



UPSC SUPER SIMPLIFIED

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IN SHORT CURRENT AFFAIRS

OCTOBER 2020



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Why this magazine?

IAS Prelims, 2020 taught us again that current affairs have to be combined with static syllabus points. Therefore, we are trying to cover relevant static points with current affairs.

This magazine is an extension of our iNSHORT CURRENT AFFAIRS initiative on the Telegram channel @[upscsupersimplified](https://t.me/upscsupersimplified). So, it will help the students to revise the iN SHORT CURRENT AFFAIRS.

In this magazine, we have covered more relevant topics with relevant newspaper cuttings and maps. This will help retain information for a longer period.

This magazine is no replacement for daily newspaper reading. It is complementary to newspaper reading and will help fill gaps in preparation. It is necessary to read the daily newspaper to clear the Civil Services Examination.

I appreciate the valuable feedback from readers for further improvements. Please feel free to contact at gjsontake@gmail.com or contact@upscsupersimplified.com

The topics are collected from various sources like,

- The Hindu,
- Indian Express,
- Livemint,
- The Tribune,
- PIB,
- International reports,
- Government reports,
- Official ministry sites and much more.

Special features:

- Topicwise Comprehensive Compilation of Current affairs of October 2020
- Based on the new trend
- Relevant maps and newspaper cuttings
- Short and crisp points

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POLITY

Right to protest

- Recently, the Supreme Court said that occupying public places like Shaheen Bagh for protests is not acceptable and such a space cannot be occupied "indefinitely".
- **Article 19(1)** gives to all citizens **the right to freedom of speech and expression**, and to assemble peaceably and without arms. The right to protest is protected under the constitution.
- **Articles 19(2) and 19(3)**, the right to freedom of speech is subject to "reasonable restrictions".

In-house Procedure

- It is a judicial procedure followed when a complaint is received against **a high court judge**.
- CJI would decide if it is considered frivolous or if it is directly related to the merits of the substantive decision in a judicial matter.
- It is a fact-finding machine and not a judicial inquiry.
- The same procedure is followed for CJI of High court.
- If proven of substantive charges, it can urge the concerned judge to resign or seek voluntary retirement.
- If the judge is unwilling to quit, the CJI of that HC is asked to withdraw judicial work from him.

Enforcement Directorate

- It is a law enforcement agency and economic intelligence agency responsible for enforcing economic laws and fighting economic crime in India.
- It is part of **the Department of Revenue**, Ministry of Finance, Government Of India.

- It is responsible for enforcement of the Foreign Exchange Management Act, 1999 (FEMA), and certain provisions under the Prevention of Money Laundering Act.

Assam & Mizoram Boundary Dispute

- The dispute stems from a **notification of 1875** that differentiated Lushai Hills from the plains of Cachar, and another of **1933** that demarcates a boundary between Lushai Hills and Manipur.
- According to an agreement between the governments of Assam and Mizoram, the status quo should be maintained in no man's land in the border area.
- However, people from **Lailapur** broke the status quo and allegedly constructed some temporary huts.

Foreigners' Tribunals

- These are **quasi-judicial bodies** established as per the Foreigners' Tribunal Order, 1964 and the Foreigners' Act, 1946.
- It is for those who have been left out in the final NRC list or have been marked as '**D**' meaning '**doubtful**'. The ones falling under this category have the right to appeal to the Foreigners Tribunal.
- Under the provisions of the Foreigners' Act, 1946 and Foreigners Tribunal Order, 1964, only Foreigner Tribunals have the right to declare a person as a foreigner.
- Thus, the non-inclusion of a person's name in the NRC does not by itself amount to him/her being declared a foreigner.
- However, if declared a foreigner or placed under the doubtful category 'the burden of proof lies with the accused'.

Socialism

- The word **socialist** was added to the Preamble of the Indian Constitution by the **42nd amendment act of 1976**, during the Emergency.
- It implies **social and economic equality**.

- Social equality in this context means the absence of discrimination on the grounds only of caste, color, creed, sex, religion, or language.

Secularism

- This term was introduced in the Preamble by **the 42nd amendment** to the constitution.
- In the Kesavananda Bharati case, the Supreme Court had declared secularism as **a basic feature**.

Official Languages Act, 1963

- An Act to provide for the languages which may be used for the official purposes of the Union, for the transaction of business in Parliament, for Central and State Acts, and for certain purposes in High Courts.
- It is under **the Ministry of Home Affairs**.
- This act enabled **English** to continue as an official language.
- **Section 7 of the Official Languages Act, 1963**, provides that the use of Hindi or official language of a State in addition to the English language may be authorized, with the consent of the President of India, by the Governor of the State for the purpose of judgments, etc. made by the High Court for that State.

Draft guidelines on advertising

- The **Consumer Affairs Ministry** has come out with a comprehensive set of draft guidelines on advertising.
- According to the guideline, disclaimers in small font and which are not factual will be treated as misleading ads.
- The advertising code has been drafted by the Central Consumer Protection Authority (CCPA) under the Consumer Protection Act, 2019, and is aimed at curbing unfair trade practices such as misleading claims made by advertisers.
- It holds manufacturers, service providers, advertising agencies as well as brand endorsers accountable for any misleading claims.

- Celebrity endorsements through posts, personal tweets, blogs, or other testimonials must be based on either adequate information about or experience with the service or product being endorsed.

C-Vigil

- It is an app built to report **the Model Code of Conduct(MCC) violations** during elections.
- Register Complaints: The app allows every citizen within the election boundaries to report the MCC/ Expenditure Violations by taking photo/audio/video through their mobile phones by signing into the application.
- **Anonymous User:** The app also **allows** the citizen to complain anonymously, without revealing their personal details/ identity.
- **Geo-tagging:** The app automatically enables a geo-tagging feature when users switched on their camera in the c-VIGIL to report a violation.
- One of the important by-products of the c-VIGIL used by **Field Units** themselves to file suo moto cases.

Selvi vs State of Karnataka

- The Supreme Court had declared in the case that the interrogation techniques such as narco-analysis, lie-detector tests, and brain-mapping violated an accused person's right against self-incrimination under **Article 20(3)**, and his/her right to life and personal liberty under **Article 21 of the Constitution**.
- It was a transformative judgment because of the way in which it understood and articulated the relationship between the individual and the State.

Public Accounts Committee (PAC)

- It's a committee of selected members of parliament, constituted by the Parliament of India, for the purpose of auditing the revenue and the expenditure of the Government of India.

- Its primary function is to examine the audit report of **the Comptroller and Auditor General (C&AG)** after it is laid in the Parliament.
- Public Accounts Committee consists of not more than **twenty-two members**, fifteen elected by Lok Sabha, the lower house of the Parliament, and not more than seven members of Rajya Sabha.
- The members are elected every year from amongst its members of respective houses according to the principle of proportional representation by means of a single transferable vote.
- The committee was first conceived in **1921** in the wake of Montagu-Chelmsford Reforms.

Competition Commission of India

- It is **a statutory body** of the Government of India responsible for enforcing the Competition Act, 2002 throughout India
- The Act prohibits anti-competitive agreements, abuse of dominant position by enterprises, and regulates combinations (acquisition, acquiring of control, and Merger and acquisition), which causes or likely to cause an appreciable adverse effect on competition within India.
- The main objective of competition law is to promote economic efficiency using competition as one of the means of assisting the creation of market responsiveness to consumer preferences.
- Advantages of perfect competition are three-fold: allocative efficiency, which ensures the effective allocation of resources, productive efficiency, which ensures that costs of production are kept at a minimum and dynamic efficiency, which promotes innovative practices.

Sedition law

- **Section 124A of the Indian Penal Code (IPC)** was introduced by the British Raj by **Macaulay**.
- Sedition is a **non-bailable offense**, punishable with jail from three years to a life term.
- Sedition is when "any person by words, either spoken or written, or by signs, or by visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards the government established by law in India.
- A person charged under **Sec 124** is barred from a government job, deprived of a passport, and required to appear in court at all times as and when required.
- The most famous victim of Sec 124A, tried in 1897, was **Lokmanya Tilak** for his writings in his newspaper Kesari.

Postal Ballot

- Election Commission has announced that it will allow those **above the age of 65** as well as those **under home or institutional quarantine** to vote using postal ballot during the Bihar elections.
- Through this facility, a voter can cast her vote remotely by recording her preference on the ballot paper and sending it back to the election officer before counting.
- Members of the armed forces like the Army, Navy, and Air Force, members of the armed police force of a state (serving outside
- Voters under preventive detention can also vote only by post.
- The disabled and people over 80 years of age can cast their votes through postal ballot.

Star Campaigner

- A star campaigner can be described as persons who are nominated by parties to campaign in a given set of constituencies.
- Star campaigners of a party will **not exceed 40** where it is a recognized political party. For parties that are deemed

unrecognized, the number of star campaigners will not be more than 20.

- The list of star campaigners has to be communicated to the Chief Electoral Officer and Election Commission within a week from the date of notification of an election.
- These persons are, in almost all cases, prominent and popular faces within the party.
- The expenditure incurred on campaigning by such campaigners is exempt from being added to the election expenditure of a candidate. However, this only applies when a star campaigner limits herself to a general campaign for the political party she represents.
- If a candidate or her election agent shares the stage with a star campaigner at a rally, then the entire expenditure on that rally, other than the travel expenses of the star campaigner, is added to the candidate's expenses.

Indian Evidence Act, 1872

- Indian Evidence Act, act passed by the British Parliament in 1872 that set forth the rules of evidence admissible in Indian courts and that had far-reaching consequences for the traditional systems of caste government in India.
- Now the expression "evidence" is defined under Section 3, the evidence includes all statements which Court permits or requires to be made before it, in relation to matters of fact under inquiry and in the second leg, includes all documents including an electronic record, produced for the inspection of the Court.
- **Features:** Based on English common law, Procedural law, Not exhaustive, Territorial extension, Applies to judicial proceedings, Discretion of the court, Allow Both Oral and Documentary Evidence, no Place for Hearsay Evidence.

SECTION 166A IPC

- Public Servant disobeying direction under the law,
 - (a) Knowingly disobeys any direction of the law which prohibits him from requiring the attendance at any place of any person for the purpose of investigation into an offense or any other matter, or
 - (b) Knowingly disobeys, to the prejudice of any person, any other direction of the law regulating the manner in which he shall conduct such investigation.

Purshottam Chopra & Anr. v. State (Govt. of NCT Delhi)

- Under this, the Supreme Court lays down **the principles governing dying declarations**.
- SC pronounced that a particular statement, when being offered as a dying declaration and satisfies all the requirements of judicial scrutiny, cannot be discarded merely because it has not been recorded by a Magistrate or that the police officer did not obtain attestation by any person present at the time of making the statement.
- The Court should be satisfied that the declarant was in **a fit state of mind** at the time of making the statement; and that it was a **voluntary** statement, which was not the result of tutoring, prompting, or imagination.
- Where a dying declaration is suspicious or is suffering from any infirmity such as want of fit state of mind of the declarant or of like nature, it should not be acted upon without corroborative evidence.
- When the eye-witnesses affirm that the deceased was not in a fit and conscious state to make the statement, the medical opinion cannot prevail.

Articles in News

- Article 124: for the removal of a Supreme Court judge
- Article 218: for the removal of a High Court judge

- Article 121 & 211: This article states that the conduct of justice or the way a judge discharges his duties of any Court cannot be discussed in the legislature (state or union).
- It, in a way, provides for the separation of the legislature and the judiciary.

Article 369

- Temporary power to Parliament to make laws with respect to certain matters in the State List as if they were matters in the Concurrent List.
- The **Constitution (Third Amendment) Act, 1954**, re-enacted entry 33 of the Concurrent List in the Seventh Schedule of the Constitution with relation to include trade and commerce in, and the production, supply and distribution of 4 classes of essential commodities, viz., foodstuffs, including edible oilseeds and oils; cattle fodder, including oilcake and other concentrates; raw cotton whether ginned or unginned and cotton seeds; and raw jute.

Article 301

- Freedom of trade, commerce, and intercourse Subject to the other provisions of this Part, trade, commerce, and intercourse throughout the territory of India shall be free.

Gupkar Declaration II

- On August 22, 2020, the six political parties of **Jammu and Kashmir** signed a statement titled 'Gupkar Declaration II' to collectively fight against the abrogation of **Article 370** in Jammu and Kashmir.

Bijoe Emmanuel vs State of Kerala case

- In July 1985, three students in Kerala stood with other schoolmates when they sang the national anthem, but refused to sing with them. Their father, V.J. Emmanuel, had instructed not to

salute the flag or sing the anthem because their faith didn't allow them to do so.

- The school expelled the children. Emmanuel — who, along with his family, belonged to a Christian sect called the Jehovah's Witnesses — moved court. He argued that singing the anthem was idolatry and an act of unfaithfulness to their God, Jehovah.
- SC held that “no provisions of the law in the country expressly obligates individuals to sing the **national anthem**”.
- Article 19(a) of the Indian Constitution, which guarantees freedom of speech, and Article 25, which gives the right to freedom of conscience and to freely profess, practice and propagate religion were violated by the school when it expelled the students. The court ordered that **the students be allowed to study in the school without any hindrance**.



SOCIAL JUSTICE

Muslim Women (Protection of Rights on Marriage) Act, 2019

- It is an Act of the Parliament of India **criminalizing triple talaq**.
- Any pronouncement of talaq by a Muslim husband upon his wife, by words, either spoken or written or in electronic form or in any other manner whatsoever, shall be void and illegal.
- An offense punishable under this Act shall be **cognizable** if information relating to the commission of the offense is given to an officer in charge of a police station by the married Muslim woman upon whom talaq is pronounced or any person related to her by blood or marriage.

Learning poverty


- This means that children are unable to read and understand a simple text by the age of 10.
- A World Bank report shows that **53% of all children** in low- and middle-income countries suffer from learning poverty.

National Recruitment Agency

- NRA is a testing agency that would conduct the Common Eligibility Examination (CET) for non-gazetted Group B and C posts.
- Initially, it will conduct the recruitment examinations for Railway Recruitment Boards (RRBs), Institute of Banking Personnel Selection (IBPS), and Staff Selection Commission(SSC) and would gradually expand its operations.
- National Recruitment Agency will be a Society registered under the Societies Registration Act, 1860.

Single exam | The National Recruitment Agency (NRA) will conduct a Common Eligibility Test (CET) for recruitment to government jobs

- The NRA will initially conduct the CET for three sectors – Railway Recruitment Board, Staff Selection Commission and Institute of Banking Personnel Selection
- It will be held separately for three levels – graduate, 12th pass and 10th pass – for the non-technical posts of the three agencies
- Examination will be conducted online twice a year in 12 languages and will be based on a common curriculum
- Scores will be valid for a three-year period. Students can write the test multiple times and their best score will be taken into account
- According to the DoPT Secretary, there are 1.25 lakh vacancies every year in Group B and C for non-gazetted officers, and about 2.5 crore people apply every year for examinations to fill these vacancies



Right To Education(RTE)

- Free and compulsory education for children between **6 and 14** in India under **Article 21A**.
- It requires all private schools to reserve **25% of seats** for children (to be reimbursed by the state as part of the PPP plan).
- Kids are admitted in to private schools based on the economic status of caste-based reservations.
- The RTE of persons with disabilities until 18 years of age is laid down under separate legislation - the Persons with Disabilities Act.

Global Hunger Index 2020

- GHI is published jointly by **Welthungerhilfe** and **Concern Worldwide**.
- India ranks **94th among 107 countries** in terms of hunger and continues to be in the 'severe' hunger category.
- At 17.3%, India's child wasting rate is only slightly better than it was last year, at 20.8%.

- 14% of India's population is undernourished.
- The 2020 report considers the **One Health approach** to linking health and sustainable food systems in order to achieve Zero Hunger by 2030.

POCSO Act, 2012.

- Protection of Children from Sexual Offences Act, 2012(also, amended in 2019) has been enacted to protect children from offenses of **sexual assault, sexual harassment, and pornography**.
- It provides for the establishment of Special Courts for a trial of such offenses and related matters and incidents.
- The Act defines a child as any person **below eighteen years of age**.
- It defines different forms of sexual abuse, including penetrative and non-penetrative assault, as well as sexual harassment and pornography.
- It deems a sexual assault to be “**aggravated**” under certain circumstances, such as when the abused child is mentally ill or when the abuse is committed by a person in a position of trust or authority vis-à-vis the child, like a family member, police officer, teacher, or doctor.
- It defines “**child pornography**” as any visual depiction of sexually explicit conduct involving a child which includes a photograph, video, digital, or computer-generated image indistinguishable from an actual child, and image created, adapted, or modified, but appear to depict a child.

NCRB Report

- The National Crime Record Bureau has recently released a report titled “Crime in India”, 2019.
- NCRB was set up in **1986** which functions as **a repository of information on crimes**. It was set up on the recommendations of the National Police commission in 1977 and the Task Force in 1985.

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- As per the report, crimes against members of the Scheduled Castes (SCs) and the Scheduled Tribes (STs) reported an increase as compared with 2018.
 - Assam reported the highest rate of crimes against women, while Rajasthan had the highest rate of crimes against Scheduled Castes.
 - Rajasthan reported the highest number of rape followed by UP.
 - UP also had the highest number of crimes against girl children under the POCSO Act.

Justice Verma Committee Recommendations,2013

- Justice Verma Committee was constituted to recommend amendments to the Criminal Law so as to provide for quicker trial and enhanced punishment for criminals accused of committing sexual assault against women.
- The committee significantly **expanded the list of crimes against women (CAW)**. Offenses such as voyeurism, stalking, disrobing, and trafficking of women had been added to this list.

NCPCR

- National Commission for Protection of Child Rights (NCPCR) emphasizes the **principle of universality and inviolability of child rights**.
- It recognizes the tone of urgency in all the child-related policies of the country.
- It provides protection of all children in the **0 to 18 years age group**.

Child Care Institution

- A child care institution is defined under **the Juvenile Justice Act,2015**.
- Children in conflict with the law are provided residential care and protection in Observation Homes, Special Homes, and Places of Safety.

- Responsibility to provide services to children in conflict with law (CCL) as laid down under the JJ Act, 2015 lies with state governments.

Observation Home	Special Home	Place of Safety
For every child alleged to be in conflict with law who is not placed under the charge of parent or guardian	For rehabilitation of those children in conflict with law who are found to have committed and offence.	Child in conflict with law, who is between the ages of sixteen to eighteen years and is accused of or convicted for committing a heinous offence.

Shakti Vahini v Union of India & ors

- In this judgement SC ruled that any attempt by **Khap Panchayats** or any other assembly to scuttle or prevent two consenting adults from marrying is absolutely 'illegal' and laid down preventive, remedial and punitive measures in this regard.
- The court's judgment came on a petition filed by a non-government organisation (NGO) Shakti Vahini in **2010**.
- The petitioner had sought directions to States and the Centre to put in place a plan **to curb honour killings**.
- Panchayats in many areas consider it as their duty to punish the ones who perform marriages outside their caste or community and without the consent of their elders and they call it "Honour Killing". This Panchayat has the nomenclature of "Khap Panchayat".

SOP on crime against women

- The Centre has issued a fresh advisory to states and UTs on mandatory action in cases of crimes against women.
- Probe into rape cases must be completed **within two months** as per law.

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- **Dying declaration** of a victim can't be discarded merely because it has not been recorded by a magistrate.
 - The home ministry said there should be compulsory registration of an FIR in case of a cognisable offence under the CrPC.
 - The law also enables the police to register an FIR or a “**zero FIR**”, in case the crime is committed outside the jurisdiction of a police station.



HEALTH

Cold chain

- It is the system of transporting or storing **vaccines** within the safe temperature range of **2°C to 8°C**.
- Cold chain breach is the exposure of vaccines to temperatures outside of 2°C to 8°C, excluding fluctuations up to 12°C lasting less than 15 minutes when restocking, cleaning the fridge or stock taking.
- The break in the cold chain leads to **disease outbreaks**. Public confidence in immunization will be harmed greatly if children vaccinated with ineffective vaccines get the disease.

eVIN (Electronic Vaccine Intelligence Network)

- It is an indigenously developed technology system in India that digitizes vaccine stocks and monitors the temperature of the cold chain through a smartphone application.
- eVIN aims to support the Government of India's Universal Immunization Programme by providing **real-time information on vaccine stocks and flows, and storage temperatures** across all cold chain points in these states.

Saviour Sibling

- Children who are born to provide **human leukocyte antigen (HLA)** compatible body parts, typically umbilical cord blood to be used for bone marrow transplantation, in order to save the life of their older sibling.
- They are created using IVF so that the embryos can be screened in order to find and implant one that is a match to an existing child.

Thalassemia

- It is **an inherited blood disorder** caused when the body doesn't make enough of a protein called **hemoglobin** (oxygen carrying protein), an important part of red blood cells.
- The disorder results in excessive destruction of red blood cells, which leads to anemia.
- **Symptoms:** bone deformities, dark urine, delayed growth, excessive tiredness and fatigue, yellow or pale skin.
- It's caused by either a genetic mutation or a deletion of certain key gene fragments

Rooming-in

- The practice of rooming-in is defined by the WHO as “hospital practice where postnatal mothers and normal infants stay together in the same room **for 24 hours** a day from the time they arrive in their room after delivery.”
- Early and uninterrupted skin-to-skin contact, rooming-in and kangaroo mother care also significantly improve neonatal survival and reduce morbidity and are recommended by WHO.

HIV /AIDS

- **Human Immunodeficiency Virus (HIV)** is a virus that attacks cells that help the body fight infection, making a person more vulnerable to other infections and diseases.
- Following initial infection a person may not notice any symptoms, or may experience a brief period of **influenza-like illness**. Typically, this is followed by a prolonged period with no symptoms.
- If the infection progresses, it interferes more with the immune system, increasing the risk of developing common infections such as **tuberculosis**, as well as other opportunistic infections, and tumors. These late symptoms of infection are referred to as acquired immunodeficiency syndrome (AIDS).
- This stage is often also associated with unintended weight loss.
- Treatment: **Antiretroviral therapy**

Niramai

- Niramai is a health-tech startup that uses a patented technology called '**Thermalytix**' with AI to detect early-stage **breast cancer** in a radiation-free and non-invasive way.
- Their aim of making early breast cancer screening affordable and accurate for women of all age groups.
- Breast cancer is the leading cause of cancer deaths in women today. According to WHO, **one in every 12 women have the risk of a breast abnormality**. Indian women have only about 50% chance of survival. Early diagnosis is very critical to decrease mortality rates.

COVIRAP

- It is a **cuboid shaped device** that uses a unique temperature-controlled system to screen for Covid-19.
- It is a **portable device** which delivers the results in an hour.
- The DNA of the virus is mixed with chemicals on a paper strip. The reaction determines if the sample is positive or negative.
- The result on the strip can be read using a mobile app.
- The machine has a capacity to test between three and 10 samples in one go, which means the kit can be used for pool testing as well.
- The test kits cost around ₹500 and can be Operated by minimal training.
- Further, the test has been devised keeping in mind the mutating nature of the SARS-CoV-2 virus.

Rapid Antigen Test

- Rapid diagnostic test (RDT) detects the presence of viral proteins (antigens) expressed by the COVID-19 virus in a sample from the respiratory tract of a person.
- If the target antigen is present in sufficient concentrations in the sample, it will bind to specific antibodies fixed to a paper strip

enclosed in a plastic casing and generate a visually detectable signal, typically within 30 minutes.

- The antigen(s) detected are expressed only when the virus is actively replicating; therefore, such tests are best used to identify acute or early infection.

Feluda Covid-19 Test

- Feluda test uses **indigenously developed CRISPR gene-editing technology** to identify and target the genetic material of SARS-CoV2, the virus that causes Covid-19.
- An accurate and low-cost paper-based test strip to detect Covid-19 in less than 30 minutes has been approved for commercial launch by the Drugs Controller General of India.
- The test matches accuracy levels of RT-PCR tests, considered the gold standard in the diagnosis of Covid-19, has a quicker turnaround time and requires less expensive equipment.
- FELUDA, has met high quality benchmarks, with 96 per cent sensitivity and 98 per cent specificity for detecting novel coronavirus.
- The 'Feluda' test costs just about Rs 500 while the RT-PCR test now costs anywhere between Rs 1,600 to Rs 2,000. Antibody tests, which can give results in 20-30 minutes, costs between Rs 500 and Rs 600.
- 'Feluda' is also the **world's first diagnostic test** to deploy a specially adapted Cas9 protein to successfully detect the virus.

eSanjeevani

- It is under **Ayushman Bharat Scheme** of the Government of India.
- Government of India's flagship **telemedicine** technology developed by Centre for Development of Advanced Computing (Mohali).
- eSanjeevani - A doctor to doctor telemedicine system is being deployed nationally for the Ministry of Health & Family Welfare at 155,000 Health and Wellness Centres.

eSanjeevaniOPD

- Stay Home OPD has been developed by **Centre for Development of Advanced Computing (C-DAC)** in Mohali.
- This is citizen friendly web-based National Teleconsultation Service.
- It services Patient registration, Token Generation, Queue Management, Audio-Video Consultation with a Doctor, ePrescription, SMS/Email Notifications etc.

Affordability of nutritious diets in rural India

- Report published in Journal called Food policy by **Kalyani Ragunathan**.
- As per the report, 76% of rural Indians cannot afford nutritious diets. Nutritious diets are highly unaffordable, especially for women.

Narcotic Drugs and Psychotropic Substances Act, 1985

- It is commonly referred to as the NDPS Act that prohibits a person the production/manufacturing/cultivation, possession, sale, purchasing, transport, storage, and/or consumption of any narcotic drug or psychotropic substance.
- The Act extends to the whole of India and it applies also to all Indian citizens outside India and to all persons on ships and aircraft registered in India.
- The **Narcotics Control Bureau** was set up under the act with effect from March 1986.

Deficiency Diseases

- **Rickets** is caused by the deficiency of **vitamin-D** causing increased loss of Ca in urine. Therefore no Ca gets deposited in the bone. Hence it affects bone development.

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- **Pellagra** is a disease caused by deficiency of **Niacin Vitamin-B3**. The symptoms include inflamed skin, diarrhea and sores in the mouth.
 - **Scurvy** is a disease resulting from deficiency of **vitamin-C**. It can lead to anaemia, debility exhaustion, spontaneous bleeding pain in limbs and sometimes ulceration of the gum and loss of teeth.
 - **Xerophthalmia** is caused by the deficiency of **vitamin-A** in the children. The early symptom includes night blindness and eye irritation finally it leads to permanent blindness.



INTERNATIONAL RELATIONS

Madrid Principles

- These are one of the proposed peace settlements of **Nagorno-Karabakh conflict**.
- The original version of the principles was presented to the Armenian and Azerbaijani foreign ministers at the **Organization for Security and Co-operation in Europe (OSCE)** ministerial conference in the Spanish capital Madrid in November 2007.

OSCE Minsk Group

- It was created in **1992** by the Conference on Security and Cooperation in Europe (CSCE, now Organization for Security and Co-operation in Europe (OSCE)) to encourage a peaceful, negotiated resolution to the conflict between Azerbaijan and Armenia over Nagorno-Karabakh.

World Food Programme (WFP)

- It is the food-assistance branch of the United Nations and the world's largest humanitarian organization focused on hunger and food security.
- Founded in **1961**, it is headquartered in **Rome** and has offices in 80 countries.
- The World Food Programme was awarded the **Nobel Peace Prize in 2020** for its efforts to provide food assistance in areas of conflict amid the COVID-19 pandemic.

Organization for prohibition of chemical weapons (OPCW)

- **Objective-** To achieve a world permanently free of chemical weapons and to contribute to international security and stability, general and complete disarmament, and global economic development.
- **India is a signatory** out of 193 member states.
- HQ at **Hague, Netherlands**

Financial Action Task Force

- Initiative of **G7 countries** established in **1989**.
- **Objective:** combat money laundering and terror financing
- India is a member among 39 members.
- Indonesia has observer status.

Peace treaties of Israel

- Camp David : Between then PM's of Israel and Egypt in 1978.
- Oslo accords: Signed between Israel and Palestine Liberation Org aimed to peacefully resolve Israeli-Palestinian conflict.
- Abraham Accords : Between Israel , UAE and Bahrain to normalize diplomatic relations and maintain peace in the Middle east.

World Economic Outlook

- WEO is released by the **IMF** in April and September/October each year.
- It reflects projections of economic developments at the global level, in major country groups and in many individual countries.
- The latest report is titled " **A long and difficult ascent**" which projects global output to shrink by 4.4% in 2020.

BECA

- India and the United States are close to signing the Basic Exchange and Cooperation Agreement for Geo-Spatial Cooperation (BECA).
- The agreement will give India access to extremely accurate geo-spatial data that will have several military applications.
- Items that can be exchanged include maps, nautical and aeronautical charts, commercial and other unclassified imagery, geodetic, geophysical, geomagnetic and gravity data.
- BECA includes the provision of sharing classified information as well, with safeguards in place to ensure that it is not shared with any third party.
- Given the current geo-political situation, this data will be relevant on guarding both the northern and western borders of India.

CAATSA

- Countering America's Adversaries Through Sanctions Act (CAATSA), is a United States federal law that imposed sanctions on Iran, North Korea, and Russia.
- The U.S. threatened India with sanctions over India's decision to buy the S-400 missile defense system from Russia in the past.
- It includes sanctions against countries that engage in significant transactions with Russia's defense and intelligence sectors.

United Nations Population Fund (UNFPA)

- UNFPA is the United Nations **sexual and reproductive health agency**. Our mission is to deliver a world where every pregnancy is wanted, every childbirth is safe and every young person's potential is fulfilled.
- **Functions:**
 - Prevention of gender-based violence, which affects 1 in 3 women.
 - Abandonment of female genital mutilation, which harms 3 million girls annually.
 - Prevention of teen pregnancies, complications of which are the leading cause of death for girls 15-19 years old.
 - Efforts to end child marriage & Delivery of safe birth supplies, dignity kits and other life-saving materials to survivors of conflict and natural disaster.

United Nations Peacekeeping

- It was created in 1948.
- Its **first mission involved the establishment of the UN Truce Supervision Organization (UNTSO)**, which served to observe and maintain ceasefire during *the 1948 Arab-Israeli War*.
- United Nations Peacekeeping helps countries torn by conflict create conditions for lasting peace.
- UN Peacekeeping is guided by **three basic principles**:
 - Consent of the parties.

- Impartiality
- Non-use of force except in self-defence and defense of the mandate.

Special 301 Report

- It is prepared annually by the **Office of the United States Trade Representative (USTR)**.
- This report identifies trade barriers to United States companies and products due to the intellectual property laws, such as copyright, patents, and trademarks, in other countries.
- The annual Special 301 Report includes a list of “**Priority Foreign Countries**”, that are judged to have inadequate intellectual property laws; these countries may be subject to sanctions.
- In addition, the report contains a “**Priority Watch List**” and a “**Watch List**”, containing countries whose intellectual property regimes are deemed of concern.

Open Credit Enablement Network (OCEN)

- It is a credit protocol infrastructure built by the **Indian Software Product Industry Roundtable (iSpirt)**, a think-tank of the software industry that will democratize the lending ecosystem.
- OCEN as a credit rail will have a common language and **connect lenders and marketplaces** allowing them to create innovative credit products and services on top of it.
- It will democratize credit in the country, **helping small businesses and entrepreneurs get loans**.

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

- It has downgraded India to the lowest ranking, “**countries of particular concern**” (CPC) in its 2020 report.
- India is placed alongside countries, including China, North Korea, Saudi Arabia, and Pakistan.

-
- Country of Particular Concern is a nation guilty of 'particularly severe' violations of religious freedom under the International Religious Freedom Act of 1998 and its amendment of 1999.
 - It includes violations such as "torture, degrading treatment, prolonged detention without charges and other flagrant denial of the right to life, liberty or the security of persons".



ECONOMY

Forex reserve

- India is now **fifth** in global ranking behind China, Japan, Switzerland, and Russia with \$534.5 billion.
- Reasons- FPI inflow, Dip in crude oil prices, import savings, FDI inflow, Dip gold imports.

Role of rising forex reserves

- It's enough **to cover the import bill** of the country for a year.
- It has also **helped the rupee to strengthen** against the dollar.
- The forex reserves to GDP ratio is around 15%.
- Reserves will provide a level of **confidence to markets** that a country can meet its external obligations.
- It demonstrates the backing of domestic currency by external assets.
- Adequate forex reserves should provide room for the RBI to cut rates and support recovery.

Steel Scrap Recycling Policy

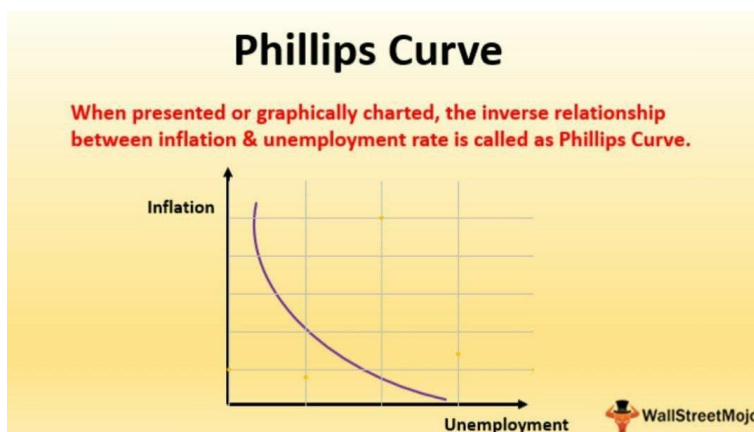
- Scrap steel is **secondary raw material** in steel industries.
- This policy aims to promote **the circular economy** in the steel sector.
- It's aim is to establish metal scrapping centres across India.
- **Extended producer responsibility** is applied to automobile manufacturers.

GST Compensation Cess

- Cess is levied to compensate the states for the loss of revenue arising due to the implementation of GST for a period of **five years** or such period as recommended by the GST Council.
- It is levied on certain **luxury and sin goods**.
- The cess flows into CFI, and then transferred to Public Account of India where a GST Compensation Cess account is created.
- States to be compensated on **bimonthly basis**.

Phillips curve

- The Phillips curve is an economic concept stating that *inflation and unemployment have a stable and inverse relationship*.
- The theory claims that with economic growth comes inflation, which in turn should lead to more jobs and less unemployment.
- From a Keynesian viewpoint, the Phillips curve should slope down so that higher unemployment means lower inflation, and vice versa.



Aviation Turbine Fuel

- Aviation Turbine Fuel is a specialized byproduct of crude or petroleum used to power aircraft.
- ATF presently is chargeable at **11 per cent ad valorem rate of excise duty**.
- It is exempted from GST.

Foreign Exchange Management Act, 1999 (FEMA act)

- FEMA is a regulatory mechanism that enables the Reserve Bank of India to pass regulations and the Central Government to pass rules relating to foreign exchange in tune with the Foreign Trade policy of India.
- **Objective** : To consolidate and amend the law relating to foreign exchange with the objective of facilitating external trade and payments and for promoting the orderly development and maintenance of foreign exchange market in India.

- FEMA is applicable to all parts of India. The act is also applicable to all branches, offices and agencies outside India owned or controlled by a person who is resident of India.
- Section 2(1)(h) of FCRA, 2010, "foreign contribution" means the donation, delivery or transfer made by any foreign source.

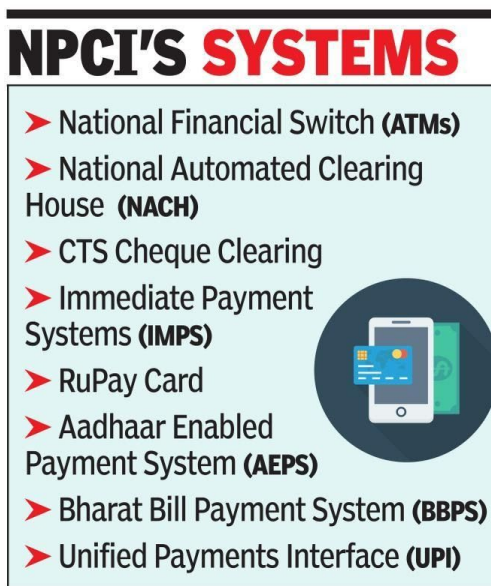
NCLAT or Appellate Tribunal & NCLT

- It is an authority provided for dealing with appeals arising out of the decisions of the National Company Law Tribunal(NCLT).
- It is formed for correcting the errors made by the Tribunal.
- The decisions of the Appellate Tribunal can further be challenged in **the Supreme Court**.
- The Appellate Tribunal reviews the decisions of the Tribunal and has power to set aside, modify or confirm it.
- Whereas National Company Law Tribunal is **a quasi-judicial authority** created under the Companies Act, 2013 to handle corporate civil disputes arising under the Act.
- NCLT is obliged to objectively determine facts, decide cases in accordance with the principles of natural justice and draw conclusions.
- NCLAT is a higher forum than NCLT as it reviews decisions of NCLT and checks it on a point of law or fact.

National Payments Corporation of India (NPCI)

- NPCI is an umbrella organisation for operating retail payments and settlement systems in India.
- It is **an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA)** under the provisions of the Payment and Settlement Systems Act, 2007.
- NPCI, has been incorporated as a "Not for Profit" Company under the provisions of **Section 8 of Companies Act 2013**.
- Objective: Infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems.
- RuPay is **an Indigenously developed** Payment System.

- RuPay supports the issuance of debit, credit and prepaid cards by banks in India and thereby supporting the growth of retail electronic payments in India.



Pc. – Times of India

Small Finance Banks

- Niche banking segment created by RBI under the guidance of the Government of India.
- **Objective:** Furthering financial inclusion by primarily undertaking basic banking activities to un-served and underserved sections.
- **Beneficiaries:** Small business units, small and marginal farmers, micro and small industries and unorganized entities.
- They **maintain CRR & SLR**.
- They are registered as **a public limited company** under the Companies Act, 2013.

Special Drawing Rights

- The SDR is an international reserve asset, created by the International Monetary Fund (IMF) in 1969 to supplement its member countries' official reserves.

- 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 value of the SDR is calculated from a weighted basket of major currencies, including the U.S. dollar, the euro, Japanese yen, Chinese yuan, and British pound.
- The interest rate on SDRs or SDRi is the interest paid to members on their SDR holdings.

Product Linked Incentive (PLI) Scheme

- It is under the **Ministry of Electronics and Information Technology**.
- **Objective-** To boost domestic manufacturing and attract large investments in mobile phone manufacturing and specified electronic components, including Assembly, Testing, Marking and Packaging (ATMP) units.
- This is for large scale mobile manufacturing.
- The scheme shall extend **an incentive of 4% to 6%** on incremental sales (over base year) of goods manufactured in India and covered under target segments, to eligible companies, for a period of five years subsequent to the base year as defined.

Occupational safety, health and working conditions code, 2019

- Under the **Ministry of Labour and employment**
- It subsumes and replaces 13 labour laws relating to safety, health and working conditions. These laws include: Factories Act, 1948; Mines Act, 1952; Dock Workers Act, 1986; Contract Labour Act, 1970; and Inter-State Migrant Workers Act, 1979.
- The Code sets up occupational safety boards at the national and state level to advise the central and state governments on the standards, rules, and regulations to be framed under the Code.



Auction Theory

- This year's Nobel Prize in the field of economics is for the above concept given to American economists Paul R. Milgrom & Robert B. Wilson.
- Auctions lead to the discovery of the price of a commodity. Auction theory studies how auctions are designed, what rules govern them, how bidders behave and what outcomes are achieved.
- It is used to allocate limited resources as there when compared to unlimited human needs.
- More sophisticated & explicit auction mechanisms are used in allocation of capital goods such as spectrum and minerals.
- Winner's curse: Auctions can lead to buyers overpaying for resources and later earn lower returns.



Pc- Indian express

Exchange-Traded Fund (ETF)

- ETF is a type of investment fund and exchange-traded product, i.e. they are traded on stock exchanges.
- Basket of securities that trade on an exchange, just like a stock.
- ETF share prices fluctuate all day as it is bought and sold.
- This is different from mutual funds that only trade once a day after the market closes.
- Example: Bharat22

e-Commerce policy

- e-tailers have to compulsorily display details about return, refund, exchange, warranty and guarantee, delivery and shipment, modes of payment, and grievance redressal mechanism as well as the 'country of origin'.
- The e-commerce rules will apply to all electronic retailers offering goods and services to Indian consumers, whether registered in India or overseas.
- India allows 100 percent foreign direct investment (FDI) in the marketplace model of e-commerce, which it defines as a tech platform that connects buyers and sellers.
- FDI in inventory-driven models of e-commerce is not allowed. The inventory model is where the goods and services are owned by an e-commerce firm that sells directly to retail customers.

Puja Economy

- The economy of Durga Puja takes place in West Bengal.
- According to ASSOCHAM report, 2013 the size of economy was estimated to be around ₹25,000 crore & at an 35% Compound Annual Growth Rate(CAGR).
- The projected size is about 2 Lakh crore in 2020 i.e. 13-14% of Bengal's GDP.
- CAGR is the mean annual growth rate of an investment over a specified period of time longer than one year. It tells you the average return of return you have earned on your investments every year.

Foreign Currency Assets

- FCA are assets that are valued based on a currency other than the country's own currency.
- FCA is the **largest** component of the forex reserve. It is expressed in dollar terms.
- FCA includes the effect of appreciation or depreciation of non-US units like the euro, pound and yen held in the foreign exchange reserves.

Initial public offering (IPO)

- IPO is the process by which a private company can go public by selling its stocks to the general public.
- It could be a new, young company or an old company which decides to be listed on an exchange and hence goes public.
- The primary benefit of going public via an IPO is the ability to raise capital quickly by reaching a large number of investors.
- Companies must meet requirements by exchanges and the Securities and Exchange Commission (SEC) to hold an IPO.

K V Kamath committee

- The committee was on restructuring loans for borrowers from sectors hit hard by the coronavirus pandemic.
- The report listed specific financial parameters for 26 sectors, including auto, aviation, construction, hospitality, power, real estate and tourism, among others, that can be factored in by lenders while finalizing resolution plans for borrowers.

India's Google Tax

- In 2016, the Government of India imposed a 6% "Equalisation Levy" on payments for digital advertisement services received by non-resident companies without a permanent establishment in India.
- This Google Tax was expanded in the 2020 Budget by adding foreign-based e-commerce companies under its ambit.

- A tax rate of 2% is now levied on the amount of consideration received/receivable by an e-commerce operator.
- The prevailing notion is that companies should pay taxes in the country where they are resident. This is partly the outcome of the OECD's Base Erosion and Profit Shifting (BEPS) norms.

RTGS

- Real-time gross settlement (RTGS) systems are specialist funds transfer systems where the transfer of money or securities takes place from one bank to any other bank on a "real-time" and on a "gross" basis.
- Gross settlement means the transaction is settled on a one-to-one basis, without bundling or netting with any other transaction. "Settlement" means that once processed, payments are final and irrevocable.
- RTGS systems are usually operated by a country's central bank (RBI) as it is seen as a critical infrastructure for a country's economy.
- RTGS, will be available round the clock, 24 hours a day, 7 days a week from December 2020.

Non Performing Assets

- A non-performing asset (NPA) is a classification used by financial institutions for loans and advances on which the principal is past due and on which no interest payments have been made for a period of time. Loans become NPAs when they are outstanding for 90 days or more, though some lenders use a shorter window in considering a loan or advance past due.
- Standard Assets: they are NPAs that have been past due for anywhere from 90 days to 12 months, with a normal risk level.
- Sub-standard Assets: they are NPAs that have been past due for more than 12 months. They have a significantly higher risk level.
- Doubtful Assets: Non-performing assets in the doubtful debts category have been past due for at least 18 months.

- **Lost Assets:** These are non-performing assets with an extended period of non-payment. With this class, banks are forced to accept that the loan will never be repaid, and must record a loss on their balance sheet. The entire amount of the loan must be written off completely.

SWAMIH Investment Fund

- Special Window for Completion of Construction of Affordable and Mid-Income Housing Projects.
- The Sponsor of the Fund is the **Secretary, Department of Economic Affairs, Ministry of Finance.**
- SWAMIH Fund has been formed to complete construction of stalled, RERA-registered affordable and mid-income category housing projects which are stuck due to lack of funds.
- The fund was set up as an AIF (Alternate Investment Fund) debt fund registered with SEBI.
- 81 projects have been approved so far which will enable the completion of nearly 60,000 homes across India.
- Alternative investments include private equity or venture capital, hedge funds, managed futures, art and antiques, commodities, and derivatives contracts. Real estate is also often classified as an alternative investment.

International Plant Protection Convention (IPPC)

- It is one of the “Three Sisters” recognized by the World Trade Organization’s (WTO) Sanitary and Phytosanitary Measures (SPS) Agreement, along with the **Codex Alimentarius Commission** for food safety standards and the **World Organization for Animal Health (OIE)** for animal health standards.

Bank for International Settlements (BIS)

- It is based in **Basel, Switzerland**.
- It is an international financial institution **owned by central banks** that “fosters international monetary and financial cooperation and serves as a bank for central banks”.
- The BIS carries out its work through its meetings, programmes and through the Basel Process – hosting international groups pursuing global financial stability and facilitating their interaction.
- It also provides banking services, but only to central banks and other international organizations.

AT-1 bonds

- These are **unsecured, perpetual, high-risk bonds** that banks issue to shore up their core capital base to meet the Basel III norms.
- **Banks can skip paying interest on these bonds** if their capital ratios fall below a certain threshold level.
- As per latest norms, **banks can issue these bonds only on electronic platforms, only institutional investors could subscribe to them**. Minimum allotment for these bonds is set at **₹1 cr**.

Marginal Cost of Lending Rate Vs. Repo Linked Loan

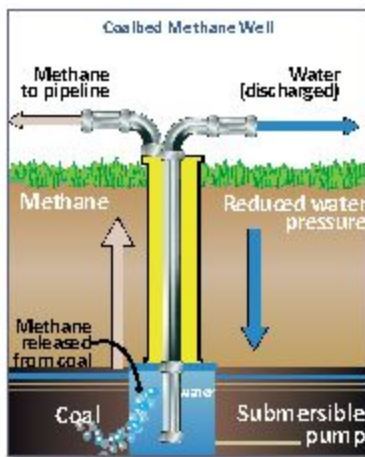
Marginal Cost of Lending Rate	Repo-Linked Loan
Linked to banks' cost of funds	Linked to RBI's lending rate
Takes 4-6 months to move after RBI rate cut	Responds immediately to RBI rate cut
RBI rate cuts not fully passed on to borrowers	Rate cuts are automatically passed on
Resets annually for most banks	Reset every three months
Changes by 5-10 bps	Usually changes 25bps or more
Revised every month	Reviewed bi-monthly
Low volatility	Higher volatility
100bps=1% Repo - RBI's lending rate to banks	

Coalbed Methane (CBM)

- It is an unconventional form of natural gas found in coal deposits or coal seams.
- CBM is formed during the process of coalification, the transformation of plant material into coal.
- CBM has been looked at as a clean alternative fuel with significant prospects.
- The country's coal and CBM reserves are found in **12 states of India**, with the Gondwana sediments of eastern India holding the bulk.
- The Damodar Koel valley and Son valley are prospective areas for CBM development.

CBM can be used

- In Power generation.
- As Compressed natural gas (CNG) auto fuel.
- **As feedstock for fertilisers.**
- Industrial uses such as in cement production, rolling mills, steel plants, and for methanol production.



Pc.-Wikipedia

India Energy Modeling Forum

- It is jointly launched by NITI Aayog and United States Agency for International Development (USAID) under the US–India Strategic Energy Partnership.
- The forum would include knowledge partners, data agencies and concerned government ministries.
- Energy modeling or energy system modeling is the process of building computer models of energy systems in order to analyze them.
- The Energy Modelling Forum (EMF) in USA was established in 1976 at Stanford University to connect leading modelling experts and decision makers from government, industry, universities, and other research organizations.

Rainbow New Deal

- It is a seamless integration of ecological protection and tackling of wealth inequality and economic vulnerability of several hundreds of millions of people.
- The process of rainbow recovery plan also includes recognition of multiple genders and sexualities from whose movements the symbol of the rainbow has been borrowed.
- Encourage lifestyles and livelihoods that obtain substantial food, medicines, household items and other needs, as also sustainable livelihoods, from natural ecosystems.



AGRICULTURE

FARM LAWS

(a) The Farmers' Produce Trade and Commerce (Promotion and Facilitation)

- Permits intra-state and inter-state trade of farmers' produce beyond the physical premises of Agricultural Produce Market Committee (APMC) markets and other markets notified under the state APMC Acts.
- It allows trading in an "outside trade area" like farm gates, factory premises, warehouses, silos, and cold storages. Earlier, agricultural trade could be conducted only in the APMC yards/Mandis.
- It will also facilitate lucrative prices for the farmers through competitive alternative trading channels to promote barrier-free inter-state and intra-state trade of agriculture goods.
- The Act also permits the electronic trading of farmers' produce in the specified trade area. It will facilitate direct and online buying and selling of such produce through electronic devices and the internet.
- The act prohibits state governments from levying any market fee or cess on farmers, traders and electronic trading platforms for trading farmers' produce in an 'outside trade area'.

(b) Contract Farming Act

- The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020.
- It facilitates creating a national framework for contract farming through an agreement between a farmer and a buyer before the production or rearing of any farm produce.
- It helps protect farmers engaging with Agri-business firms, processors, wholesalers, exporters or large retailers for farm services and sale of future farming produce by a mutually agreed

lucrative price framework in a fair and transparent manner through a contract.

- It helps farmers in having assured price before sowing, transfers market risk from farmer to sponsor, Gives farmers access to high quality seeds, fertilisers, pesticides.

(c) Essential Commodities Act

- It removes cereals, pulses, oilseed, edible oils, onion and potatoes from the list of essential commodities.
- It does away with imposition of stock limit except under exceptional conditions.
- It helps in ending harassment of businessmen and traders and likely to attract private investment in cold storage, warehouses, processing
- It also helps to reduce wastage as storage facilities improve and brings price stability and raise farm incomes.

Pashu Aadhaar

- Information Network for Animal Productivity and Health (INAPH) i.e. Pashu Aadhaar is introduced with the aim of **enhancing traceability** of our livestock and their products.
- Pashu Aadhaar contains a **12-digit UID** that aims at enhancing traceability of livestock and their products.
- This is being developed by the **National Dairy Development Board (NDDB)**.
- The INAPH is being touted as the world's largest existing database of animals.

Food system

- It is a framework that includes every aspect of feeding and nourishing people: from growing , harvesting and processing to packaging, transporting, marketing and consuming & disposing of food.

- **Conventional food systems** operate on economies of scale. These food systems are geared towards a production model that requires maximizing efficiency in order to lower consumer costs and increase overall production.
- Alternative food systems are those that fall outside the scope of conventional agriculture, typically in order to create sustainable food systems. Such as the local food system, organic food system etc.

Operational holdings

In agriculture Census, the operational holdings are categorised in **five size classes** as follows:

- Marginal: Below 1.00 hectare.
- Small: 1.00-2.00 hectare.
- Semi- Medium: 2.00-4.00 hectare.
- Medium: 4.00-10.00 hectare.
- Large: 10.00 hectare and above

Onion

- India is the **second largest onion growing country** in the world.
- Onion is **a temperate crop** but can be grown under a wide range of climatic conditions such as temperate, tropical and subtropical climate.
- Optimum temperature for **vegetative phase and bulb development** is **13-24°C and 16-25°C**, respectively.
- It can grow well in places where the average annual rainfall is **650-750 mm** with good distribution during the monsoon period.
- Onion can be grown in all types of soils such as sandy loam, clay loam, silt loam and heavy soils. However, the best soil for successful onion cultivation is deep, friable loam and alluvial soils with good drainage, moisture holding capacity and sufficient organic matter.

Sugarcane

- Sugarcane is a **tropical plant**, therefore, requires a year of warm weather to reach maturity.
- The areas having temperatures of **20° to 26°C** and an average rainfall of **150 cm** are suitable for its cultivation.
- Sugarcane grows well in **alluvium** and **light-clay soil**. Moist clay-loam with good drainage is the best soil for cane.
- **Uttar Pradesh and Maharashtra** together share 66 percent of sugar production.

Maize

- **In India, Maize is grown throughout the year.**
- It is **predominantly a kharif crop** with 85 percent of the area under cultivation in the season.
- **Maize is the third most important cereal crop in India** after rice and wheat. It accounts for around 10 percent of total food grain production in the country. In addition to staple food for human being and quality feed for animals, maize serves as a basic raw material as an ingredient to thousands of industrial products that includes starch, oil, protein, alcoholic beverages, food sweeteners, pharmaceutical, cosmetic, film, textile, gum, package and paper industries etc.
- Major maize growing states in India are Karnataka, Madhya Pradesh, Bihar, Tamil Nadu, Telangana, Maharashtra and Andhra Pradesh.
- **India has allowed imports of 1 lakh tonne of maize during 2019-20** under tariff rate quota (TRQ) system.

Animal Husbandry Infrastructure Development Fund (AHIDF)

- The AHIDF will incentivise infrastructure investments in dairy, meat processing and animal feed plants.
- Farmer Producer Organizations (FPOs) and MSMEs are the eligible beneficiaries under the Scheme.

- Size of the fund is **15000 crore**.
- Farmer Producer Organizations (FPOs), MSMEs, Section 8 Companies, Private Companies and individual entrepreneurs with only 10% margin money contribution by them. The balance 90% would be the loan component to be made available by scheduled banks.

Brucellosis

- It is a **bacterial disease** that mainly infects cattle, swine, goats, sheep and dogs. Humans can get infected if they come in direct contact with infected animals or by eating or drinking contaminated animal products or by inhaling airborne agents.
- According to the WHO, most cases of the disease are caused by **ingesting unpasteurised milk or cheese** from infected goats or sheep.
- Symptoms of the disease - fever, sweats, malaise, anorexia, headache and muscle pain.

African Swine Fever (ASF)

- ASF is a **severe viral disease** that affects **wild and domestic pigs** typically resulting in an acute haemorrhagic fever.
- The disease has a case fatality rate (CFR) of **almost 100 per cent**.
- Its routes of transmission include direct contact with an infected or wild pig (alive or dead), indirect contact through ingestion of contaminated material such as food waste, feed or garbage, or through biological vectors such as ticks.

Synedrella Yellow Vein Clearing Virus

- A new study with researchers from **National Centre of Biological Sciences (NCBS-TIFR), Bengaluru**, has discovered a virus called Synedrella Yellow Vein Clearing Virus and the plants it attacks.
- This virus is a **Begomovirus family** of viruses which infect economically important plants such as tomatoes, beans, squash, cassava, cotton & are a major reason for crop loss.

- When the virus attacks the plant, it produces vein-clearing symptoms which make **the plant look beautiful**. However, this does not make it better for the plant. It actually makes it difficult for the plant to produce flowers and fruits.

AGMARK

- It is a certification mark employed on agricultural products in India, assuring that they conform to a set of standards approved by the **Directorate of Marketing and Inspection, an agency of the Ministry of Agriculture and Farmer Welfare**.
- The AGMARK is legally enforced in India by the **Agricultural Produce (Grading and Marking) Act of 1937 (and amended in 1986)**.



ENVIRONMENT

Wildlife Sanctuaries in news

- **Phulwari ki Nal Wildlife Sanctuary**
 - Located in Udaipur District of **Rajasthan**, in the southern Aravalli Hills.
- **Sita Mata Wildlife Sanctuary**
 - It is situated in Pratapgarh and Chittaurgarh districts of **Rajasthan**.

Species in News

- **Spialia zebra**
 - The **butterfly**, Spialia zebra, was found in **Dungarpur district of Rajasthan**, far south of its known habitat of Pakistan-occupied Kashmir, Khyber-Pakhtunkhwa and Punjab province of Pakistan.
- **Dragonfly Atratothemis reelsi**
 - It was recorded in southern Arunachal Pradesh's **Namdapha Tiger Reserve**, about 1,170 km west of its previously known nearest locality of Xiaoqikong Park in China's Guizhou Province.

Nandankanan Zoological Park

- Location- **Bhubaneswar, Odisha**
- It became the **first** zoo in India to join the **World Association of Zoos and Aquariums (WAZA)** in 2009.

Gir National Park and Wildlife Sanctuary

- Also known as **Sasan Gir**, is a forest and wildlife sanctuary near Talala Gir in Gujarat, India.
- It is part of the **Khathiar-Gir dry deciduous forests ecoregion**.
- It is the **only** area in Asia where **Asiatic lions occur**.

- Fauna: group mainly comprises the Asiatic lion, Indian leopard, golden jackal, Bengal fox, Indian gray mongoose , Ruddy mongoose, Desert cats , rusty-spotted cats, chital, nilgai, four-horned antelope, Blackbucks , pangolin, mugger crocodile, Indian cobra, etc

Madhuca diplostemon

- A tree species, long believed extinct, has been rediscovered after a gap of more than 180 years from a sacred grove in Kollam district, Kerala.
- It is a threatened species of the Western Ghats whose specimen was first collected in 1835.

Blue Flag beach

- It is **an eco-tourism model** to provide tourists clean and hygienic bathing water, facilities/amenities, a safe and healthy environment and sustainable development of the area.
- The certification is awarded by the Denmark-based agency **Foundation for Environment Education**.
- It is based on **33 stringent criteria** in four major heads that is environmental education and information, bathing water quality, environment management and conservation and safety and services in the beaches.

Biomining

- It is a technique used for the extraction of metals from ores and other solid materials typically using **prokaryotes or fungi**.
- Biomining can also be referred to as the technique of extraction and segregation of minerals and useful materials from mounds of waste.

Plant Meat

- Plant-based meat is meat made from plants. It is especially designed and created to look like, taste like, and cook like conventional meat.
- Plant-based meats **do not have any cholesterol**, they are generally **higher in sodium**, and they have a little bit of **fiber** (meat does not have any).

National Green Tribunal(NGT)

- National Green Tribunal Act, 2010 was enacted to satisfy the need for alternative means to deliver speedy and inexpensive justice over environmental issues.
- NGT has been set-up as a fast-track **quasi-judicial body**.
- It mainly and exclusively deals with '**Civil Environmental Matters**' and is guided by **the principles of natural justice**.
- All the proceedings under NGT shall have to be accorded to the proceedings within the sections of Indian Penal Code.
- It recognizes the feature of "**Sustainable Development**", "**Polluter Pay Principle**".
- This being **a statutory authority** exercises not only original jurisdiction but also has appellate jurisdiction.
- An appeal can be filed to **the Supreme Court** against the order of the NGT.
- NGT is mandated to dispose of the case **within 6 months** from the date of filing of the complaint.

Environment pollution prevention and control authority (EPCA)

- EPCA was constituted under the provisions of the Environment (Protection) Act by the central government in 1998.
- EPCA is a **Supreme Court mandated body** tasked with taking various measures to tackle air pollution in the National Capital Region (NCR).
- It is **a statutory body** and if it's directions are not followed, it has the power to file criminal complaints.

- The EPCA has been empowered to take suo motu action as well as on the basis of complaints made by any individual, representative body or environmental organisation.
- The EPCA is also mandated to enforce **Graded Response Action Plan (GRAP)** in the Delhi NCR as per the pollution levels.

Particulate Matter (PM)

- Airborne particulate matter (PM) is not a single pollutant, but rather is **a mixture of many chemicals**. It is a complex mixture of solids and aerosols composed of small droplets of liquid, dry solid fragments, and solid cores with liquid coatings.
- Chemical Composition: inorganic ions, metallic compounds, elemental carbon, organic compounds, and compounds from the earth's crust.
- Particles are defined by their diameter for air quality regulatory purposes. Those with a diameter of 10 microns or less (PM10) are inhalable into the lungs and can induce adverse health effects.
- Fine particulate matter is defined as particles that are 2.5 microns or less in diameter (PM2.5).
- PM2.5 are tiny particles in the air that reduce visibility and cause the air to appear hazy when levels are elevated.
- PM can get deep into your lungs, and some may even get into your bloodstream.

Mangrove Migration

- A mangrove is a shrub or small tree that grows in coastal saline or brackish water. Mangroves occur worldwide in the **tropics and subtropics**, mainly between latitudes **25° N and 25° S**.
- Mangroves are salt-tolerant trees, also called **halophytes**.
- Recent study suggests that the mangroves have started moving upstream of the Hooghly river inside Kolkata city, growing in less-saline regions.

- Construction of Farakka Barrage in 1975 has increased fresh water flow in River Hooghly, thereby causing change in ecology and chemistry of the river.

Sonneratia caseolaris /Mangrove Apple

- Numerous saplings of *Sonneratia caseolaris* (commonly known as mangrove apple) have grown naturally in the non-saline region of Barrackpore and Birlapur.
- China has shown that *Sonneratia caseolaris* grow well in the presence of high chemical oxygen demand of water.
- This shows the potential of *Sonneratia caseolaris* to act as a bio-indicator of regional environmental changes.

Skinks

- Skinks are **lizards** belonging to the **family Scincidae**, a family in the infraorder Scincomorpha.
- They have long bodies, small or no legs, no pronounced neck and glossy scales, these are common reptiles found around homes, open spaces, school grounds, garages and around lakes.
- Most often they are mistaken to be snakes because of their fast agile nature and reduced limbs.
- According to the Zoological Survey of India , India is home to 62 species of skinks and says 57% of all skinks (33 species) are endemic.
- They play a **prominent role in maintaining ecosystems**.

Namdapha National Park and Tiger Reserve

- This lies in the international border between **India and Myanmar** within **Changlang District in the state of Arunachal Pradesh** in the northeast India.
- Namdapha National Park is located a few kilometers away from Miao amidst misty blue hills along the turbulent **Noa-Dihing river** lies in the sprawling tropical rainforest.

- It is only park in the World to **have the four Feline species of big cat** namely the Tiger (*Panthera Tigris*), Leopard (*Panthera Pardus*), Snow Leopard (*Panthera Uncia*) and Clouded Leopard (*Neofelis Nebulosa*).



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Animal Discoveries 2019 and Plant Discoveries 2019

- Zoological Survey of India (ZSI) and the Botanical Survey of India (BSI) have published their Animal discoveries 2019 and Plant discoveries 2019 that have listed 364 new species of animals and 180 species of plants. These animals and plants were discovered during the last year.
- Some of the **animal species** discovered last year include:
 - Rock-dwelling gecko.
 - *Cnemaspis anandani* which is endemic to Western Ghats.
 - A frog species named *Sphaerotheca magadha* was discovered in Jharkhand.
 - Wild fern named *Pteris subiriana* found in Kerala, Tamil Nadu and Maharashtra.

- Data provided by the BSI stated that 28% of all plant discoveries in 2018 were made from the **Western Ghats** during 2019; followed by the **eastern Himalayas** (21%); the **east coast** (11%); and **eastern plains** (10%).
- The west coast has contributed 7% of the total discoveries, while the western Himalayas have contributed 6% of the discoveries.
- Maximum (flora) discoveries were made from the State of **Kerala**, followed by Maharashtra, Tamil Nadu and Arunachal Pradesh.

TX2 goal

- It is a global commitment to double the world's wild tigers by 2022. TX2 stands for **'Tigers times two'**, signalling the goal to double wild tigers.
- It was launched by the **World Wide Fund For Nature** (formerly World Wildlife Fund) at the 2010 St Petersburg Tiger Summit held in Russia.
- Under it, **13 tiger range countries** had agreed to double the world tiger population by 2022.
- The GTF is the only intergovernmental international body established with members from willing countries to embark on a global campaign to protect the Tiger.

Important Environment Rules

- **Bergmann's rule**
 - Populations and species of larger size are found in colder environments, while populations and species of smaller size are found in warmer regions.
- **Allen's rule**
 - Animals adapted to cold climates have shorter limbs and bodily appendages than animals adapted to warm climates.
- **Gloger's rule**
 - Within a species of endotherms, more heavily pigmented forms tend to be found in more humid environments, e.g. near the equator.

- **Rensch's rule**

- After controlling for confounding factors such as evolutionary history, an increase in average body size makes the difference in body size larger if the species has larger males, and smaller if it has larger females.



SCIENCE & TECHNOLOGY

Superconductors

- Superconductors can allow electrical current to flow without any energy loss (although, in practice, an ideal superconductor is very hard to produce). This type of current is called a **supercurrent**.
- Most superconducting materials only have this useful function at temperatures of **just above absolute zero (-273°C)**, where atoms barely move.
- Superconductors exhibit the **Meissner effect** in which they cancel all magnetic flux inside the material, becoming perfectly diamagnetic.
- It is this property of superconductors which is frequently used in magnetic levitation.

Human Blood

- It is a specialized body fluid. It has four main components: plasma, red blood cells (**erythrocytes**), white blood cells (**leucocytes**), and platelets (**thrombocytes**).
- Functions:
 - transporting oxygen and nutrients to the lungs and tissues
 - forming blood clots to prevent excess blood loss
 - carrying cells and antibodies that fight infection
 - bringing waste products to the kidneys and liver, which filter and clean the blood
 - regulating body temperature

RAISE 2020 SUMMIT

- The **Responsible AI for Social Empowerment** (RAISE 2020) virtual summit will be a Global Artificial Intelligence summit to be organized by the Government of India in partnership with Industry & Academia.

- The summit would be a global meeting of minds to exchange ideas and charter a course to use AI for **social empowerment, inclusion, and transformation** in key areas like **Healthcare, Agriculture, Education and Smart Mobility** amongst other sectors.

National Supermodel

- The Department of Science and Technology set up a committee consisting of mathematicians , medical professionals and computer scientists.
- It is to aggregate the 'best of' mathematical models and develop a **single 'supermodel' for Covid-19 in India.**
- The report by them stresses on masking as it is critical to control the virus.
- It also says 30-60% are asymptomatic carriers of the virus.

Diamagnetism

- Diamagnetism is a **quantum mechanical effect** that occurs in all materials; when it is the only contribution to the magnetism, the material is called diamagnetic.
- Diamagnetism is a **very weak form of magnetism** that is induced by a change in the orbital motion of electrons due to an applied magnetic field.
- Diamagnetism is a **universal property of the atom.**
- Diamagnetic **substances** are Copper, Zinc, Bismuth, Silver, Gold, Antimony, Marble, Water, Glass, NaCl, etc.

VAIBHAV Summit

- **Vaishvik Bhartiya Vaigyanik (VAIBHAV) Summit** is a collaborative initiative by S&T and Academic Organisations of India to enable deliberations on thought process, practices and R&D culture with a problem solving approach for well defined objectives.

- The goal is to create an ecosystem of **Knowledge and Innovation** in the country through global outreach.
- By bringing the Indian Overseas and Resident academicians/scientists together a structure of association will be evolved.

Nanofiber Yarns

- A team of researchers at IIT Madras is ready with a prototype of suture thread made of nanofiber yarns that is **bio-absorbable** and can deliver a higher load of antibiotics and/or therapeutics to the site itself.
- These are thread-like structures formed by twisting together hundreds of nanofibers.
- The way the nanofibers mimicked the collagen fibril sparked the idea in a lab that primarily works on scaffold-based tissue engineering to create thread-like structures by twisting nanofibers together using custom-made machinery.
- These are **Bio-absorbable** and **the strength can be varied** depending on the target tissue such as skin, muscle, cartilage etc.

Digesting Plastic

- Proceedings of the National Academy of Sciences(PNAS) Scientists of USA have re-engineered the enzyme PETase from rubbish bacterium that can digest plastic.
- The new study by them says, a "Cocktail" of PETase and a partner MHETase can digest plastic six times faster.

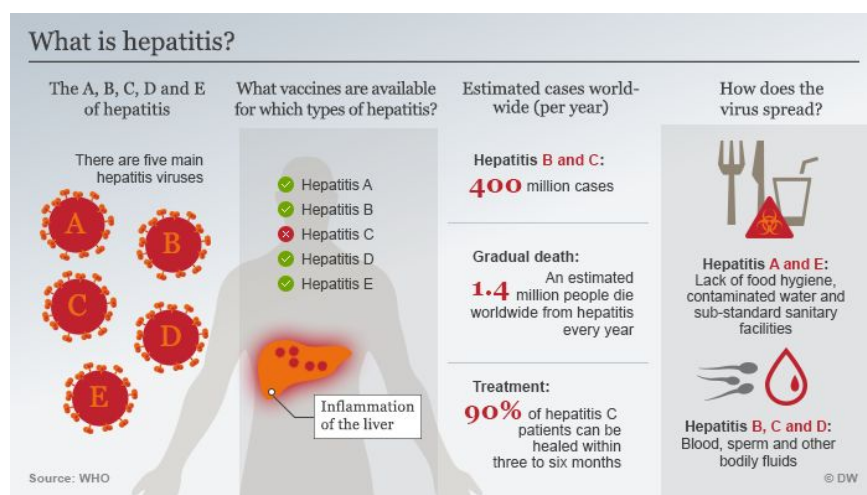
Nobel Prize - Black hole

- Three Laureates share this year's Nobel Prize in **Physics** for their discoveries about one of the most exotic phenomena in the universe, the black hole.
- **Roger Penrose** showed that the general theory of relativity leads to the formation of black holes.

- **Reinhard Genzel and Andrea Ghez** discovered that an invisible and extremely heavy object governs the orbits of stars at the center of our galaxy. A super massive black hole is the only currently known explanation.

Nobel Prize in Physiology or Medicine, 2020

- It is awarded jointly to **Harvey J. Alter, Michael Houghton and Charles M. Rice** for the discovery of Hepatitis C virus.
- Scientists who have made a decisive contribution to the fight against blood-borne hepatitis, a major global health problem that causes cirrhosis and liver cancer in people around the world.
- Liver inflammation, or hepatitis, a combination of the Greek words for liver and inflammation, is mainly caused by viral infections, although alcohol abuse, environmental toxins and autoimmune disease are also important causes.



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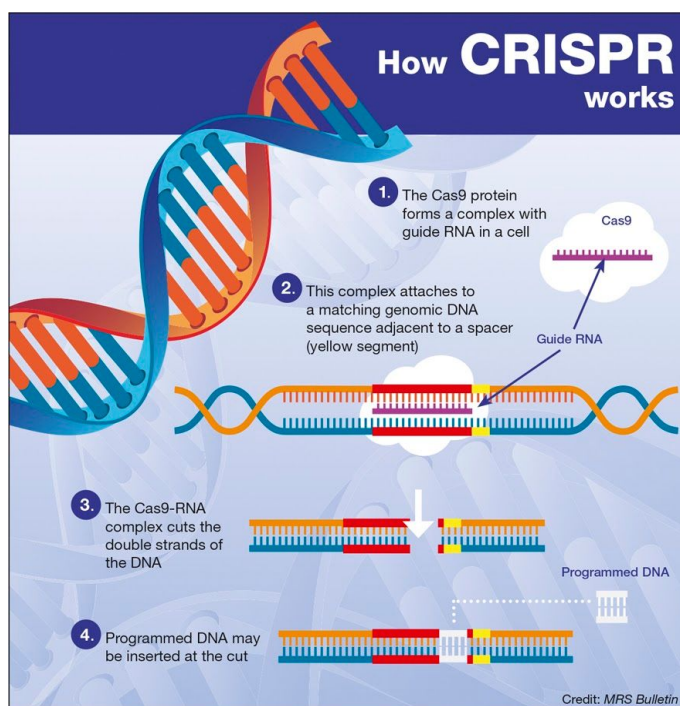
Magnetic Nano-Fibers (MNFs)

- MNFs possess excellent properties of both nano-fibers (NFs) and magnetic materials, which greatly widens the application of the original magnetic materials.
- **Properties:** large surface area, high porosity, small size effect and apparent magnetism.

- **Applications:** biomedical application, sensing and electronic devices, wastewater treatment and microwave absorption.
- Recently, Indian Institute of Science (IISc.) has developed a non-invasive bandage made with magnetic nanofibers to treat skin cancer by administering heat to the tumour cells.

Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR)

- Scientists Jennifer Doudna and Emmanuelle Charpentier bagged the Nobel Prize for Chemistry **“for the development of a method for genome editing”**.
- **Genetic scissors** will lead to the emergence of novel biological applications by making it easier to edit genes, and “may make the dream of curing inherited diseases come true”.
- CRISPR-Cas, wherein clustered repeated sequences produced by bacteria can remember and destroy viruses by cleaving their DNA.
- Tool is most often **used to make a cut in the DNA**, newer approaches are being attempted to add or make minor changes to the DNA. All these approaches may at some time in the future make it easy to **“rewrite the code of life”**.



Adjuvant

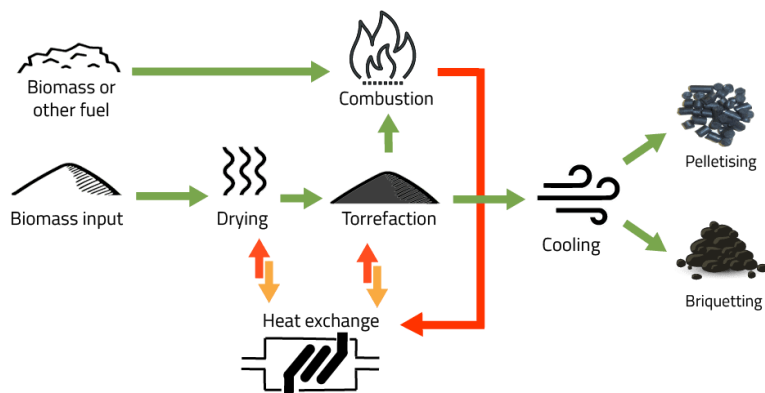
- It is a pharmacological or immunological agent that **improves the immune response of a vaccine.**
- Adjuvants may be added to a vaccine to boost the immune response to produce more antibodies and longer-lasting immunity, thus minimizing the dose of antigen needed.
- **Aluminium salts** are often used.

Nanobots

- A nanobot is a device typically ranging from **0.1-10 micrometres** (a micrometre is one millionth of a metre), roughly the size of a red blood cell or smaller.
- This is too small to add a traditional robotic element like a motor, computer chip or camera.
- Scientists are exploring the use of **nanobots for a number of healthcare uses-**
 - For fighting cancer
 - **Unblock blood vessels** in hard to reach areas
 - Taking biopsies or measuring the level of certain chemicals in otherwise inaccessible areas of the body.

Torrefaction technology

- Torrefaction can convert rice stubble into '**bio-coal**'. It is a **Swedish technology.**
- The technology involves heating up straw, grass, saw mill residue and wood biomass to **250 degrees Celsius – 350 degrees Celsius.** This changes the elements of the biomass into '**coal-like**' pellets. These pellets can be used for combustion along with coal for industrial applications like steel and cement production.



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Global Partnership for Artificial Intelligence (GPAI)

- India recently joined international and multi-stakeholder initiative Global Partnership for Artificial Intelligence (GPAI) on artificial intelligence as its **founder member**.
- This multi-stakeholder international partnership will promote responsible and human centric development and use of AI.
- GPAI will bring together experts from the industry, civil society, governments, and academia to collaborate to promote responsible evolution of AI.
- GPAI is supported by a Secretariat, hosted by **Organization for Economic Cooperation and Development (OECD)**.

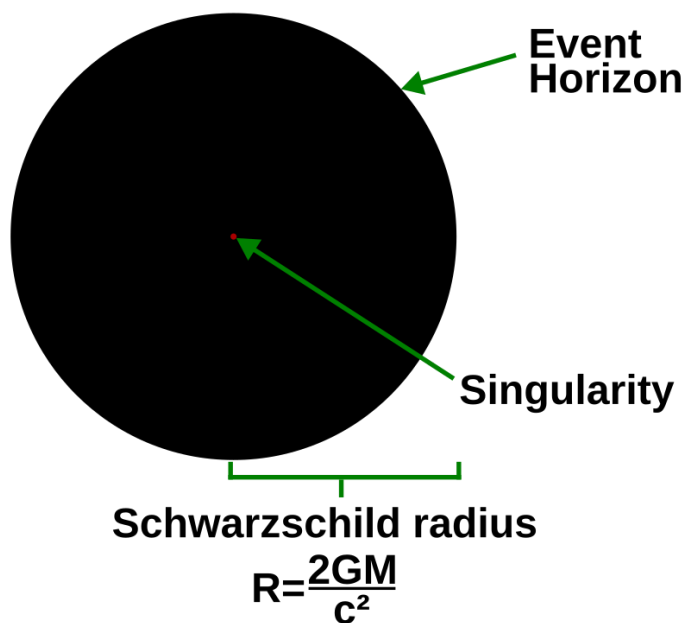
Chandra X-ray Observatory

- **NASA's** Chandra X-ray Observatory is a telescope specially designed **to detect X-ray emission from very hot regions** of the Universe such as exploded stars, clusters of galaxies, and matter around black holes.
- Because X-rays are absorbed by Earth's atmosphere, Chandra must orbit above it, up to an altitude of 139,000 km (86,500 mi) in space.

- Since its launch on **July 23, 1999**, the Chandra X-ray Observatory has been NASA's flagship mission for X-ray astronomy, taking its place in the fleet of "Great Observatories."

Black holes

- Black holes do not emit or radiate anything, even light. So, there is no way their image can be captured.
- But the area just outside its boundary, called the **event horizon**.
- Event horizon has vast amounts of gas, clouds and plasma swirling violently. It emits all kinds of radiations, even visible light.



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DNA barcoding

- It is a method of **species identification** using a short section of DNA from a specific gene or genes.
- The premise of DNA barcoding is that, by comparison with a reference library of such DNA sections, an individual sequence can be used to uniquely identify an organism to species, in the same way that a supermarket scanner uses the familiar black

stripes of the UPC barcode to identify an item in its stock against its reference database.

- These "barcodes" are sometimes used in an effort to identify unknown species, parts of an organism, or simply to catalog as many taxa as possible, or to compare with traditional taxonomy in an effort to determine species boundaries.

Pratyush and Mihir

- Pratyush and Mihir are the **supercomputers** established at Indian Institute of Tropical Meteorology (IITM) & National Centre for Medium Range Weather Forecast (NCMRWF), Noida respectively.
- These are the fastest supercomputers in India with a maximum speed of **6.8 Peta Flops**.
- These are used in the fields of **weather forecasting and climate monitoring** in India.
- It helps the country to make better forecasts in terms of monsoon, fishing, air quality, extreme events like Tsunami, cyclones, earthquakes, lightning and other natural calamities.

Sagittarius A

- At the very heart of the Milky Way is a region known as Sagittarius A.
- This region is known to be the home of a supermassive black hole with millions of times the mass of our own Sun.
- **Quasars** come from the radiation generated by the material surrounding actively feeding supermassive black holes.



SCHEMES IN NEWS

FAME 2.0

- Faster Adoption and Manufacture of hybrid and Electrical vehicles.
- Objective- Boost electric mobility and number of electric vehicles in commercial fleets.
- Under **Dept. Of heavy industry , Ministry of Heavy Industries and Public enterprises.**

STARS Programme

- Strengthening Teaching-Learning and Results for States program.
- Partially funded by the **World bank.**
- To improve the quality and governance of school education in **six Indian states.**
- At the state level, it is to school to work transition for better labour market outcomes in Himachal Pradesh, Rajasthan, Maharashtra, Madhya Pradesh, Kerala & Odisha.

Integrated Child Development Services (ICDS)

- It is under the **Ministry of Health and Family Welfare.**
- This scheme is a government initiative for the all-round development (health, nutrition and education) of children under 6.
- The ICDS Scheme offers a package of **six services**, viz.
 - Supplementary Nutrition
 - Pre-school non-formal education
 - Nutrition & health education
 - Immunization
 - Health check-up and
 - Referral services
- **Beneficiaries:** children in the age group of 0-6 years, pregnant women and lactating mothers.

Knowledge Involvement in Research Advancement through Nurturing (KIRAN)

- One of the several pioneering initiatives started by the **Department of Science and Technology (DST)** for promoting women in science.
- The mandate of KIRAN Program is **to bring gender parity in S&T** through gender mainstreaming.
- The aim of the program is to provide opportunities to Indian **Women** Scientists, Engineers and Technologists to undertake collaborative research and gain exposure to excellent research facilities at international level.

INSPIRE

- Innovation in Science Pursuit for Inspired Research is an innovative programme. It is sponsored and managed by the Department of Science & Technology for attraction of talent to Science.
- **Objective** : To communicate to the youth of the country the excitements of creative pursuit of science, attract talent to the study of science at an early age and thus build the required critical human resource pool for strengthening and expanding the Science & Technology system and Research & Development base.
- A striking feature of the programme is that **it does not believe in conducting competitive exams** for identification of talent at any level.
- It believes in and relies on the efficacy of the existing educational structure for identification of talent.

ARISE-ANIC

- Applied Research and Innovation In Small Enterprises-Atal New India Challenges.
- ARISE-ANIC' in collaboration with **Niti Aayog, ISRO and several ministries** to promote research and innovation among Indian startups and MSMEs.

- Besides ISRO, Ministries of Defence, Health and family welfare, housing and Urban affairs and Food processing industries are participants.
- This mission will be able to break new grounds in helping and collaborating with startups and promoting innovations.

JEEViKA

- The World Bank aided the Bihar Rural Livelihoods Project (BRLP), locally known as JEEViKA.
- The Government of Bihar through the Bihar Rural Livelihoods Promotion Society, an autonomous body under the Department of Rural Development, is spearheading it.
- **Objective:** social & economic empowerment of the rural poor.
- The Livelihoods Restoration and Enhancement component of Bihar Kosi Flood Recovery Project was also taken under this fold.

Disha Project

- Disha is a partnership between **UNDP and the India Development Foundation**, supported by IKEA Foundation.
- It aims to support one million underprivileged women in India learn marketable skills and connect with income opportunities.
- The Disha project helps women become economically self-sufficient through training, employment & entrepreneurial skill development.

Bhagyalaxmi scheme

- This scheme of the **Karnataka government** is to promote the birth of **girl children** in below poverty line (BPL) families and to raise the status of the girl child in the family in particular and society in general.
- To provide Financial assistance to the girl child through her mother/father/natural guardian subject to the fulfillment of certain conditions.

- Immunization should have been done as per the health department programme.
- The child gets health insurance cover up to a maximum of Rs. 25,000 a year.
- The annual scholarship of Rs. 300 to Rs. 1,000 up to tenth standard is given to girls.

Vidyagama programme

- **Karnataka Government** had launched Vidyagama programme to reach out to students of government schools by taking classes at doorsteps of the children's houses at their villages.
- Under this programme, teachers were asked to meet the children at playgrounds or temples near the students' residences and engage them in academic activities.
- Vidyagama is a scientifically designed programme for the benefit of **socially weaker sections** to continue learning and it has turned into a model for the country. There should not be any doubt about the safety measures followed in the implementation of the programme.

Kudumbashree

- It is the **Kerala** government's ongoing participatory "poverty eradication and women empowerment" mission. This mission was started in 1998.
- The three tier system, the realigned mission in 1999 works on projects for
 - (i) **economic empowerment** such as through collective farming, livestock farming, market development and so on;
 - (ii) **social empowerment** such as destitute identification and rehabilitation, and rehabilitation of mentally challenged persons;
 - (iii) **Women empowerment** consisting of educational programmes and programmes for the elimination of violence against women.
- The three-tiered network helps the local self-government institutions in the preparation and implementation of the local bodies' anti-poverty plan, women component plan, and other local development schemes.



DEFENSE

Rudram

- Rudram is India's **first indigenous anti-radiation missile**.
- It is developed for the **Indian Air Force**. It was successfully flight-tested from a Sukhoi-30 MKI jet off the east coast.
- Anti-radiation missiles are designed to detect, track and neutralise the adversary's radar, communication assets and other radio frequency sources, which are generally part of their air defence systems.
- Rudram is **an air-to-surface missile**, designed and developed by the Defence Research and Development Organisation (DRDO).
- Once the Rudram missile locks on the target, it is capable of striking accurately even if the radiation source switches off in between. The missile has an operational range of more than 100 km (up to 200 km depending upon the launch conditions).

Nag missile

- Also called "**Prospina**" for the land-attack version, is an Indian third-generation, all-weather, fire-and-forget, lock-on after launch, anti-tank guided missile.
- **HELINA (Helicopter-launched Nag)** is an air-launched version of the Nag with extended range. Also called **Dhruvastra**.
- **NAMICA** (Nag Missile Carrier) is a tracked, amphibious, armored 'missile-carrier' vehicle.
- An anti-tank guided missile, is a guided missile primarily designed to hit and destroy heavily armored military vehicles.

INS Kavaratti

- It is an anti-submarine warfare corvette of the Indian Navy built under **Project 28**.
- It is the last of four **Kamorta-class corvettes** under various stages of induction with the Indian Navy, other three kamorta-class corvettes are INS Kamorta, INS Kadmatt and INS Kiltan.

- Navy officials said the INS Kavaratti has a state-of-the-art weapons and sensor suite capable of "detecting and prosecuting" submarines.

Offset Clause in Defence

- Recently, in the new Defence Acquisition Procedure (DAP 2020) the Defence Ministry has removed the offset clause requirement in intergovernmental agreements (IGA) and has introduced a new category for leasing of military equipment.
- Under the offset clause, a foreign company that wins a defence deal is supposed **to invest a part of the contract value in the country**, thus developing skills and bringing in technology, while also generating employment.
- Initiated in **2005**, the offset clause had a requirement of sourcing 30% of the value of the contract domestically; indigenization of products in a strict time frame and training Indian professionals in high tech skills for promoting domestic R&D.

Exercise Bongo Sagar

- The second edition of Indian Navy – Bangladesh Navy Bilateral Exercise Bongosagar was conducted in the Northern Bay of Bengal.
- The first edition was held in 2019, is aimed at **developing interoperability and joint operational skills** through the conduct of a wide spectrum of maritime exercises and operations.
- Indian Naval Ship (INS) **Kiltan**, an indigenously built Anti-Submarine Warfare Corvette and INS Khukri, an indigenously built Guided-Missile Corvette participated in the drills.

PASSEX

- It is an exercise done between two navies to ensure that the navies are able to communicate and cooperate in times of war or **humanitarian relief**.

- It is a Bilateral exercise between **Royal Australian Navy and Indian Navy warships Passage Exercise (PASSEX)** in the east Indian Ocean region.
- They are regularly conducted by the Indian Navy with units of friendly foreign navies.

Supersonic Missile Assisted Release of Torpedo (SMART)

- This SMART system comprises a mechanism by which the torpedo is launched from a supersonic missile system with modifications that would take the torpedo to a far longer range than its own.
- This system is developed by the DRDO is a game-changing technology demonstration in anti-submarine warfare.
- Torpedoes, self-propelled weapons that travel underwater to hit a target, are limited by their range.

Exercise Malabar 2020

- It is a **trilateral naval exercise** involving the United States, Japan and India as permanent partners.
- Originally begun in **1992** as a bilateral exercise between India and the United States, Japan became a permanent partner in 2015.
- **Australia** is set to join this exercise.
- **Objective:** They collectively support free, open and inclusive Indo-Pacific and remain committed to a rules based international order.

UAPA, 2019

- The Unlawful Activities (Prevention) Amendment Bill, 2019 was introduced in Lok Sabha by the Minister of Home Affairs.
- The central government may designate an organisation as a terrorist organisation if it:
 - (i) commits or participates in acts of terrorism,
 - (ii) prepares for terrorism,
 - (iii) promotes terrorism, or
 - (iv) Is otherwise involved in terrorism.

-
- It empowers the government to designate **individuals** as terrorists on the same grounds.
 - It empowers the officers of the NIA, of the rank of Inspector or above, to investigate cases.
 - The Schedule lists nine treaties, including the Convention for the Suppression of Terrorist Bombings (1997), and the Convention against Taking of Hostages (1979), International Convention for Suppression of Acts of Nuclear Terrorism (2005).



INSTITUTIONS

Broadcast Audience Research Council (BARC)

- It is an industry body set up to design, commission, supervise and own an accurate, reliable and timely television audience measurement system for India.
- It is entrusted with recording and publishing TRP ratings by collecting data from BAR-O -Meters.

National Environmental Engineering Research Institute (NEERI)

- CSIR-NEERI is a research institute created and funded by the Government of India.
- It is a pioneer laboratory in the field of environmental science and engineering and part of the Council of Scientific and Industrial Research.
- It was established in **Nagpur** in 1958 with focus on water supply, sewage disposal, communicable diseases and to some extent on industrial pollution and occupation.
- It is under the **Ministry of Science and Technology (India)** of the central govt.

Central Bureau of Investigation (CBI)

- It is under the jurisdiction of the **Ministry of Personnel, Public Grievances and Pensions**.
- Originally set up **to investigate bribery and governmental corruption, in 1965**.
- The legal powers of investigation of CBI are derived from the **Delhi Special Police Est. Act 1946**.
- It investigates breaches of central laws enforceable by the Government of India, multi-state organised crime, multi-agency or international cases, economic crimes, special crimes, cases of corruption and other cases.

- CBI is **exempted** from the provisions of the Right to Information Act.
- CBI is India's officially designated single point of contact for liaison with the **Interpol**.

Central Water Commission(CWC)

- Central Water Commission (CWC) is a technical organisation that functions as part of the **Ministry of Jal Shakti** in the Government of India.
- CWC along with State Governments is concerned with, schemes for control, conservation and utilisation of water resources throughout the country, for the purpose of Flood Control, Irrigation, Navigation, Drinking Water Supply and Water Power Development.
- CWC is headed by a Chairman, with the status of Ex-Officio Secretary to the Government of India.
- The work of the Commission is divided among **3 wings** namely, Designs and Research (D&R) Wing, River Management (RM) Wing and Water Planning and Projects (WP&P) Wing.
- They undertake **flash flood forecasts** as well.
- Their professional assistance is received by the government for various irrigation and drinking water supply projects.

National Commission for Safai Karamcharis

- It was converted into a Non-statutory body after the National commission for Safai Karamcharis act ,1993 expired.
- It is under the **Ministry of Social Justice and Empowerment**.
- It recommends the government take action towards elimination of inequalities of status, facilities and opportunities for Safai Karamcharis.
- It also implements schemes relating to social and economic rehabilitation of safai Karamcharis and scavengers.

Drugs Controller General of India (DCGI)

- It is a department of the Central Drugs Standard Control Organization of the Government of India responsible for approval of licences of specified categories of drugs such as blood and blood products, IV fluids, vaccines, and sera in India.
- It comes under the **Ministry of Health & Family Welfare**.
- DCGI also sets standards for manufacturing, sales, import, and distribution of drugs in India.
- Acts as appellate authority in case of any dispute regarding the quality of drugs.
- DCGI heads the Indian drug regulatory body the Central Drugs Standard Control Organisation (CDSCO), whose functions include ensuring the quality of drugs and cosmetics sold in the country, approval of new drugs and regulating clinical trials.



INDEX & REPORTS

Rule of Law Index-2020

- Released by **the World Justice Project**.
- India is in **69th position out of the 128** countries that are ranked.
- **Factors:** Constraints on Government Powers, Absence of Corruption, Open Government, Fundamental Rights, Order and Security, Regulatory Enforcement, Civil Justice, and Criminal Justice.

Trade and Export related indices

Index	Logistics Performance Index (LPI)	Trading Across Borders –Doing Business	Trade Facilitation Index	Enabling Trade Index
Publishing Agency	World Bank	World Bank	OECD	World Economic Forum
What it measures	Logistics Friendliness of countries	Time and cost of the logistical process of countries	Assessment of trade facilitation policies, areas for action and impact of reforms	Factors, policies and services that facilitate trade across borders and to destination.
India's Rank	44/160 (2018)	68/190 (2019)	1.52/2 (2018)	102/136 (As per 2016)
Best performing states/ countries	Top 5: Germany, Sweden, Belgium, Austria, Japan	Austria, Belgium, Denmark, France, Hungary, Italy, Netherlands, Spain all tied for Rank 1	1.86/2- Netherlands	Top 5: Singapore, Netherlands, Hong Kong, Luxembourg, Sweden

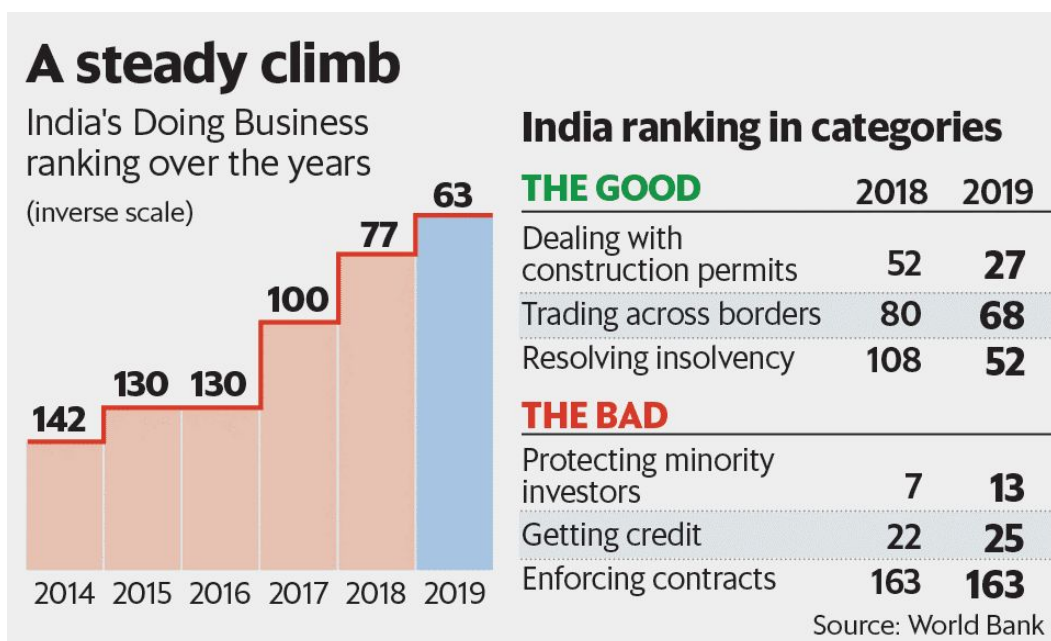
UN World Happiness Report

- It has been released by the **Sustainable Development Solutions Network** and Finland tops as the world's happiest country.
- India ranks **146 out of the total 156** countries ranked.
- The 2020 Report **for the first time ranks cities** around the world by their subjective well-being and digs more deeply into how the social, urban and natural environments combine to affect our happiness.

India Voluntary National Review

- India has represented the second voluntary national review of Sustainable Development Goals (SDGs) report titled as 'Decade of Action.
- The report, by NITI Aayog, discusses SDGs related policy, means of implementation and situation of Covid-19 in India.
- VNRs presented by the member states are a critical component of the review of the implementation and progress of 2030 Agenda and SDGs.

Ease of Doing Business



Important reports and indices published by World Bank

- Ease of doing business
- World development report
- Global economic prospects
- International Debt Statistics
- Remittance Report
- Ease of Living Index
- Universal Health Coverage Index

-
- The Service Trade Restriction Index
 - India Development Update
 - Logistics Performance Index



CULTURE

Golconda Fort

- It is a fortified citadel and **an early capital city of the Qutb Shahi dynasty (c. 1512–1687)**, located in Hyderabad, Telangana, India.
- Because of the vicinity of diamond mines, especially Kollur Mine, Golconda flourished as a trade centre of large diamonds, known as the Golconda Diamonds.
- The region has produced some of the world's most famous diamonds, including **Koh-i-Noor**.

Channapatna Toys

- These toys date back to the reign of **18th century ruler Tipu Sultan**, who invited persian artisans to train local artisans in making wooden toys.
- Ivory wood used to make these toys help to make them light weight.
- GST of 12% is levied on these toys which has been in debate.
- Ramanagara district of Karnataka has obtained GI tag for the same.
- Etikoppa, kondapalli of Andhra Pradesh, Nirmal in Telangana and Channapatna in Karnataka are places where these toys are made.

Battle of Haldighati

- It was a battle fought on **18 June 1576** between cavalry and archers supporting the Rana of Mewar, Maharana Pratap, and the Mughal emperor Akbar's forces, led by Man Singh I of Amber.
- The Mughals were the victors and inflicted significant casualties among the Mewaris but failed to capture Pratap.
- This had led to the Siege of Chittorgarh in 1568, during the reign of Udai Singh II, with the loss of a sizable area of fertile territory in the eastern half of Mewar to the Mughals.
- Haldighati is in present day Gujarat.

Acharya Pingala

- Pingala wrote **Chhanda Shastra** which is the first known description of the binary **numeral system**.
- Pingala is credited with using binary numbers in the form of short and long syllables (the latter equal in length to two short syllables), a notation similar to Morse code.
- Pingala used the Sanskrit word **śūnya** explicitly to refer to zero.
- Fibonacci sequence which finds a mention which appeared in this work around 200 B C.
- The Fibonacci sequence is a series of numbers where a number is the addition of the last two numbers, starting with 0, and 1.



PLACES IN NEWS

Chachoengsao

- It is a province in south-central **Thailand**, east of Bangkok.
- It's an agricultural hub centered around the **Bang Pakong River**, which runs the length of the province.
- It is known for the stately **Wat Sothon Wararam Worawihan temple**, which has an important Buddha image, and the huge reclining Ganesha statue at Wat Saman Rattanaram.

Island of kastellorizo

- Present in the **Mediterranean sea**.
- **Greece** is enforcing EEZ in the region.
- Dispute between **Turkey and Greece**.



Machu Picchu

- a 15th-century **Inca citadel**, located in the **Eastern Cordillera of southern Peru**.
- The **Urubamba River** flows past it.
- Machu Picchu was declared a Peruvian Historic Sanctuary in 1981 and a **UNESCO World Heritage Site** in 1983.



Caucasus region

- It is a region between **Black sea and Caspian sea**.
- Greater Caucasus mountains are considered natural barrier between Eastern Europe and Western Asia.
- Nation states : Azerbaijan, Armenia, Georgia, Russian Federation.



Great Barrier Reef in Australia

- It is the **largest reef system in the world**.
- It has lost more than half of its coral population in the past three decades, according to a new study.
- Since the reefs are underwater ecosystems home to several interdependent species, the scientists said the loss of these corals

means a loss of habitat, which in turn diminish fish abundance and the productivity of coral reef fisheries.

- Scientists used to think the Great Barrier Reef is protected by its sheer size -- but results show that **even the world's largest and relatively well-protected reef system is increasingly compromised** and in decline.



Pc.- britannica.com

Thai Canal

- It is also known as **Kra Canal or Kra Isthmus Canal**, refers to proposals for a canal that would **connect the Gulf of Thailand with the Andaman Sea** across the Kra Isthmus in southern Thailand.

Note: An isthmus is a narrow strip of land that connects two larger landmasses and separates two bodies of water.



Pc.- tfipost.com

Cook Strait

- It is a strait that separates the **North and South Islands of New Zealand**.
- It connects the **Tasman Sea on the northwest** with the **South Pacific Ocean on the southeast**, and runs next to the capital city, Wellington.



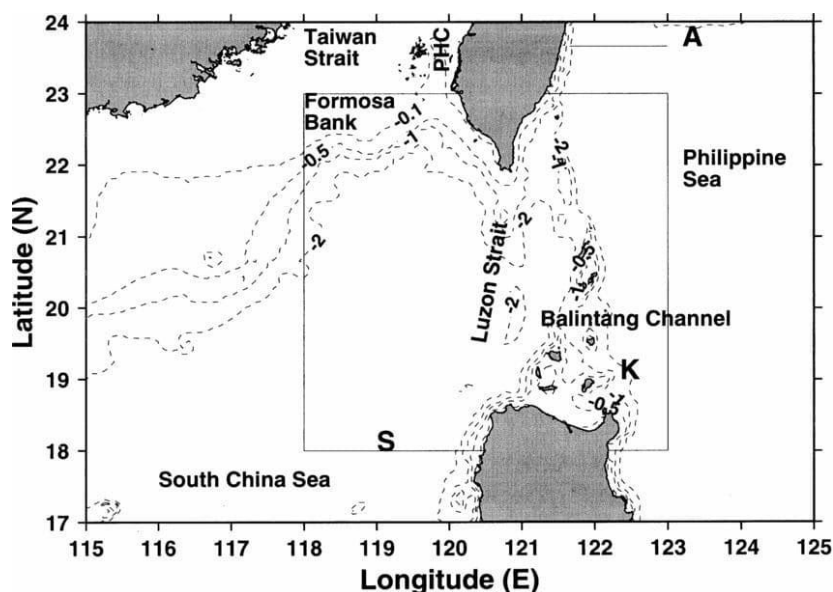
Pc.- freeworldmaps.net

Sadhna Pass

- It was previously called **Nastachun pass**, is a mountain pass in **Jammu and Kashmir**.
- It is located in the Himalayas and connects Karnah tehsil of Kupwara district with the rest of the Indian administered Kashmir valley.
- The construction of the Sadhna Pass tunnel will provide **Karnah**, a far-flung area near the Line of Control (LOC) in Kupwara district, all-weather connectivity with the rest of the state.

Luzon Strait

- It is the strait between **Taiwan** and **Luzon island of the Philippines**.
- The strait thereby connects the Philippine Sea to the South China Sea in the western Pacific Ocean.
- This body of water is an important strait for shipping and communications.



Lushai hills / Mizo hills

- Mizo Hills, formerly **Lushai Hills**, a mountain range in southeastern Mizoram state, forming part of the north Arakan Yoma system.
- **Blue Mountain** is the highest peak in the Lushai hills.
- The range is part of the Patkai range system.
- Their slopes are covered with thick evergreen forests containing valuable timber and bamboo.
- In the intermontane valleys, shifting (slash-and-burn) agriculture and some terrace cultivation are practiced.
- Geologically, the Mizo Hills form a part of the **Rakhine (Arakan) Mountains**, a series of compact parallel ridges formed of sandstone, limestone, and shales.

Sigur Plateau

- It is a plateau in the north and east of Nilgiri District in the **Nilgiri Hills of Tamil Nadu**.
- The Sigur Plateau is notable as an important wildlife corridor maintaining **connectivity between the Western Ghats and the Eastern Ghats** to sustain elephant and tiger numbers and their genetic diversity.
- It is an important link between several contiguous protected areas forming the Nilgiri Biosphere Reserve, the largest protected forest area in India. This area supports over 6,300 elephants, representing the **largest single population of elephants and tigers in India**.

Schengen Area

- It is an area comprising 26 European states that have officially abolished all passports and all other types of border control at their mutual borders.
- The Schengen Area covers most of the EU countries, except Ireland and the countries that are soon to be part of: Romania, Bulgaria, Croatia and Cyprus.

- Although not members of the EU, countries like: Norway, Iceland, Switzerland and Lichtenstein are also part of the Schengen zone.

Gaza Strip

- It is located along the Mediterranean Sea just northeast of the Sinai Peninsula.
- It is a small boot-shaped territory between Egypt and Israel.

Status:

- Under the Palestinian National Authority according to the Oslo Accords.
- De-facto administered by Hamas since July 2007.
- Claimed by the de jure Sovereign State of Palestine.



Nagarjuna Sagar Dam

- It is a masonry dam across the **Krishna River at Nagarjuna Sagar** which straddles the border between Guntur district, Andhra Pradesh and Nalgonda district, Telangana.
- The construction of the dam submerged an ancient Buddhist settlement, **Nagarjunakonda**, which was **the capital of the Ikshvaku dynasty** in the 1st and 2nd centuries.

Major Ports in news

- Bandar Abbas - Iran
- Chabahar - Iran
- Gwadar - Pakistan
- Kandla - India
- Hambantota - Sri Lanka
- Sittwe - Myanmar

Volcanoes in News

- Mt. Sinabung - Indonesia
- Mt. Etna - Italy
- Mt. Mauna Kea, Mt. Mauna loa - Hawaii Island
- Mt. Agung - Indonesia (island of Bali).
- Mt. Merapi - Indonesia
- Taal Volcano - Philippines

Dams in news

- Tilware dam: Ratnagiri district in Maharashtra
- Bhakra Dam: It is a concrete gravity dam on the Sutlej River in Bilaspur, Himachal Pradesh. The dam forms the Gobind Sagar reservoir.
- Tehri Dam: It is the highest dam in India and one of the highest in the world. It is a multi-purpose rock and earth-fill embankment dam on the Bhagirathi River near Tehri in Uttarakhand, India.



MISCELLANEOUS

Bhima River

- It is a major river in Western India and South India.
- It flows through Maharashtra, Karnataka, and Telangana states, before entering the Krishna River.
- Ujjani Dam, also known as Bhima Dam or Bhima Irrigation Project, on the Bhima River.
- Source: Bhimashankar, Pune
- Tributaries
 - left: Ghod, Sina, Kagini
 - right: Bhama, Indrayani, Mula- Mutha, Nira
- The river is also referred to as Chandrabhaga River, especially at Pandharpur, as it resembles the shape of the Moon.

Pamba River

- It is also called Pampa river.
- It is the third longest river in the South Indian state of Kerala after Periyar and Bharathapuzha.
- Sabarimala temple dedicated to Lord Ayyappa is located on the banks of the river Pamba.
- The river is also known as 'Dakshina Bhageerathi'. During ancient times it was called 'River Baris'.

Mahadayi/Mandovi river

- The river rises in the Western Ghats, from the Bhimgad Wildlife Sanctuary. Flowing westward, it enters Goa.
- Panaji, the state capital and Old Goa, the former capital of Goa, are both situated on the left bank of the Mandovi.
- The Karnataka government proposes to divert some water from the Mahadayi river to the Malaprabha River basin as part of the Kalasa-Banduri Nala project which has resulted in a dispute.

Kaleshwaram Lift Irrigation Project (KLIP)

- Built across **the Godavari river**, KLIP will lift the water to a height of half-a-kilometer.
- It is designed to irrigate 45 lakh acres for two crops in a year, meet the drinking water requirement of 70 percent of the state of Telangana and also cater to the needs of the industry.

South West Monsoon 2020

- A wind from the southwest or south that brings heavy rainfall to southern Asia in the summer (June to September).
- Southwest monsoon this year ended with 8.7% surplus, surpassing estimates made by IMD.
- Long Period Average(LPA): the averages of rainfall received over a 50-year period between 1951 and 2001, this average comes to 88 cm of rainfall (according to recent change).
- LPA of more than 100% was observed with rain above 110% of LPA which is in excess.
- Cause Factor: La Nina which is heating of equatorial pacific and boosted to the Indian monsoon, causing above-normal rainfall.

Gandhiji's Thoughts

- Society: It should be just. Should have Individuals with an empathetic humanism.
- Humanism should be restructured to suit inter-cultural and Pluri-dimensional Democracy.
- Humanity should have qualities of Fearlessness, Non-possession & humility.
- Individuals should have 'Soul force' which is "ethical code of conduct"

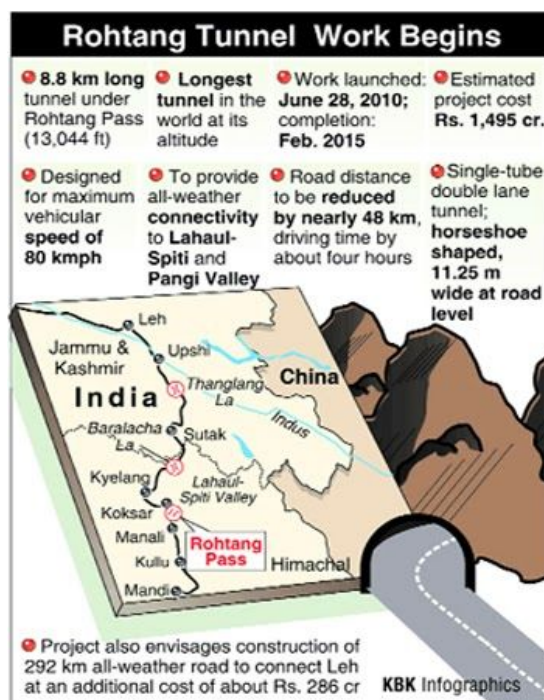
Online Gambling

- Recently, Google pulled out Paytm from the play store for violating gaming policies.

- Gambling and betting are **state subjects** and online games of chance come under state's ambit.
- **Game of skill:** outcome is determined mainly by mental or physical skill, rather than by pure chance. It is outside the ambit of gambling.
- **Games of chance:** A game of chance is one where the players can win a prize but have no control over the outcome. Examples include lotteries, sports betting and casino games, such as roulette and poker.
- In India, the Supreme Court can declare the legality of the game whether game of skill or not.

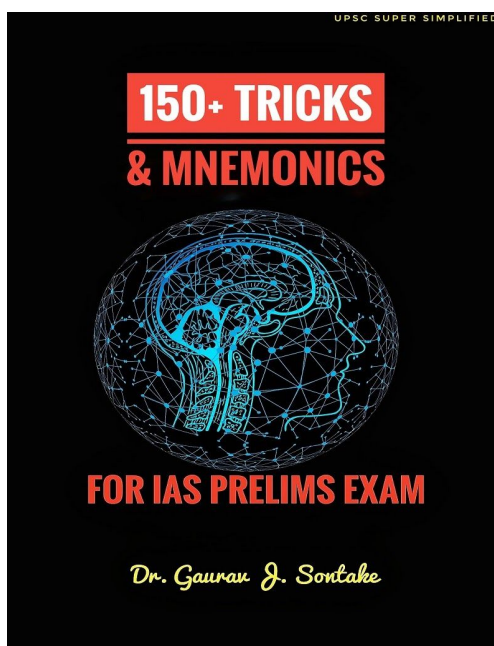
Atal Tunnel

- World's longest highway tunnel **connecting Manali with Leh.**
- Atal Tunnel in Lahaul Spiti's Rohtang will shorten the distance between Manali and Leh **by 46 kms** and drive time by around **seven hours.**
- The tunnel will provide **all-weather connectivity** to remote border areas of Himachal Pradesh and Ladakh.

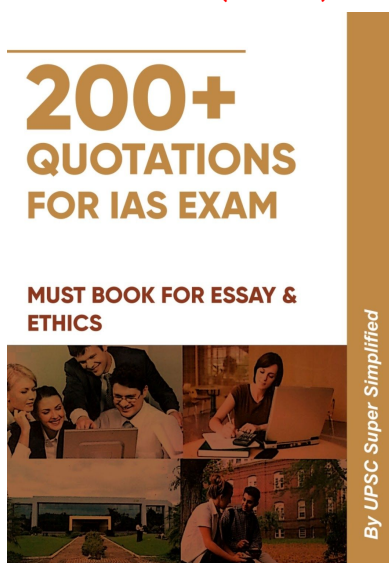


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