (CoSC)** which comprises the three service chiefs.
- The CDS also functions as the **Military Adviser to the Nuclear Command Authority**.

Civil Defence Volunteers Against Covid-19

Why in News

More than 50,000 **Civil Defence volunteers** are assisting the local administration in implementing the measures to contain the spread of **Covid-19**.

Note:



- Provisions under the **State Disaster Response Fund** (constituted under the Disaster Management Act, 2005) have been made by the central government for procurement of **Personal Protective Equipment (PPEs)** to be used by the deployed volunteers.
- **All States and Union Territories barring Ladakh, Daman & Diu, and Puducherry have deployed** civil defence personnel.
- **Rajasthan, Karnataka, Kerala, Uttar Pradesh, Delhi, Uttarakhand and Assam** have taken the **lead** in using their services.

Key Points

- Civil Defence measures are **designed to deal with immediate emergency conditions, protect the public and restore vital services and facilities that have been destroyed or damaged by disaster.**
- These operate under the **Civil Defence Act, 1968** and associated rules and regulations.
 - The Act was **amended in 2009** and in **2010, disaster management** was included as an additional role.
 - It is **applicable throughout the nation.**
- Although it is a Central law, **Section 4 of the Civil Defence Act empowers State governments to raise corps at the local administration level as per their requirement.**

- The **District Magistrate, District Collector or Deputy Commissioner** is designated as **Controller of the Civil Defence.**

Objectives:

- To save the life, to minimize loss of property, to maintain continuity of production and to keep high up the morale of the people.
- During times of war and emergencies, to guard the hinterland, support the Armed forces, mobilise the citizens and help civil administration.
- It not only includes the management of damage against conventional weapons but also the management of threat perceptions against Nuclear weapons, Biological & Chemical Warfare and natural and man-made disasters.
- It is **primarily organised on a voluntary basis except for a small nucleus of paid staff and establishment** which is augmented during emergencies.
- **Central Financial Assistance:** The central government **reimburses 25% of the expenditure (50% for North-eastern states except for Assam)** incurred by the State Government on the authorized items of Civil Defence for raising, training and equipping of Civil Defence Service.



Note:



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Miscellaneous

Highlights

- Devanahalli Pomelo Trees
- Aero India
- South Asia Seasonal Climate Outlook Forum
- Strategic Petroleum Reserves
- Pitch Black
- India Among Top Military Spenders: SIPRI

Devanahalli Pomelo Trees

Why in News

The **Bangalore International Airport Limited (BIAL)** will plant **500 Devanahalli Pomelo trees** as part of its Corporate Social Responsibility (CSR). The plantation drive is **also part of the 50th anniversary of World Earth Day**.

- **Devanahalli pomelo**, a **citrus variety**, is almost on the brink of extinction.

Key Points

- Devanahalli Pomelo has a **Geographical Indication (GI)** tag:
 - It is **grown in Devanahalli taluk, Bangalore (Karnataka)** and is **popularly known as chakota**.
 - The **Devanahalli pomelo has a unique, sweet taste**, unlike other local varieties which have a bitter taste.
- **Reasons for extinction:**
 - The **establishment of the Kempegowda International Airport** brought in different livelihood opportunities for people to change their practices and **focus shifted away from its cultivation**.
 - BIAL owns and operates Kempegowda International Airport.
 - The **absence of an organised market for the fruit** was another factor behind decline in the plantation of the variety.
- **Pomelo** is a parent of the grapefruit and is also known by its **scientific name Citrus Maxima**. The fruit is rich in **Vitamin C**.
 - While each pomelo tree grows 24 inches per season, it can live from 50-150 years and reach a height of 25 feet.

- Each tree annually yields an average of 300 to 400 fruit. Each fruit, typically, weighs 2 to 2.5 kg and is identified by distinctive **pink or red juicy carpels**.

Aero India

Why in News

Recently, the Ministry of Defence has announced that the **13th edition of Aero India** will be held from February 3 to 7, 2021 at Air Force Station Yelahanka (Karnataka).

Key Points

- Aero India is a **biennial international military and civil airshow**.
- It is a premier event that draws **international and Indian military and civil aircraft makers**, their support industries, military brass and government dignitaries, and business visitors.
- The Yelahanka air base, about 30 km from the city centre Bengaluru has been hosting the air show in February **since it was started in 1996**.
- The 2021 Aero India will be organised by the **Defence Exhibition Organisation, Ministry of Defence**.
 - In 2019, it was organised by Hindustan Aeronautics Ltd (HAL).

Defence Exhibition Organisation

- It is an **autonomous organisation of the Indian Government** established in 1981.
- The organisation was **established to promote export potential of the Indian defence industry**.
- The agency is responsible for **organising international exhibitions such as DEFEXPO** and Indian participation at overseas exhibitions.

Note:

South Asia Seasonal Climate Outlook Forum

Why in News

The **spatial forecast** which shows wide variations in rainfall across India has been **provided by the South Asia Seasonal Climate Outlook Forum**.

Key Points

- South Asian nations, **supported by the World Meteorological Organization (WMO)**, have been conducting the **SASCOF since 2010**.
- SASCOF is a consortium of meteorologists and hydrological experts from South Asian countries, including **Afghanistan, Pakistan, India, Nepal, Bangladesh, Sri Lanka, Maldives, Bhutan and Myanmar**.
- They work collectively to **issue regional forecasts** and the team **releases forecasts for the Southwest and Northeast monsoon seasons, every year**.
 - The experts usually meet ahead of preparing the forecasts, but it **was called off in 2020 in the wake of Covid-19**.

World Meteorological Organization

- The World Meteorological Organization (WMO) is an **intergovernmental organization** with a membership of 193 Member States and Territories.
- Established by the ratification of the WMO Convention on 23 March 1950, WMO became the **specialized agency of the United Nations** for meteorology (weather and climate), operational hydrology and related geophysical sciences.
- It is **headquartered in Geneva, Switzerland**.

Strategic Petroleum Reserves

Why in News

Recently, India has decided to fill its **strategic petroleum reserves** in view of the **slump in crude prices**.

- This will help on two fronts: India will get cheap oil for its reserves and it will also help in resolving the storage problem for refiners.

Key Points

- Strategic petroleum reserves are huge **stockpiles of crude oil** to deal with any crude oil-related crisis like the risk of supply disruption from natural disasters, war or other calamities.
- According to the agreement on an **International Energy Programme (I.E.P.)**, each **International Energy Agency (IEA)** country has an obligation to hold **emergency oil stocks** equivalent to at least 90 days of net oil imports.
 - In case of a severe oil supply disruption, IEA members may decide to release these stocks to the market as part of a collective action.
 - **India** became an **associate member of the International Energy Agency** in 2017.
- India's strategic crude oil storages are currently located at **Visakhapatnam (Andhra Pradesh), Mangaluru (Karnataka), and Padur (Karnataka)**.
 - The government has also given approval for setting up of two additional facilities at **Chandikhol (Odisha) and Padur (Karnataka)**.
- The concept of dedicated strategic reserves was **first mooted in 1973 in the US**, after the **OPEC** oil crisis.
- Underground storage is, by far the most economic method of storing petroleum products because the underground facility rules out the requirement of large swathes of land, ensures less evaporation and, since the caverns are built much below the sea level, it is easy to discharge crude into them from ships.
- The construction of the **Strategic Crude Oil Storage facilities** in India is being managed by **Indian Strategic Petroleum Reserves Limited (ISPRL)**.
 - ISPRL is a wholly owned subsidiary of **Oil Industry Development Board (OIDB)** under the **Ministry of Petroleum & Natural Gas**.

Pitch Black

Why in News

Recently, **Australia** has informed **India** that the **exercise Pitch Black 2020**, scheduled to be held from 27th July to 14th August has been **cancelled** due to the **Covid-19**.

- The **next edition** will be held in **2022**.

Note:

Key Points

- **Exercise Pitch Black** is a **biennial three-week multilateral air combat training exercise** hosted by the **Royal Australian Air Force (RAAF)**.
 - Its **last edition** was held in **2018**.
- It ensures that the **training and integration of forces** that occur during this exercise **directly supports the Air Force's ability** to conduct operations.
- **Cooperation between India and Australia:**
 - **Defence Cooperation**
 - It is based on the **Memorandum on Defence Cooperation 2006**, the **Joint Declaration on Security Cooperation 2009** and the **bilateral framework for Security Cooperation 2014**.
 - Australia and India are committed to working together to **enhance maritime cooperation** and have had **AUSINDEX** since **2015**.
 - Australia recently suggested **trilateral cooperation among India, Australia and Indonesia** to identify new ways for collaboration for the safety and security of the Indian Ocean.
 - **India and Australia** both border the Indian Ocean and have a **shared interest in the maintenance of freedom of navigation and trade**.
 - Australia recognises India's critical role in supporting security, stability and prosperity of the Indian Ocean region.
 - **Civil Nuclear Cooperation**
 - A **Civil Nuclear Cooperation Agreement** was signed in **September 2014** which came into force in **November 2015**.
 - The deal ensures that **Uranium mining companies of Australia** can **supply uranium to India for civil use**.
 - It also ensures that **any future bilateral trade** in other nuclear-related material or items for civil use **will also be protected**.
 - **Consular Cooperation**
 - India and Australia signed the **Mutual Legal Assistance Treaty (MLAT)** and the **Extradition Treaty in June 2008**, which has been **ratified by both the governments**, and has come into force since **January 2011**.

India Among Top Military Spenders: SIPRI

Why in News

Recently, the **Stockholm International Peace Research Institute (SIPRI)** released its annual report '**Trends in World Military Expenditure, 2019**'.

- According to the report, the **global military expenditure rose to \$1917 billion in 2019** with **India and China** emerging **among the top three spenders**.

Key Points

- **Global military spending** was **2.2% of the global Gross Domestic Product (GDP)** with an increase of 3.6% from 2018.
 - The increase of 3.6% was the largest annual growth in spending since 2010.
- **Top five largest spenders** accounted for **62%** of the global expenditure.
 - The USA > China > India > Russia > Saudi Arabia.
 - India was at the **4th** position in 2018 with Saudi Arabia at the **3rd**.
- Data related to Asia and Oceania:
 - **Japan** (\$47.6 billion) and **South Korea** (\$43.9 billion) were the largest military spenders apart from India and China.
 - **Pakistan** was at the **24th** position compared to the 19th in 2018.
 - Its **military expenditure rose by 70%** over the **decade 2010-19**, to reach **\$10.3 billion** while the military burden **increased to 4% of GDP in 2019** from 3.4% in 2010.
 - Military burden assesses the proportion of national resources dedicated to military activities and the burden on the economy.

India Specific Data

- The report highlights that **India's defence expenditure is growing in absolute terms**. However, defence expenditure has been **going down as a percentage of its GDP**, due to the increasing trend in the growth of GDP.
 - In 2019, the expenditure was **2.4% of India's GDP** which was **lower than that of 2.7% in 2010**.

Note:

- The **Union Budget 2019-20**, envisaged a total outlay of ₹27,84,200 crore. Out of this **₹3,18,931.22 crore was earmarked for Defence (excluding Defence Pension)**.
 - **Total Defence Allocation**, including Defence Pension, accounted for **15.48% of the total Central Government expenditure** for the year 2019-20.
 - It was **6.8% more than that of 2018** and has **grown by 37% over the decade of 2010–19**. If compared to **1990**, it has gone up by **259%**.
- The **Union Budget 2020-21**, envisaged a total outlay of ₹30,42,230 crore. Out of this, **₹3,37,553 crore has been allocated for Defence (excluding Defence Pension)**.
 - Total defence budget accounts for **15.49% of the total central government expenditure** for the year 2020-21.

- It shows a **growth of 9.37%** over Budget Estimates 2019-20.
- It was about **1.5% of the country's GDP**, the **lowest in recent times**.
- India's **tensions and rivalry with both Pakistan and China** are among the major drivers for its **increased military spending**.

Stockholm International Peace Research Institute

- This **think tank** is an **independent international institute** dedicated to **research into conflict, armaments, arms control and disarmament**.
- It was **established in 1966** at **Stockholm (Sweden)**.
- It **provides data, analysis and recommendations**, based on open sources, to policymakers, researchers, media and the interested public.



Note:

