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1. Geography
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1.1. Polavaram Project

- Polavaram Project is an under construction multi-purpose National project on the Godavari River in the West Godavari District and East Godavari District in Andhra Pradesh.
- Work on the Polavaram irrigation project was recently resumed by the new contractor, Hyderabad-based Megha Engineering and Infrastructure Ltd.
- It is a major multi-purpose irrigation project being constructed on the Godavari River, and spread across three states – Andhra, Odisha and Chhattisgarh.

1.2. Mekong River

The Mekong originates in Tibet and flows through China, Myanmar, Laos, Thailand, Cambodia and Vietnam.

Mekong Ganga Cooperation

- The Mekong–Ganga Cooperation (MGC) was established on November 10, 2000, at Vientiane, Laos at the First MGC Ministerial Meeting.
- It comprises six member countries, namely India, Thailand, Myanmar, Cambodia, Laos and Vietnam.
- The four areas of cooperation are tourism, culture, education, and transportation.
- The organization takes its name from the Ganga and the Mekong, two large rivers in the region.

1.3. Cyclone Maha

- A depression that developed in the Comorin Sea (near the southernmost end of India) has intensified into a cyclonic storm, named ‘Maha’.
- The name has been given by Oman.
- This year, Maha will be the fourth Cyclone in Arabian Sea to form after Vayu, Hikaa, Kyaar.

1.4. Basic Countries

- The BASIC countries (also Basic countries or BASIC) are a bloc of four large newly industrialized countries – Brazil, South Africa, India and China – formed by an agreement on 28 November 2009.
- The BASIC group was formed as the result of an agreement signed by the four countries on November 28, 2009.
1.5. Copernicus Programme

- CopIndia has joined Europe’s mega global arrangement of sharing data from earth observation satellites, called Copernicus.

- The space-based information will be used for (1) forecasting disasters, (2) providing emergency response and rescue of people during disasters, etc.

- Copernicus is the European Union's Earth observation programme coordinated and managed by the European Commission in partnership with the European Space Agency (ESA), the EU Member States and EU Agencies.

1.6. Indian Ocean Rim Association

- The Indian Ocean Rim Association (IORA), formerly known as the Indian Ocean Rim Initiative and Indian Ocean Rim Association for Regional Cooperation (IOR-ARC), is an international organisation consisting of 22 coastal states bordering the Indian Ocean.

- IORA is a regional forum, tripartite in nature, bringing together representatives of Government, Business and Academia, for promoting co-operation and closer interaction among them.

- It is based on the principles of Open Regionalism for strengthening Economic Cooperation particularly on Trade Facilitation and Investment, Promotion as well as Social Development of the region.

- The Coordinating Secretariat of IORA is located at Ebene, Mauritius.

The objectives of IORA are as follows:

- To promote sustainable growth and balanced development of the region and member states.

- To focus on those areas of economic cooperation which provide maximum opportunities for development, shared interest and mutual benefits.

- To promote liberalisation, remove impediments and lower barriers towards a freer and enhanced flow of goods, services, investment, and technology within the Indian Ocean rim.

Indian Ocean Rim Association (IORA) has identified six priority areas, namely:

- maritime security,

- trade and investment facilitation,

- fisheries management,

- disaster risk reduction,

- academic and scientific cooperation and

- Tourism promotion and cultural exchanges.
1.7. Global Mobility Report

- Global Mobility Report has been released by Sustainable Mobility for All (SuM4All) initiative.
- The SuM4All initiative, launched in 2017, is an umbrella platform that brings together 55 public and private organisations and companies to act collectively to implement the SDGs and transform the transport sector.

1.8. Chenani-Nashri Tunnel Renamed

- Chenani-Nashri Tunnel, officially known as Dr. Syama Prasad Mookerjee Tunnel, is a road tunnel in the Indian state of Jammu and Kashmir on NH 44 (former name NH 1A before renumbering of all national highways).
- The work was started in 2011 and was inaugurated on 2 April 2017 by Prime Minister Mr. Narendra Modi.
- It is India's longest road tunnel with a length of 9.28 km (5.8 mi).

1.9. Steel Scrap Recycling Policy

- The Ministry of Steel has issued the Steel Scrap Recycling Policy

Key Features

- Circular Economy in the Steel Sector
- That is, utilising steel scrap emanating from vehicles and white goods (that have reached their end of life) for quality steel production.
- This will reduce dependency on imports and decongest the Indian cities from End of Life Vehicles (ELVs).

Extended Producer Responsibility (EPR)

- Automobile manufacturers will design vehicles keeping in mind the recyclability of the vehicle at the end of life.
- The policy envisages a framework to facilitate and promote the establishment of metal scrapping centres in India.

Hub and Spoke model

- The Hub and Spoke (H&S) model is used when there are multiple locations sourcing, with a central location called the ‘Hub.’ The location provides a single point of contact to the client, whilst the in-country extensions, called ‘Spokes’.
- Under the Policy, formal and scientific collection, dismantling and processing activities for the end of life products, that are sources of recyclable (ferrous, non-ferrous and other non-metallic) scraps, are being promoted.
- 4 collection and dismantling centres will cater to 1 scrap processing centre.
Focus on the Environment

- The Policy will work on the Principles of 6Rs: Reduce, Reuse, Recycle, Recover, Redesign and Remanufacture.
- It aims to reduce Green House Gas (GHG) emissions.
- It also aims to create a mechanism for treating waste streams and residues produced from dismantling and shredding facilities in compliance with Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016 issued by the Ministry of Environment, Forest and Climate Change (MoEF & CC).

1.10. Kalapani Territory

- Kalapani is a territory disputed between India and Nepal, but under Indian administration as part of Pithoragarh district in the Uttarakhand state.
- It is marked by the Kalapani River, one of the headwaters of the Kali River in the Himalayas at an altitude of 3600 meters.
- The valley of the Kalapani forms the Indian route to Kailash– Manasarovar, an ancient pilgrimage site.

1.11. Quad Countries

- The Quadrilateral Security Dialogue (QSD, also known as the Quad) is an informal strategic dialogue between the United States, Japan, Australia and India that is maintained by talks between member countries.
- The dialogue was initiated in 2007 by Prime Minister Shinzo Abe of Japan, with the support of Vice President Dick Cheney of the US, Prime Minister John Howard of Australia and Prime Minister Manmohan Singh of India.
- The first iteration of QSD ceased following the withdrawal of Australia during the tenure of Prime Minister Kevin Rudd, reflecting Australian concerns about joining a perceived alliance against China with two of its historic adversaries, Japan and India.
- However, during the 2017 ASEAN Summits all four former members rejoined in negotiations to revive the quadrilateral alliance.
- With Prime Minister Malcolm Turnbull of Australia, Prime Minister Shinzo Abe of Japan, Prime Minister Narendra Modi of India, and President Donald Trump of the United States agreeing in Manila to revive the security pact among tensions in the South China Sea caused primarily by China and its territorial ambitions.

1.12. NASA's Voyager 2 Spacecraft

- The Voyager program is an American scientific program that employs two robotic probes, Voyager 1 and Voyager 2, to study the outer Solar System.
- Voyager 2 is a space probe launched by NASA on August 20, 1977, to study the outer planets.
• Its primary mission ended with the exploration of the Neptunian system on October 2, 1989, after having visited the Uranian system in 1986, the Saturnian system in 1981, and the Jovian system in 1979.

• It remains in contact through the NASA Deep Space Network

• At a distance of 122 AU (1.83×1010 km) (about 16:58 light-hours) from the Sun as of November 4, 2019, moving at a velocity of 15.341 km/s (55,230 km/h) relative to the Sun,

• Voyager 2 left the heliosphere, and entered the interstellar medium (ISM), a region of outer space beyond the influence of the Solar System, joining Voyager 1 which had reached the interstellar medium in 2012.

• Voyager 2 has begun to provide the first direct measurements of the density and temperature of the interstellar plasma.

1.13. Cyclone Bulbul

• The India Meteorological Department (IMD) has issued an orange alert in Indian states of West Bengal and Odisha over Cyclone Bulbul in the Bay of Bengal.

• The depression over the east-central and southeast Bay of Bengal and North Andaman Sea has turned into a severe cyclonic storm.

• The landfall of the cyclone is expected between Sagar Islands (West Bengal) and Khepupara (Bangladesh).

• The cyclone has been named by Pakistan.

Four Stage Warning

• The cyclone warnings are issued to state government officials in four stages. The First Stage warning known as "PRE CYCLONE WATCH" issued 72 hours in advance contains early warning about the development of a cyclonic disturbance in the north Indian Ocean, its likely intensification into a tropical cyclone and the coastal belt likely to experience adverse weather. This early warning bulletin is issued by the Director General of Meteorology himself and is addressed to the Cabinet Secretary and other senior officers of the Government of India including the Chief Secretaries of concerned maritime states.

• The Second Stage warning known as "CYCLONE ALERT" is issued at least 48 hrs. in advance of the expected commencement of adverse weather over the coastal areas. It contains information on the location and intensity of the storm likely direction of its movement, intensification, coastal districts likely to experience adverse weather and advice to fishermen, general public, media and disaster managers. This is issued by the concerned ACWCs/CWCs and CWD at HQ.

• The Third Stage warning known as "CYCLONE WARNING" issued at least 24 hours in advance of the expected commencement of adverse weather over the coastal areas. Landfall point is forecast at this stage. These warnings are issued by ACWCs/CWCs and CWD at HQ at 3 hourly interval giving the latest position of cyclone and its intensity, likely point and time of landfall, associated heavy rainfall, strong wind and storm surge along with their impact and advice to general public, media, fishermen and disaster managers.
The Fourth Stage of warning known as "POST LANDFALL OUTLOOK" is issued by the concerned ACWCs/CWCs/and CWD at HQ at least 12 hours in advance of expected time of landfall. It gives likely direction of movement of the cyclone after its landfall and adverse weather likely to be experienced in the interior areas.

### 1.14. Feni River

- Feni River is a river in southeastern Bangladesh. It is a trans-boundary river with an ongoing dispute about water rights.
- The question of sharing of the waters of the river between India and Pakistan was first discussed in 1958.
- As on date, there is no water-sharing agreement on Feni River between India and Bangladesh.

### 1.15. Brus of Mizo

- Reang (known in Mizoram as Brus) are one of the 21 scheduled tribes of the Indian state of Tripura.
- The Bru can be found all over the Tripura state in India. However, they may also be found in Mizoram and Assam.
- They speak the Reang dialect of Bru language which is of Tibeto-Burmese origin and is locally referred to as Kau Bru.

### 1.16. Wasteland Atlas

- The new wastelands mapping exercise was carried out by NRSC using the Indian Remote Sensing Satellite data.
- Department of land resources in collaboration with National Remote Sensing Centre (NRSC), Department of Space has published Wastelands Atlases of India – 2000, 2005, 2010 & 2011 editions.

**Key findings**

- Spatial extent of wastelands in India is 55.76 Mha (16.96 per cent of geographical area of the country i.e. 328.72 Mha) for the year 2015-16 as compared to 56.60 Mha (17.21 per cent) in the year 2008-09.
- As per the Atlas, during this period 1.45 Mha of wastelands are converted into non wastelands categories.
- India with 2.4 per cent of total land area of the world is supporting 18 per cent of the world’s population. The per capita availability of agriculture land in India is 0.12 ha whereas world per capita agriculture land is 0.29 ha.
1.17. NavIC

- The Indian Regional Navigation Satellite System or IRNSS with an operational name of NAVIC (Navigation with Indian Constellation) is an Indian developed Navigation Satellite System that is used to provide accurate real-time positioning and timing services over India and region extending to 1500 km around India.

- The fully deployed NAVIC system consists of 3 satellites in GEO orbit and 4 satellites in GSO orbit, approximately 36,000 km altitude above earth surface.

1.18. National Waterway 2

- First ever movement of container cargo on Brahmaputra (National Waterway -2) begins.

- There are 111 officially notified Inland National Waterways (NWs) in India identified for the purposes of inland water transport, as per The National Waterways Act, 2016.

For more learning: https://en.wikipedia.org/wiki/List_of_National_Waterways_in_India

1.19. European Investment Bank to Stop Fossil Fuel Funding

- The European Investment Bank is to stop funding oil and coal projects at the end of 2021.

- The EIB’s new policy demands that the energy projects applying for funding must prove that they can produce 1 Kilo watt hour of energy emitting less than 250 grams of carbon dioxide.

- Gas projects are still possible, but would have to be based on what the bank called "new technologies" such as carbon capture and storage, combining heat and power generation, or mixing in renewable gases with the fossil natural gas.

1.20. NASA Renames Ultima Thule to Arrokoth

- NASA has renamed Ultima Thule as ‘Arrokoth, meaning ‘sky’ in the Native American Powhatan language.

Ultima Thule

- Ultima Thule is a Kuiper Belt object and the farthest object ever explored by any spacecraft. The object is officially named 2014 MU69.

- It is a trans-Neptunian object located in the Kuiper belt.

  ✓ A trans-Neptunian object (TNO), also written transneptunian object, is any minor planet in the Solar System that orbits the Sun at a greater average distance than Neptune

Kuiper Belt

- The Kuiper belt is a great ring of debris similar to the asteroid belt but consisting mainly of objects composed primarily of ice.

- It extends between 30 and 50 AU from the Sun. Pluto is also a part of the Kuiper Belt.
New Horizons

- The New Horizons spacecraft was launched in 2006 by NASA. It is the first mission to explore the Kuiper belt.

1.21. Coalition for Disaster Resilient Infrastructure (CDRI)

- The Coalition for Disaster Resilient Infrastructure (CDRI) is an international coalition of countries, United Nations (UN) agencies, multilateral development banks, the private sector, and academic institutions, that aims to promote disaster-resistant infrastructure.
- Its objective is to promote research and knowledge sharing in the fields of infrastructure risk management, standards, financing, and recovery mechanisms.
- It was launched by the Indian Prime Minister Narendra Modi at the 2019 UN Climate Action Summit in September 2019.
- It aims to achieve substantial changes in member countries’ policy frameworks and future infrastructure investments, along with a major decrease in the economic losses suffered due to disasters.

1.22. Tobacco Board Receives The 2019 Golden Leaf Award

- The award was given in recognition of the Board's efforts to initiate various sustainability (green) initiatives in Flue-Cured Virginia (FCV) tobacco cultivation in India.
- The Golden Leaf Awards were created to recognize professional excellence and dedication in the tobacco industry by Tobacco Reporter, an international magazine in the year 2006.

1.23. International Treaty of Plant Genetic Resources for Food and Agriculture (ITPGRFA)

- The International Treaty on Plant Genetic Resources for Food and Agriculture (IT PGRFA), popularly known as the International Seed Treaty, is a comprehensive international agreement in harmony with the Convention on Biological Diversity, which aims at guaranteeing food security through the conservation, exchange and sustainable use of the world's plant genetic resources for food and agriculture (PGRFA), as well as the fair and equitable benefit sharing arising from its use.
- It also recognises farmers' rights, subject to national laws to:
  1. The protection of traditional knowledge relevant to plant genetic resources for food and agriculture;
  2. The right to equitably participate in sharing benefits arising from the utilisation of plant genetic resources for food and agriculture; and
  3. The right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.
1.24. Brown To Green Report 2019

- The Brown to Green Report 2019 is the world’s most comprehensive review of G20 climate action.
- It provides concise and comparable information on G20 country mitigation action, finance and adaptation.
- The report covers 80 indicators and is developed by experts from 14 research organizations.

Highlights

- India is the only country that is close to the 1.5-degree Celsius temperature rise. It is the scenario set by the global scenario in the Paris Agreement that will lead to disastrous consequences.
- G20 countries are responsible for 80% of global Green House Gas emissions.
- Every year between 1998 and 2017, the G20 countries lost 142 billion USD on average due to extreme weather events.
- Brazil and Germany were the only two countries with long term goals. The other countries like Russia, Indonesia, China, Saudi Arabia, EU and Turkey is lagging ambitious NDC targets as required by the Paris Agreement.
- Australia was the worst-performing country in terms of climate response according to the report.
- Russia, France, Italy, Germany and India were the highest-ranked countries that faced economic losses from extreme weather events. Around 181 countries were taken for the ranking.

1.25. G20

- G20 is an international forum for the governments and central bank governors from 19 countries and the European Union (EU) including India. It was founded in 1999.
- The Grouping was established with the aim of discussing policies pertaining to promotion of international financial stability.
- Collectively, the grouping account to 90% of the world GDP with two-third world population and 80% of world trade.

1.26. New Water Policy

- The Ministry of Jal Shakti recently constituted a committee to draft a new National Water Policy (NWP)
- The committee will be chaired by Mihir Shah (and comprises of 10 principal members.
- To update the National Water Policy, 2012 and recommend key changes in water governance structure and regulatory framework.
- National Bureau of Water Use Efficiency is proposed to be set up in order to enhance water usage efficiency, especially in domestic and industrial sectors.
- The first NWP was adopted in September 1987. It was reviewed and updated in 2002 and later in 2012.
Key Features of National Water Policy 2012

• Integrated Water Resources Management: It laid down the concept of an Integrated Water Resources Management approach that took the river basin/sub-basin as a unit for planning, development, and management of water resources.

• Minimum Water Flow: To maintain the minimum flow of a portion of a river to meet ecological needs.

• Emphasis was also made to make a minimum quantity of potable water available to citizens for maintaining essential health and hygiene.

• Inter-basin Transfers: To meet basic human needs and achieve equity and social justice, inter-basin transfers of water need to be considered on the basis of the merits of each case after evaluating the environmental, economic and social impacts of such transfers.

1.27. New Zealand-Zero Carbon Law

• Recently, New Zealand’s Parliament passed The Zero-Carbon Act, which will commit New Zealand to zero carbon emissions by 2050 or sooner, as part of the country’s attempts to meet its Paris climate accord commitments.

• This is the first legislation in the world to make a legally binding commitment to living within 1.5 degrees Celsius of global warming.

• The Act is not separate legislation but is an amendment to the existing Climate Change Responses Act, 2002.

Aims

• Reduce all greenhouse gases (except methane) to net-zero by 2050

• Reduce emissions of biogenic methane (produced from biological sources) up to 24-47 percent below 2017 levels by 2050 and to 10 percent below 2017 levels by 2030.

• Establish an independent Climate Change Commission

• Establish a system of the emissions budget

1.28. UP Govt Launches e-Ganna App, Web Portal

• Uttar Pradesh government has launched a dedicated web portal and a mobile application, named as ‘e-Ganna’, for sugarcane farmers of the state

• The sugar mills will now issue the cane supply slip to farmers online.

• Both web and app will help in eradicating cane mafia and middleman and strengthen cane development societies.

• Moreover, besides ensuring transparency in the process of getting slips, the web and portal will also facilitate sugarcane supply by farmers to mills and check irregularities.
2. Polity

To watch the following topics on YouTube click on the links given below:

- Video 1
- Video 2
- Video 3
- Video 4

2.1. Naga Peace talks

Nagas are spread over Assam, Arunachal Pradesh, Nagaland and Manipur in India besides in parts of Myanmar. Ethnicity and tribal politics are deeply rooted in the region which have in some ways complicated the political and social life of people at large. The Naga peace talks reached their deadline on October 31st which a plan for a framework for building peace in the region.

- The British had annexed Assam in 1826, in which they subsequently created the Naga Hills district and went on to extend its boundaries. The assertion of Naga nationalism, which began during British rule, has continued after Independence, and even after Nagaland became a state.

- The talks seek to settle disputes that date back to colonial rule. The Nagas are not a single tribe, but an ethnic community that comprises several tribes who live in the state of Nagaland and its neighbourhood. One key demand of Naga groups has been a Greater Nagalim that would cover not only the state of Nagaland but parts of neighbouring states, and even of Myanmar.

History of Naga Issue

- The British had annexed Assam in 1826, in which they subsequently created the Naga Hills district and went on to extend its boundaries. The assertion of Naga nationalism, which began during British rule, has continued after Independence, and even after Nagaland became a state. Along the way, the unresolved issues gave rise to decades of insurgency that claimed thousands of lives, including of civilians.

- The earliest sign of Naga resistance dates back to 1918, with the formation of the Naga Club. In 1929, the Club famously told the Simon Commission “to leave us alone to determine for ourselves as in ancient times”.

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• In 1946, A Z Phizo formed the Naga National Council (NNC), which declared Naga independence on August 14, 1947, and then, in 1951, claimed to have conducted a referendum in which an overwhelming majority supported an independent Naga state. By the early 1950s, the NNC had taken up arms and gone underground. On March 22, 1952, Phizo formed the underground Naga Federal Government (NFG) and the Naga Federal Army. The government of India sent in the Army to crush the insurgency and, in 1958, enacted the Armed Forces (Special Powers) Act. The NNC split in 1975, the breakaway group being the NSCN, which split further in later years, most prominently into the NSCN(I-M) (Thuingaleng Muivah) and NSCN (Khaplang) in 1988. The insurrection petered out by the mid-1970s but returned with more intensity in the form of the NSCN led by Mr. Muivah and S.S. Khaplang

• 1975: In June 1947, Assam Governor Sir Akbar Hydari signed the Nine-Point Agreement with the moderates in the NNC but Phizo rejected it outright. A peace accord was signed in Shillong called the Shillong Accord, in which the NNC leadership agreed to give up arms. Several NNC leaders, including Isak Chishi Swu, Thuingaleng Muivah and S S Khaplang refused to accept the agreement and broke away to form the NSCN. In 1988 came another split, with Khaplang breaking away to form the NSCN (K) while Isak and Muivah headed the NSCN (I-M).

• 1997: The NSCN (I-M) signed a ceasefire agreement with the government in 1997, preceded by rounds of talks since 1995. The key agreement was that there would be no counter-insurgency offensive against the NSCN (I-M), who in turn would not attack Indian forces. The NSCN (I-M) had then announced to “every citizen of Nagalim wherever they may be”, that a ceasefire agreement was entered into between the Government of India and the outfit “to bring about a lasting political solution to the long drawn out Indo-Naga issue”.

• 2015: In August that year, the Centre signed a framework agreement with the NSCN (I-M). Prime Minister Narendra Modi described it as a “historic agreement” towards settling the “oldest insurgency” in India. This set the stage for the ongoing peace talks. In 2017, six other Naga armed outfits under the banned of the Naga National Political Groups (NNPGs) joined the talks.

**Demands**

• The map of Greater Nagalim

• In the NSCN(IM) vision, on the other hand, covers a 1,20,000 sq km sprawl across the Northeast and Myanmar — the area of Nagaland state itself is only 16,527 sq km, a fraction of this vision. Amid the anxiety this has caused among citizens in neighbouring states, state governments have assured them that their respective states' territorial integrity would not be compromised.

• The government and the NSCN (I-M) have failed to agree on issues relating to a separate Naga flag and a constitution. In its latest statement, the NSCN (I-M) has said it will not budge from the demand for the flag and the constitution — and that it is looking for a lasting solution.

**Neighbours’ stance**

• Arunachal Pradesh, Assam and Manipur are wary of the NSCN-IM's concept of Nagalim or Greater Nagaland that could lead to a redrawing of their boundaries. Manipur has begun protesting with Assembly Speaker Y. Khemchand Singh telling Mr. Modi in a petition that any compromise with Manipur's territorial integrity would not be tolerated. The other two States are “waiting and watching” following reports that the final peace deal could yield a pan-Naga cultural entity and territorial councils beyond Nagaland.

www.YouTube.com/SleepyClasses
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Fortunately, the initial signs of restraint are seen on all sides with the conclusion of talks between interlocutor RN Ravi and NSCN (IM) leaders. The Meitei and Kuki communities which are major stakeholders in Manipur, have not resorted to violence. The Nagas have restrained from chest-thumping.

### 2.2. Ayodhya Dispute and Verdict

- A five judge bench of the Supreme Court headed by CJI Ranjan Gogoi delivered the verdict regarding the disputed site of Babri Masjid-Ram Janmabhoomi on 9th November 2019.

- Babri Masjid is the three-domed mosque that Mir Baqi, a commander in the Mughal army and then the Governor of Awadh built in the name of Emperor Babur, in 1528 in the Jaunpuri style, has been at the centre of the dispute.

- Francis Buchanan (also called Buchanan-Hamilton) did a survey of the Gorakhpur Division in 1813-14 on behalf of the British East India Company. Buchanan's report, never published but available in the British Library archives, states that the Hindus generally attributed destruction of temples "to the furious zeal of Aurangzabe [Aurangzeb]", but the large mosque at Ayodhya (now known as Babri Masjid) was ascertained to have been built by Babur by "an inscription on its walls".

- Many on the Mandir side believe that the birthplace of Lord Ram was exactly at the spot on which the Babri Masjid stood until December 6, 1992. The Supreme Court concluded that the masjid was built over a structure which was "non-Islamic".

- The dispute started from the colonial times itself. The first plea with regard to the Babri dispute came up on January 1, 1885 in the Faizabad district court by Mahant Raghubir Das seeking permission to create an outer canopy at the disputed structure. The Court however rejected the plea ruling that a temple could not be built on a spot just outside the mosque because it would cause communal problems.

- The idols of Ram Lalla were placed "surreptitiously" under the central dome of the Babri Masjid in 1949. The next year, Gopal Simla Visharad filed the first suit in the Faizabad civil court for rights to perform puja to Ram Lalla. Paramahansa Ramachandra Das filed a suit for continuation of puja and keeping idols in the structure.

- In 1959, the Nirmohi Akhara filed a third suit, seeking a direction to hand over charge of the disputed site. The U.P. Sunni Central Wakf Board filed the fourth suit in 1961 for declaration and possession and a fifth was filed in 1989 in the name of Ram Lalla Virajman for declaration and possession.

- In 1986, the district court ordered the removal of locks and opening of the site for Hindu worshippers. In 1991, the Uttar Pradesh government acquired land around the structure for the convenience of devotees coming for Ram Lalla darshan.

- In Dec 6, 1992, Babri Masjid demolished by nearly 2 lakh karsevaks. ‘Acquisition of Certain Area at Ayodhya Act’ was passed for acquiring land by Centre in the disputed area following which in 1993, the Centre took over 67 acres around the area and sought the Supreme Court’s opinion on whether there existed a Hindu place of worship before the structure was built.
Liberhan Commission was a long-running inquiry commissioned by the Government of India to investigate the destruction of the disputed structure Babri Masjid in Ayodhya in 1992. Led by retired High Court Judge M. S. Liberhan, it was formed on 16 December 1992 by an order of the Indian Home Union Ministry after the demolition of the Babri Masjid in Ayodhya on 6 December and the subsequent riots there.

The Commission was originally mandated to submit its report within three months. Extensions were given 48 times, and after a delay of 17 years, the one-man commission submitted the report to Prime Minister Manmohan Singh on 30 June 2009. In November 2009, a day after a newspaper published the allegedly leaked contents of the report, the report was tabled in Parliament by the Home Minister P. Chidambaram.

The Supreme Court in the Ismail Faruqui case ruled that ‘mosque’ is not integral to Islam owing to the fact namaz can be offered anywhere. In 1994, the litigation reached the Lucknow Bench. The suits were heard from 1996 till September 2010.

The Allahabad High Court in a 2:1 majority, rules three-way division of disputed area between Sunni Waqf Board, the Nirmohi Akhara and Ram Lalla. In August 2017 the Supreme Court constituted a three judge Bench to hear pleas challenging the 1994 Allahabad HC decision.

In January 2019, the High Court constituted a five judge Constitution bench led by Chief Justice of India Ranjan Gogoi and also comprising CJI-designate S.A. Bobde, D.Y. Chandrachud, Ashok Bhushan and S. Abdul Nazeer. CJI Ranjan Gogoi, who retires on November 17, decided the date of the verdict in consultation with the four other judges after 40 days of daily hearing, making it the second longest hearing in the top court. Under Article 142, the SC directed, in the scheme to be framed, Nirmohi Akhara, an order of ascetics, will also get representation. The Akhara's suit, one of the main parties in the case, was dismissed as the bench held that it was barred by limitation. The SC also rejected that Nirmohi Akhara is a shebait (manager) of the complex. "Land to remain vested in statutory receiver till trust is formed," ruled the court.

The five-judge bench unanimously rejected the Shia Waqf Board petition, claiming that the rights on the Babri Masjid on the disputed land in Ayodhya were over that of the Sunni Waqf Board. The Supreme Court said that the 2003 Archaeology Survey of India's (ASI) report can't be dismissed as conjecture or just a guess work and junked the theory of pre-existence of an Idgah at the disputed site. "Babri mosque wasn't constructed on a vacant land. An underlying structure did exist," it said. The apex court also said that the underlying structure was not of Islamic religion. Artefacts, architectural evidence had distinct non-Islamic nature, said CJI Gogoi. At the same time, the top court also said, "But ASI report hasn't said the underlying structure was a specific temple."

The central government shall, within three months, frame a scheme and make necessary provisions for the management of trust for construction of the temple at the disputed site. Sunni Waqf Board to be given a 5-acre alternate land at a prominent place in Ayodhya. Sunni Waqf Board at liberty to construct a mosque at the allotted land.
2.3. Jansankhya Sthirata Kosh

Jansankhya Sthirtha Kosh (JSK), an autonomous body under Ministry of Health and Family Welfare, implemented the following schemes:

1. Prerna Scheme (for delaying marriage, childbirth and spacing),
2. Santusht Scheme (Public Private Partnership for sterilization services), and
3. NaConal Helpline (for information on family planning).

The JSK as per cabinet decision has now been discontinued and has been subsumed under the National Health Mission.

2.4. Census 2021

- The Ministry of Home Affairs informed that during Census 2021, a mix mode approach is being adopted for data collection. Census will be conducted in two phases, viz., House-listing & Housing Census during April to September, 2020 and Population Enumeration during February 09-28, 2021. The Census shall be conducted in 16 languages.

- Further, enumerators can collect and submit data directly through Mobile App using his/her smart phone or they can use paper schedule to collect data and submit the same through Mobile App. Alternatively, the enumerators can also use paper schedule only to collect and submit the data. The State Government appointed enumerators will only be able to use the App for collection of data.

- While beginning in 1872 under British Viceroy Lord Mayo, the first complete census was taken in 1881. Post 1949, the decennial Census of India has been conducted by the Registrar General and Census Commissioner of India under the Ministry of Home Affairs, Government of India. All the censuses since 1951 were conducted under the 1948 Census of India Act. The last census was held in 2011, whilst the next will be held in 2021.

2.5. Bharatiya Poshan Krishi Kosh

The Ministry of Women and Child Development launched the Bharatiya Poshan Krishi Kosh along with Bill and Melinda Gates foundation have launched the Bharatiya Poshan Krishi Kosh (BPKK) which will be a repository of diverse crops across 128 agro-climatic zones in India for better nutritional outcomes. On this occasion, eminent agricultural scientist, Dr. M. S. Swaminathan, in his address, said that to make India nutrition secure a five-point action programme has to be implemented:

- Ensure calorie rich diet for women, expectant mothers and children
- Ensure intake of proteins in the form of pulses to eradicate protein hunger in women and children
- Eradicate hidden hunger due to deficiency of micro nutrients like vitamin A, vitamin B, Iron and Zinc
- Ensure clean drinking water supply
- Spreading nutrition literacy in every village particularly in mothers with children less than 100 days’ old
2.6. Report on Building a 21st Century Health System for India

- NITI Aayog released the report on ‘Health Systems for a New India: Building Blocks—Potential Pathways to Reforms’. Officials from NITI Aayog, policymakers, and representatives from national and international academia and Bill and Melinda Gates Foundation were also present for the event.

- Over the last few years, India has embarked on a journey towards providing improved access to high-quality, affordable healthcare for the most unreached and vulnerable population of the country. Many indicators, however, continue to show significant scope for improvement. The report is based on the data collected and provided by ACCESS Health International for the public sector and by PWC India for private sector.

- By placing health at the centre-stage of the policy narrative, this report charts a clear roadmap for the complete transformation of India’s health system. It focuses on breaking silos in the health space and removing fragmentation between various initiatives, ensuring greater convergence between ministries as well as the Centre and states, as already initiated under Ayushman Bharat.

- The report identified 5 focus areas of future health system, deliver on unfinished Public health agenda, change health financing away from out of pocket so spend into large insurers, integrate service delivery vertically and horizontally, empower citizens to become beHer buyers of health, harness the power of digital health.

- Highlighting the need to build India’s opportunities, the vision for health over the next fifteen years is to transform the delivery of health services in a way that they improve at a much greater pace, without financially burdening its citizens. A synthesis of all the discussions and efforts initiated at NITI Aayog’s ‘Development Dialogues’ held on 30 November 2018, the report consolidates global findings on key health system themes of financing and provisioning, with a focus on risk pooling, strategic purchasing, health-service provisioning and digital health.

2.7. Jaccha-Baccha Survey

- A new survey, called the Jaccha-Baccha Survey (JABS), conducted in June in six states (Chhattisgarh, Himachal Pradesh, Jharkhand, Madhya Pradesh, Odisha and Uttar Pradesh) to map the state of pregnant and nursing women has found that a high proportion of women do not eat enough during pregnancy. The survey was conducted under the guidance of development economists Jean Dreze and Reetika Khera.

- Within the six states, which the survey divided into laggard and leader states, Uttar Pradesh, which is India’s most populous, performed the worst, while Himachal Pradesh, on average, performed the best. He latest Global Hunger Index released in October pegged India at a lowly 102 out of a total of 117 countries. One of the key endings of GHI was that ‘child wasting’ (that is, children having low weight for their height) — which essentially shows the extent of acute malnutrition — had gone up over the past decade. At almost 21%, India’s child wasting level is the highest in the world.
2.8. Sabrimala Verdict-Points to Remember

- The majority of Judges in the Sabrimala verdict contended that pending cases regarding entry of Muslim Women in Durgah/Mosque (being Writ Petition (Civil) No.472 of 2019); of Parsi Women married to a non-Parsi in the Agyari (being Special Leave Petition (Civil) No. 18889/2012); and including the practice of female genital mutilation in Dawoodi Bohra community (being Writ Petition (Civil) No.286 of 2017) may be overlapping and covered by the judgment under review with Sabrimala to a larger 7 Judge Bench.

2.9. Muslim women’s entry into mosques and dargahs

- The petition contended that “there is nothing in the Quran and the Hadith that requires gender segregation” and added that “the act of prohibition of females from entering Mosque is void and unconstitutional as such practices are not only repugnant to the basic dignity of a woman as an individual but also violative of the fundamental rights guaranteed under Articles 14, 15, 21 and 25 of the Constitution.”

2.10. Female genital mutilation among Dawoodi Bohras

- The Dawoodi Bohras are a sect within the Ismā‘īlī branch of Shia Islam. The largest populations of Dawoodi Bohras reside in India, Pakistan, Yemen, East Africa and the Middle East. The petition, filed under Article 32 of the Constitution, had questioned the constitutionality of the practice of female genital mutilation (FGM) or ‘khatna’, or female circumcision (FC) or ‘khaf’d’, which the petitioner said was carried out on every girl child in the Dawoodi Bohra community.

- The “archaic ritual” of FGM, the petition argued, was carried out without any scientific medical reason, and without any reference in the Quran, and inflicted “atrocities, bodily pain, inhumaneness, and mental torture” on innocent girls and women, the burden of which they were forced to carry for the rest of their lives. The petition relied on the UN Convention on the Rights of the Child and the Universal Declaration of Human Rights, and urged that the practice is violative of Article 21 (right to life and personal liberty).

- It contended that FGM should be regarded as an offence under the Indian Penal Code. A counter affidavit was filed resisting the stand of the petitioner, which submimed that the practice was almost 1,400 years old, and that it was an integral part of the religion of the Dawoodi Bohra community — and therefore, protected under Article 26 of the Constitution (right of religious groups to manage their own affairs).

2.11. Entry of Parsi women married to non-Parsis in the Agyari

- The Special Leave Petition in ‘Goolrukh Gupta vs Burjur Pardiwala’ arose out of a judgment passed by the Gujarat High Court in 2012. The HC had upheld the Valsad Parsi Anjuman’s right to stop a Parsi woman from visiting the Tower of Silence to perform her father’s last rites in the event of his death.

- The HC upheld the Parsi Anjuman’s contention that having married a non-Parsi under The Special Marriage Act, 1954, a woman was no longer a Parsi, and was instead deemed to have become Hindu.
2.12. Essentiality test in Religion

• The larger Bench reference will also re-evaluate the “essential religious practice test”, a contentious doctrine evolved by the court to protect only such religious practices which were essential and integral to the religion. The doctrine of “essentiality” was invented by a seven-judge Bench of the Supreme Court in the ‘Shirur Mum’ case in 1954. The court held that the term “religion” will cover all rituals and practices “integral” to a religion, and took upon itself the responsibility of determining the essential and non-essential practices of a religion.

• Last year, a Supreme Court Bench by a 2-1 majority declined to refer for reconsideration by a larger Bench the five-judge Constitution Bench judgment in ‘Dr M Ismail Faruqui and Ors vs Union of India and Ors’ (October 24, 1994), which upheld the law under which the Centre acquired the disputed land in Ayodhya on which the Babri Masjid had stood. The Constitution Bench had ruled in 1994 that “A mosque is not an essential part of the practice of the religion of Islam and namaz (prayer) by Muslims can be offered anywhere, even in open.”

2.13. Surrogacy (Regulation) Bill, 2019

• The Surrogacy (Regulation) Bill, 2019 was introduced by the Minister of Health and Family Welfare, Dr. Harsh Vardhan in LokSabha on July 15, 2019. The Bill defines surrogacy as a practice where a woman gives birth to a child for an intending couple with the intention to hand over the child after the birth to the intending couple.

• Regulation of surrogacy: The Bill prohibits commercial surrogacy, but allows altruistic surrogacy. Altruistic surrogacy involves no monetary compensation to the surrogate mother other than the medical expenses and insurance coverage during the pregnancy. Commercial surrogacy includes surrogacy or its related procedures undertaken for a monetary benefit or reward (in cash or kind) exceeding the basic medical expenses and insurance coverage.

Purpose for which surrogacy are permitted

Surrogacy is permitted when it is:

• for intending couples who suffer from proven infertility;
• altruistic;
• not for commercial purposes;
• not for producing children for sale, prostitution or other forms of exploitation; and
• For any condition or disease specified through regulations.

Eligibility criteria for intending couple

The intending couple should have a ‘certificate of essentiality’ and a ‘certificate of eligibility’ issued by the appropriate authority.

A certificate of essentiality will be issued upon fulfilment of the following conditions:
a certificate of proven infertility of one or both members of the intending couple from a District Medical Board;

an order of parentage and custody of the surrogate child passed by a Magistrate's court; and

Insurance coverage for a period of 16 months covering postpartum delivery complications for the surrogate

The certificate of eligibility to the intending couple is issued upon fulfilment of the following conditions

- the couple being Indian citizens and married for at least five years;
- between 23 to 50 years old (wife) and 26 to 55 years old (husband);
- they do not have any surviving child (biological, adopted or surrogate); this would not include a child who is mentally or physically challenged or suffers from life threatening disorder or fatal illness; and
- Other conditions that may be specified by regulations.

Eligibility criteria for surrogate mother

To obtain a certificate of eligibility from the appropriate authority, the surrogate mother has to be:

- a close relative of the intending couple;
- a married woman having a child of her own;
- 25 to 35 years old;
- a surrogate only once in her lifetime; and
- possess a certificate of medical and psychological fitness for surrogacy. Further, the surrogate mother cannot provide her own gametes for surrogacy.

Appropriate authority

The central and state governments shall appoint one or more appropriate authorities within 90 days of the Bill becoming an Act. The functions of the appropriate authority include;

- granting, suspending or cancelling registration of surrogacy clinics;
- enforcing standards for surrogacy clinics;
- investigating and taking action against breach of the provisions of the Bill;
- recommending modifications to the rules and regulations

Registration of surrogacy clinics

Surrogacy clinics cannot undertake surrogacy related procedures unless they are registered by the appropriate authority. Clinics must apply for registration within a period of 60 days from the date of appointment of the appropriate authority.

National and State Surrogacy Boards

The central and the state governments shall constitute the National Surrogacy Board (NSB) and the State Surrogacy Boards (SSB), respectively. Functions of the NSB include,
advising the central government on policy matters relating to surrogacy;
laying down the code of conduct of surrogacy clinics; and
supervising the functioning of SSBs

Parentage and abortion of surrogate child

A child born out of a surrogacy procedure will be deemed to be the biological child of the intending couple. An abortion of the surrogate child requires the women consent of the surrogate mother and the authorisation of the appropriate authority. This authorisation must be compliant with the Medical Termination of Pregnancy Act, 1971. Further, the surrogate mother will have an option to withdraw from surrogacy before the embryo is implanted in her womb.

Offences and penalties

The offences under the Bill include:

undertaking or advertising commercial surrogacy;
exploiting the surrogate mother;
abandoning, exploiting or disowning a surrogate child; and
Selling or importing human embryo or gametes for surrogacy. The penalty for such offences is imprisonment up to 10 years and a fine up to 10 lakh rupees. The Bill specifies a range of offences and penalties for other contraventions of the provisions of the Bill
3. International Relations

To watch the following topics on YouTube click on the links given below:

- **Video 1**
- **Video 2**
- **Video 3**
- **Video 4**

### 3.1. RCEP

- India finally rejected the Regional Comprehensive Economic Partnership (RCEP) trade deal at the RCEP summit in Bangkok, Thailand on November 4, 2019.
- Apart from 10 member states of the Association of Southeast Asian Nations, it included the bloc’s six free trade partners — China, India, South Korea, Japan, New Zealand and Australia.
- RCEP negotiations were launched in 2012.
- After India's rejection, the remaining 15 countries decided to go ahead and underlined their intent to sign a trade deal sometime next year, keeping the door open for India to join at a later date.

#### Some Figures

- Comprising half of the world population and accounting for nearly 40% of the global commerce and 35% of the GDP, RCEP would have become the largest free trade area after finalisation, with India being the third largest economy in it.

#### India's demands at RCEP

- Shifting the base year for tariff cuts from 2014 to 2019.
- Avoiding a sudden surge in imports from China by including a large number of items in an auto-trigger mechanism.
- Calling for stricter rules of origin to prevent dumping from China.
- Better deal in services.

#### Chinese Angle

- While India runs large trade deficits with at least 11 of the 15 RCEP members, China alone accounts for $53 billion of India's $105 billion trade deficit.
- China was keen for greater access to Indian markets to sustain its manufacturing industries. India was keen to protect its industry and farmers from a surge in Chinese imports.
- For China, this looks like a win at a time when the Trump administration is pushing Asia into making a choice in its favour by jettisoning Chinese largesse on infrastructure and technology.

#### India and FTAs

- India's experience has been underwhelming — NITI Aayog suggested that India's FTA utilisation has been measly with only 5%-25%.
Domestically, the RCEP generated considerable opposition with major stakeholders coming out against it, be it farmers, dairy industry or the corporate sector.

Why is India important?

- India presents a market of 1.4 billion populations whose incomes are increasing at 6-8% over the last few years.
- It provides a demographic dividend from the perspective of the presenting a huge youth consumer base, who are getting richer.
- It has a weak domestic industry which can hardly cater to the needs of the diversified needs of the population who are getting wealthier. The existing industrial productivity is low, and inefficient production processes and supply chains are not conducive enough to withstand the foreign competition.
- The economy aspires to be a 5-trillion-dollar one, organically driven by consumption demand, as has happened so far.

3.2. Brasilia BRICS Summit 2019

- Theme: Economic Growth for an Innovative Future
- This was the 6th BRICS summit in which PM Modi participated. His first being at Fortaleza, in Brazil in 2014.
- BRICS countries account for 50% of the world’s economic growth: PM Modi.
- PM Modi called for paying special attention to mutual trade and investment, as Intra-BRICS trade accounts for just 15% of world trade.
  - He also said that Sustainable water management and sanitation are important challenges in urban areas and proposed to hold the first meeting of BRICS Water Ministers in India.
  - He was happy that the first Seminar on BRICS Strategies for Countering Terrorism was organized and hoped that such efforts and activities of the five working groups will increase strong BRICS Security Cooperation against terrorism and other organized crimes.

BRICS

  - BRIC started after the meeting of the leaders of Russia, India and China in St. Petersburg on the margins of G8 Outreach Summit in 2006.
  - Grouping was formalized during the 1st meeting of BRIC Foreign Ministers on the margins of UNGA in New York in 2006. The 1st BRIC Summit was held in Yekaterinburg, Russia, on 16 June 2009.
  - It was agreed to expand BRIC into BRICS with the inclusion of South Africa at the BRIC Foreign Ministers’ meeting in New York in September 2010. Accordingly, South Africa attended the 3rd BRICS Summit in Sanya China on 14 April 2011.
  - BRICS takes up 25% of the world’s land mass.
• BRICS bring together five major emerging economies comprising 42% of the world’s population, having 23% of the global GDP and around 17% of the share of world trade

• BRICS cooperation has two pillars including consultations on issues of mutual interest through meeting of leaders and ministers as well as cooperation through meeting of senior officials in a number of areas including trade, finance, health, education, science and technology, agriculture, communications IT etc.

### 3.3. Sakhalin Oil Field

• It is an oil field in Russia which will continue to produce oil and gas till 2055

• ONGC Videsh Limited has 20% stakes of Sakhalin-1 since 2001

• It is a prolific oil producing field like Bombay High

• Rig Krechet is the biggest and most powerful land rig in the world

### 3.4. UNESCO Creative Cities Network (UCCN)

• It was created in 2004 to promote cooperation with and among cities that have identified creativity as a strategic factor for sustainable urban development

• UNESCO has announced that Mumbai (Films) and Hyderabad (Gastronomy) have been included in its network of ‘Creative Cities’ on the occasion of World Cities Day 2019

  ✓ Chennai and Varanasi are UNESCO cities of music while Jaipur is the City of Crafts and Folk Arts

• By joining UCCN, the cities pledge to share their best practices and develop partnerships involving public and private sectors as well as civil society to strengthen creation, production, distribution and dissemination of cultural activities, goods and services

• The network covers 7 creative fields:
  1. Crafts and folk arts
  2. Media arts
  3. Film
  4. Design
  5. Gastronomy
  6. Literature
  7. Music
3.5. Paris Club

- It is an informal group of creditor nations focused on dealing with borrower nations that face difficulty in paying back their loans.

- The origin of the club is traced to a meeting that happened in Paris between officials from Argentina, which had trouble paying back its debt, with a group of lenders in 1956.

- It is similar to the London club, which is a group of commercial bankers formed in 1976 to deal with the financial problems of Zaire, and is focused on providing various forms of debt relief to countries that face financial distress due to their heavy debt load.
4. Economy

To watch the following topics on YouTube click on the links given below:
- Video 1
- Video 2
- Video 3
- Video 4

4.1. Regional Comprehensive Economic Partnership (RCEP)

- RCEP sought to create a free trade zone among the 10 member states of the Association of Southeast Asian Nations (ASEAN - Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam) and its six FTA partners
- (China, Japan, India, South Korea, Australia and New Zealand)

The trade deficit with ASEAN

- The trade deficit with ASEAN tripled to $26.6 billion from $9.4 billion in 2009-10. FTA tariff reduction has happened in four major sectors — textiles, metals, automobiles and machinery.

- India has decided not to join the Regional Comprehensive Economic Partnership (RCEP) pact saying it will not “compromise” on its core issues.

- India had also been firm in its demand that an adequate Auto Trigger Safeguard Mechanism be put in place to save the economy against dumping of cheap imports and import surges.

- The country also did not want to accept ‘ratchet’ obligation in the investment chapter that would have prevented it from changing its existing rules.

4.2. Kyarr

IMD said the cyclone over East-Central Arabian Sea moved to the North-North-East (towards India’s West Coast initially.

4.3. Alternative Investment Funds (AIFs) for Homes

- A special window created for stalled housing projects in affordable and middle-income range.

- It will also cover projects that are classified as non-performing assets (NPA), or where National Company Law Tribunal (NCLT) proceedings have already started.
The government shall act as the sponsor of the fund. It will infuse funds up to ₹10,000 crore. The fund will provide relief to developers with unfinished projects and ensure delivery of homes to buyers.

Besides the Centre’s ₹10,000 crore, SBI, LIC and other public sector financial institutions will also pump in money into the fund, taking the figure to around ₹25,000 crore. The government expects sovereign funds and pension funds to contribute at a later stage.

The funds will be set up as category-II AIFs registered with SEBI.

### 4.4. Food Safety and Standards Authority of India (FSSAI) & Schools

- FSSAI has proposed to restrict the sale and the advertisement of food products, which are high in fat, salt and sugar (HFSS), in school premises and within 50 meters of the school campus.
- The proposal is part of the draft Food Safety and Standards (Safe Food and Healthy Diets for School Children) Regulations, 2019, which is being finalised to define and promote healthy diets, based on the direction by the Delhi High Court in 2015.
- The regulator has also proposed setting up a sub-committee by the State Level Advisory Committee to monitor the implementation of these regulations and to ensure availability of safe and wholesome food to school children in the draft regulations.
- HFSS food includes deep fried foods such as –
  - French fries
  - Fried chips
  - Sugar-sweetened carbonated or non-carbonated beverages
  - Ready-to-eat foods
  - Noodles, burgers, pizzas and
  - Confectionery items among others

### 4.5. Weather Derivatives

- India has always faced unpredictable monsoons. Besides, non-seasonal weather conditions too, spoil the harvest for farmers.
- There can be plans to launch derivative products based on rainfall, temperature, moisture, and wind, among others, to help farmers and corporates hedge against these risks.
- National Commodity and Derivatives Exchange (NCDEX) has been planning to launch weather futures, from as far back as 2003. It was even working on a rain index, a tool to track the monsoon’s progress, jointly with the Indian Meteorological Department.
- The first derivative product (based on average temperatures) was launched through the exchange mechanism in 1999 on the Chicago Mercantile Exchange.
- Weather risk affects farmers, during both pre- and post-monsoon periods.
• Besides, it will have a significant direct and indirect economic impact across sectors, such as insurance, FMCG, tourism and even sports.

4.6. Surjit Bhalla HLAG on Exports and Investments

• High Level Advisory Group on trade chaired by economist Surjit Bhalla has put forward a number of proposals to increase exports and attract more foreign investments.
  ✓ Enabling greater access to credit for exporters
  ✓ Strengthening exports of labour-intensive sectors and ICT products
  ✓ Putting in place a national trade facilitation action plan
  ✓ Simplifying regulatory and tax framework for foreign investment funds and individual investors.
  ✓ Other important panel to remember is Baba Kalyani’s on SEZs.

4.7. Financial Stability and Development Council (FSDC)

• FSDC is the apex body of sectoral regulators, headed by the finance minister.
  ✓ RBI Governor
  ✓ Securities and Exchange Board of India chairman
  ✓ Insurance Regulatory and Development Authority of India (IRDAI)
  ✓ Insolvency and Bankruptcy Board of India (IBBI) chairman
  ✓ Pension Fund Regulatory and Development Authority

4.8. Green Finance

• Green financing is to increase level of financial flows (from banking, micro-credit, insurance and investment) from the public, private and not-for-profit sectors to sustainable development priorities.

• A key part of this is:
  ✓ To better manage environmental and social risks
  ✓ Take up opportunities that bring both a decent rate of return
  ✓ Environmental benefit
  ✓ Deliver greater accountability.

Green Finance

• UK is a leading global hub for green finance, home to many world-class institutions from all stages of the investment lifecycle, from project conception to delivery and advisory.

• In order to increase the Green Finance, there is a need for:
  ✓ Increased transparency and standards
  ✓ Greater visibility of opportunities and funding gaps
Further government cooperation to building domestic support in India, greater technical experience sharing among regulators.

Targeted policy reforms and incentives, such as changes to the External Commercial Borrowing (ECB) guidelines by the Reserve Bank of India (RBI) for issuers with green track records.

Green financing could be promoted through changes in:
- Countries’ regulatory frameworks,
- Harmonizing public financial incentives,
- Increases in green financing from different sectors,
- Alignment of public sector financing decision-making

with the environmental dimension of the Sustainable Development Goals:
- Increases in investment in clean and green technologies
- Financing for sustainable natural resource-based green economies
- Climate smart blue economy, increase use of green bonds, and so on.
4.9. **Mass enterprises**

- Refers to millions of ordinary local businesses, are providers of stable job opportunities.
- It can help address the country’s unemployment issues.
- A mass enterprise surveyed includes businesses that hire 5-20 people and includes businesses ranging from beauty salons, small eateries to food catering providers.
- Among Mass enterprises, manufacturing firms are a key opportunity, typically employing more people than the service industry, generating more revenue per employee, and having less informality.
- The report also highlighted that minimal digitisation of accounting and poor cash flow management are common barriers that affected mass entrepreneurs from accessing formal credit.
- Sector-specific training and mentorship in digital environment are necessary to help rural entrepreneurs understand various complexities of business and to help them learn from their industry peers.

4.10. **Anti-Base Erosion**

- OECD has come up with a new proposal that could end up ensuring that profits of internationally operating businesses—including tech and digital giants—are subjected to a minimum rate of corporate tax
- It would reduce the incentive for taxpayers around the world to engage in profit shifting and establish a floor for tax competition among jurisdictions.

**Globe Proposal**

- Global Anti-Base Erosion
- **Pillar One** addresses the allocation of taxing rights between jurisdictions and considers various proposals for new profit allocation and nexus rules.
- It is expected to assist members of the ‘Inclusive Framework’ (on BEPS) in the development of a solution for its final report to the G20 in 2020.
- The new proposal—the Global Anti-Base Erosion (GloBE) proposal under Pillar two of BEPS 2.0 project aimed at addressing the tax challenges of the digitalisation of the economy.

4.11. **Smart Meter**

- It is a digital meter that replaces old analog meters to record electrical usage.
- These digital meters can transmit energy consumption information to the utility (as it is connected to the internet) in frequent intervals, and can monitor consumption more precisely.
- For consumers, smart meters help in monitoring and managing electricity consumption and save money. It can be like your mobile pre-paid connection. You can buy electricity for a fixed amount, and use it. After finishing, you can top-up, just like a mobile recharge.
- It can help power distribution companies (discom) to conduct power-quality analysis in near-real time.

www.YouTube.com/SleepyClasses
www.SleepyClasses.com
• It can help discoms plug leakages in the whole chain.
• They are prone to cyber-attacks, which can cause power shutdown or steal customer information.

### 4.12. Revising GDP Base Year

• Normally, it is done every five years.
• Surveys are started for the same.
• Central government’s planning to revise the base year from the current 2011-12 to 2017-18 for calculating the GDP growth.
• Based on the surveys the decision is taken on whether it is a good economic year or not.
• 2018-19 can also be made the GDP base year as 2017-18 was the year of demonetisation and start of GST.

### 4.13. Dividend Distribution Tax

• Proposal to tax dividends once they are paid to shareholders, rather than the current system where the company pays the levy.
• That will allow individuals to claim refunds in their home jurisdictions.
• Indian companies need to pay the tax office 15% of dividends declared, which rises past 20% once surcharges are added. Investors, who are also taxed on their earnings, have protested these multiple levies.
• The Dividend Distribution Tax is a tax levied on dividends that a company pays to its shareholders out of its profits.
• The Dividend Distribution Tax, or DDT, is taxable at source, and is deducted at the time of the company distributing dividends.
• The dividend is the part of profits that the company shares with its shareholders.
• The law provides for the Dividend Distribution Tax to be levied at the hands of the company, and not at the hands of the receiving shareholder.
• However, an additional tax is imposed on the shareholder, who receives over Rs. 10 lakh in dividend income in a financial year.

### 4.14. Sabka Vishwas Scheme

• It is for settling pending disputes of service tax and central excise.
• The Sabka Vishwas Scheme, 2019 is a scheme proposed in the Union Budget, 2019, and introduced to resolve all disputes relating to the erstwhile Service Tax and Central Excise Acts, which are now subsumed under GST, as well as 26 other Indirect Tax enactments.
• Finance Minister had announced Sabka Vishwas (Legacy Dispute Resolution) Scheme, 2019 with the objective of settling pending disputes of Service Tax and Central Excise in the budget.
• In all cases, there is full waiver of interest and penalty and exemption from prosecution.
4.15. Private Final Consumption Expenditure (PFCE) growth

- RBI survey has sharply cut the forecast of real private final consumption expenditure (PFCE) growth, reflecting lower household demand.

- PFCE, according to the Ministry of Statistics and Programme Implementation, includes:
  - Final consumption expenditure of households
  - Final consumption expenditure of non-profit institutions serving households like temples and gurdwaras.
  - The final consumption expenditure of households relates to outlays on new durable as well as nondurable goods (except land) and on services.

Real Gross Fixed Capital Formation (GFCF)

It consists of:

- The outlays (purchases and own account production) of industries
- Producers of government services
- Producers of private non-profit services to households on addition of commodities to their stocks of fixed assets less their net sales (i.e. sales minus purchases) of similar second-hand and scrapped goods.
- Excluded from GFCF are the outlays of government services on durable goods for military use.

- GFCF includes:
  - Acquisitions of reproducible and non-reproducible durable goods (except land, mineral deposits, timber tracts, fisheries and the like) for civilian use
  - Work-in-progress on construction projects
  - Capital repairs
  - Outlays on the improvement of land and on the development and extension of timber tracts, plantations, vineyards, etc., among others.

4.16. AIIB Funding

- Asian Infrastructure Investment Bank (AIIB) is evaluating loans worth over $2.2 billion for funding:
  - Power transmission and distribution projects in Assam
  - Metro rail projects in Chennai, Mumbai
  - Rural water supply system in Karnataka.
  - Head Quarters: Beijing
  - India is the second largest share holder in AIIB
  - Largest borrower – India
4.17. Happy Seeder

- A tractor-mounted machine that allows planting of wheat without the need to burn the leftover straw from the previous paddy crop.

- Happy Seeder (HS) or Turbo Happy Seeder (THS) is a tractor-operated machine developed by the PAU in collaboration with Australian Centre for International Agricultural Research (ACIAR), for in-situ management of paddy stubble (straw).

- Centre subsidising the cost of Happy Seeder up to 50 per cent for individual farmers and 80 per cent for co-operatives.

- After harvesting the paddy field using a combined harvester fitted with Super-SMS (Straw Management System) equipment, which chops and evenly spreads the stubble in the field, farmers can directly sow wheat seeds using Happy Seeder with the stubble’s organic value adding to the soil.

4.18. India’s Power Sector

- A recent report by SBI highlighted that electricity demand in India contracted to an eight-year low. This contraction in demand has had an impact on three important stakeholders -

  ✓ Power producers
Power distributors
Lender (mostly banks)
• There’s a decline in:
  ✓ Plant Load Factor (PLF) (PLF is used to determine a plant’s power producing capacity.
  ✓ Renewable generation
  ✓ Thermal generation Hydro energy, however, grew.
• Factors undermining the power sector:
  ✓ Weak economy
  ✓ Dues from discoms (delayed payments from state-owned power distribution companies)
  ✓ Lending bottlenecks
  ✓ Climate change-induced natural calamities

4.19. Development of Steel Clusters in India

• Ministry of Steel has proposed setting up integrated steel hubs similar to the ones in Korea, China and Germany. The hubs would support the growth of the steel sector.
• Draft Framework Policy-Development of Steel Clusters in India aims at creating ‘Integrated Steel Hubs’ based on the principle of:
  ✓ Availability of raw material
  ✓ Logistics support
  ✓ Proximity to demand centres.
• It will enable capacity expansion through:
  ✓ Provision of a cohesive ecosystem
  ✓ Presence of effective forward and backward linkages
  ✓ Single-window mechanism for swift approval of clearances
  ✓ Best-in-class logistics infrastructure

What does a cluster mean:
• A cluster will be a defined region with co-located units across the steel value chain along with the provision of basic infrastructure facilities and other relevant value-added services.
• The clusters will primarily include units from secondary steel sector and ancillary industry.
• Policy’s focus will be on two types of clusters:

Load Factor

Load factor for a power plant is the ratio between average load and peak load and can be expressed as

\[
\mu_L = \left(\frac{100}{P_{av}} \right) \frac{P_{av}}{P_{pl}}
\]

where

- \(\mu_L\) = load factor (%)
- \(P_{av}\) = peak load for the power plant in the period (kW)
✓ One around the Integrated Steel Plants (ISPs)
✓ The other near the demand centres.

Clusters around ISPs

• Cluster around ISPs will be called ancillary and downstream cluster.
• It will primarily have a steel plant as its anchor plant, with focus on ancillary units and may also entail downstream units.
• It will help create an integrated ecosystem for the industry with enhanced linkage for both the ISPs as well as the tenant units

Cluster near Demand Centres

• They will be called ‘value-added steel clusters’.
• They will enable capacity expansion of units producing carbon steel, alloy (including stainless steel) as well as other high grade and special steel by improving their cost competitiveness through effective raw material linkages and other interventions such as reduced cost of power.

4.20. Strategic Divestment in five PSUs

These are:

• Bharat Petroleum Corporation Ltd (BPCL)
• Shipping Corporation of India
• Container Corporation of India
• Tehri Hydro Power Development Corporation (THDCIL)
• North Eastern Electric Power Corporation Ltd (NEEPCO).

• THDCIL and NEEPCO will go to NTPC
• Strategic disinvestment means offering stake along with control and management of the company.
• It could be offered to a private company or even to another CPSE.

4.21. Coarse Cereals

• Benefits of switching back to coarse cereals:
  ✓ Nutritional security
  ✓ Energy utilisation
  ✓ Water utilisation
  ✓ Even cut its greenhouse gas emissions
• Green Revolution - Focus mainly on increasing rice and wheat output.
A large number of farmers shifted away from more nutritious coarse cereals to high-yielding crops such as rice.

It narrowed the diversity of cultivated crops.

**Some Facts about Rice Cultivation**

- Currently, rice accounts for 74 per cent of kharif cereals production.
- 80 per cent of energy and 81 per cent of water used for cereal production in the season.
- Nearly 90 per cent of greenhouse gas emissions from kharif cereals production comes from rice alone.
- Increasing the supply of nutria cereals may be an important part of improving the country's food security:
  - Nearly 200 million undernourished people in India
  - Widespread groundwater depletion
  - Need to adapt to climate change

### 4.22. Industrial Relations Code Bill

- The government wants to codify 44 central labour laws into four broad codes.
  - Code on Wages (approved by Parliament)
  - Code on Occupational Safety, Health and Working Conditions (taken up by Labour Ministry)
  - Industrial Relation Code Bill (the one we are discussing)
  - Code on Social Security (it is in the pre-legislative stage)

- The draft code on Industrial Relations has been prepared after amalgamating, simplifying and rationalizing the relevant provisions of three Central Labour Acts:
  - The Trade Unions Act, 1926
  - The Industrial Employment (Standing Orders) Act, 1946
  - The Industrial Disputes Act, 1947

**Provisions of Industrial Relations Code Bill**

- The bill provides for setting up of a two-member tribunal (in place of one-member)
- Imparting flexibility to the exit provisions relating to retrenchment and others:
- Threshold for prior approval of appropriate government has been kept unchanged at 100 employees
- But added a provision for changing 'such number of employees' through notification (executive order).
- That means there would be no need for Parliament approval.
- Re-skilling fund to be utilised for crediting to workers in the manner to be prescribed.
- Defining Fixed Term Employment
4.23. Recycling of Ships Bill, 2019

- India has ratified Hong Kong International Convention for Safe and Environmentally Sound Recycling of Ships.
- It is a global rule that seeks to ensure that end-of-life ships are dismantled in an environment-friendly and responsible manner.
- The Hong Kong International Convention was adopted by the International Maritime Organization (IMO) in 2009.
- The Bill, when enacted by the Parliament, requires ship recycling facilities to obtain authorisation to operate and only authorised yards will be permitted to import ships for recycling.
- Ship-specific Ship Recycling Plans (SRPs) will need to be prepared for incoming vessels and incoming ships will need to obtain a “Ready for Recycling Certificate” in accordance with the HKC.
- India is one of the four major ship recycling countries - India, Bangladesh, China and Pakistan.
- Beaching Method - Recycling of Ships
- India follows the beaching method for dismantling ships.
- Under the beaching method, ships are first grounded and then dismantled.
- The IMO Convention does not prohibit the dismantling of old ships by the beaching method.
- It is often subjected to criticism for its lax safety and health aspects.
- Also, this is not permitted under the EU rules.

4.24. Fishermen & Kisan Credit Card (KCC)

- In the Budget 2018-19, the government had announced extension of the Kisan Credit Card (KCC) facility to:
  - Animal husbandry farmers
  - Fishermen
- To help them meet their working capital requirements.
- To give boost to the fishery sector, the government has drafted two key Bills:
  - The National Marine Fisheries (Regulation and Management) Bill 2019
  - Bill on controlling diseases in fish

4.25. Seed Bill 2019

- It aims to ensure that farmers get the highest quality seeds.
- It also aims at increasing the ‘ease-of-doing-business’ for the seed industry.
- It aims to foster competition by updating the Seed Act 1966 and Seed Rules 1968.
Seed Act 1966

- Introduced after the ‘Green Revolution’.
- It was aided by the Seed Rules 1968.
- Both these were developed with the collaboration of the United States Department of Agriculture (USDA).
- It is mandatory to label the seeds with notified quality parameters.
- If not done or if quality is found lacking, it invites punitive measures against seed sellers.
- The seed label is given a unique identification number to ensure traceability of seed.

The New Seed Bill

- It asks for registration and licensing of seed producers and processors separately.
- It is driven by European standards.
- It also asks for:
  ✓ Compulsory registration of seed varieties based on VCU (value for cultivation and use) evaluation
  ✓ Licensing of seed producers
  ✓ Licensing of seed processors.
  ✓ Price control in the event of an emergency, monopolization or profiteering

Challenges for The New Seed Bill

- Magnitude of crop registration as the new bill proposes compulsory registration of varieties/hybrids.
- Allowing provisions like in the UPOV (Union for the Protection of New Varieties of Plants) to enter the new Seed Bill
- India has more than 100 crops, 5 geographical regions and hundreds of seed companies with R&D, the workload for nationwide evaluation as compared to the current workload will be more than 100 times greater.
- Need to recognize the nationwide evaluation facilities including those within the private sector.
- Many times, deterioration of seed quality is a biological process due to accelerated ageing when the seed lots are subject to very harsh conditions in summer before they are sown by the farmers.

4.26. Karvy Scandal

- Karvy Stock Broking Limited (KSBL) sold excess securities (securities not available in DP account) to the tune of a few hundred crore Rupees.
- A Depository Participant (DP) is an intermediary between the investor and the depository.
A DP is typically a financial organization like a bank, broker, financial institution, or custodian acting as an agent of the depository to make its services available to the investors.

The NSE forwarded a preliminary report to SEBI on the non-compliances observed with respect to the pledging/misuse of client securities by KSBL.

Sebi said the unauthorised use of clients' funds creates a serious doubt over the conduct and integrity of KSBL.

The depositories, i.e. NSDL and CDSL, in order to prevent further misuse of clients' securities by KSBL, have been hereby directed not to act upon any instruction given by KSBL in pursuance of power of attorney given to KSBL by its clients with immediate effect.

Even if clients' securities were pledged, it should have only been for meeting the obligation of the respective clients which was not observed in this case.

Find Out More on:
- NSDL
- CDSL
- Demat Account
- Depository Accounts

### 4.27. Alternative Financing Models for Road Infrastructure

Existing Problems of Financing Road Infrastructure:
- No corporate bond market
- Banks wary of giving debts
- Large scale of funding required
- Long term of debt required
- Hybrid Annuity Model also under-subscribed (CRISIL report - only 70-75 per cent of the length awarded during that time have achieved financial closure under HAM)

What could be done:
- LPVR (Least Present Value of Revenues):
  - Flexible term concessions
  - Concession term is linked to the total aggregate revenue of a project reaching a predefined net present value-based threshold.

Subordinate Debt
- A form of an unsecured loan
- Could be considered like in projects where up to 10-30 per cent was provided by the grantor to the developer for mitigating high traffic risk exposure.
Minimum Revenue Guarantee
- The grantor usually pays a minimum fixed portion of the annual toll revenues to the concessionaire during the contract term to offset traffic under-performance.

Shadow Tolling Mechanism
- Toll amounts are collected per vehicle, which are paid by a third party such as a sponsoring governmental entity and not by the user.

Hybrid Structure
- Mix of shadow tolling and user-payment tolling.

Securitisation Structures
- Collateralised loan obligations
- Toll road securitisation

Multiple Debt Structures
- Deferred principal payments
- Bullet debt issuances

Infrastructure Investment Trusts
- Speedy resolution of distressed assets under the insolvency regime would improve overall investor sentiments.

4.28. World Trade Organisation’s Dispute settlement system
- For the past two years, the US has repeatedly blocked the selection process for filling vacancies at the WTO’s Appellate Body.
- It is the highest adjudicating body for global trade disputes.
- The adjudicating body will be reduced to one member from its requisite strength of seven.
- Consequently, a quorum of three members as required for adjudicating any trade dispute will remain unfulfilled.

US’ Stand
- Highest adjudicating body failed to adhere to various provisions of the WTO’s dispute settlement understanding (DSU).
- US has charged the AB for failing to issue reports within the mandatory period of 90 days.
- Washington has criticised the AB for its allegedly “flawed” interpretation in various cases concerning the importance of municipal law in resolving trade disputes.
- Existing and former AB members claimed well beyond their mandated remuneration.
4.29.15th Finance Commission gets extension

- The extension of the term will enable the Commission to examine various comparable estimates for financial projections in view of reforms and the new realities to finalise its recommendations for the period 2020-2026.

- Addendum in ToR is required because of the Kashmir development. Since the Finance Commission’s recommendation on devolution is meant only for States and as Jammu & Kashmir ceased to be a State, there was a need to change the terms of reference.

- Normally, grants for a Union Territory are provided by the Home Ministry.
5. Environment
To watch the following topics on YouTube click on the links given below:

- Video 1
- Video 2
- Video 3
- Video 4

5.1. Anthrax Scare In Reserve After Death Of Buffaloes

- Veterinarians have confirmed anthrax as the cause of death of two Asiatic water buffaloes in central Assam's Pobitora Wildlife Sanctuary, which has the highest concentration of one-horned rhinos (whose population in the sanctuary in 2018 was estimated to be 102) in the world and is often called ‘Mini Kaziranga’ due to similar landscape and vegetation.

- Anthrax, caused by the bacterium *Bacillus anthracis*, can be fatal for humans who come in contact with infected animals.

- It is characterised by blisters around swellings on the skin, chest pain, vomiting, diarrhoea and fever.

- It is found in the Central Indian Forests and is mostly restricted to the states of Assam, Arunachal Pradesh and Madhya Pradesh.

- Recently, it was found in the forests of Maharashtra after which the Maharashtra Government declared the Kolamarka forest area as a conservation reserve for the Asiatic Wild Buffalo.

- It has the widest horn span.


- CITES Appendix - III

- It is believed to be extinct in Bangladesh, Peninsular Malaysia, and on the islands of Sumatra, Java, and Borneo.
5.2. Call Of The Wild: India Plans First-Ever Snow Leopard Survey

- India will commission its first-ever survey to estimate the population and geographical range of the snow leopard, an elusive and endangered predator.

- The snow leopard is found along the upper reaches of the Himalayan range and, in India, it is reported to have a presence in Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh (5% of the global snow leopard range).

- However, the inhospitable terrain and the reclusive nature of the animal have so far made a scientific estimation impossible.

- The use of technology such as camera traps and scientific surveys will help to estimate the numbers.

- The snow leopard is found in 12 countries — India, Nepal, Bhutan, China, Mongolia, Russia, Pakistan, Afghanistan, Kyrgyzstan, Kazakhstan, Tajikistan and Uzbekistan.

- Officials announced the survey at a meeting of the Global Snow Leopard and Ecosystem Protection (GSLEP) programme being organised by Union Environment Ministry.

- Currently, the Steering Committee meeting of GSLEP chaired by Nepal and co-chaired by Kyrgyzstan. The meeting has officials from Nepal, Russia, Kyrgyzstan, Mongolia and China.

5.3. Ozone Hole Above Antarctica Shrinks To Smallest Size On Record

- A hole in the ozone layer located near the Earth’s South Pole is the smallest it has been since first being discovered in the 1980s, NASA said.

- While depletion of the ozone has decreased over the years, the wholes smaller size this year is related to abnormal weather and wind patterns. It’s great news for ozone in the Southern Hemisphere.

- But it’s important to recognize that what we’re seeing this year is due to warmer stratospheric temperatures. It’s not a sign that atmospheric ozone is suddenly on a fast track to recovery.

- Located between seven to 25 miles above Earth’s surface, in a part of the atmosphere called the stratosphere, the ozone layer shields the planet from ultraviolet radiation that can cause skin cancer, cataracts and other hazardous conditions.
• Due to the warmer temperatures over Antarctica in 2019, fewer polar stratospheric clouds formed and they couldn't persist longer, which limited the ozone-depletion process.

• It is the third time in the past 40 years that weather systems have caused conditions that limited ozone depletion.

5.4. Wildfires Peaked In August, Half Were In Asia

• Compared to August 2018, there were almost five times as many wildfires across the world in August 2019; the European Space Agency (ESA) has announced citing data from its Sentinel-3 World Fire Atlas.

• August and September 2019 were also the months during which fires in the Amazon rainforest were at the centre of worldwide attention.

• A detailed analysis of the August 2019 fires, however, shows that it was Asia that accounted for nearly half of these fires, the ESA said.

• The data revealed that 49% of the fires were detected in Asia, around 28% were detected in South America, 16% in Africa, and the remaining were recorded in North America, Europe and Oceania.

• The Sentinel-3 World Fire Atlas uses a method that enables it to identify all active fires at night.

• The sensors on satellites measure thermal infrared radiation to take the temperature of Earth's land surfaces.

• This information is used to detect and monitor the heat emitted by the fires.

• Quantifying and monitoring fires is important for the study of climate because, as the ESA pointed out, fires have a significant impact on global atmospheric emissions, with biomass burning contributing to the global budgets of greenhouse gases, like carbon dioxide.

5.5. Doubt Over Future Of Antarctic Ocean Sanctuary Plans

• A push by Australia and France to create a massive ocean sanctuary in east Antarctica is in doubt as nations meet in Hobart to discuss the plans, with China and Russia opposing.

• The proposed East Antarctic marine park would protect one million square kilometres of ocean, but has repeatedly been struck down at meetings of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).

• It was first floated by Australia, France and the European Union in 2010 before being scaled down in 2017.

• Both China and Russia have fishing interests in the region.

• The consent of all 26 members of the CCAMLR is required for the creation of Marine Park.

• CCAMLR has previously established other major ocean Antarctic sanctuaries — including the world’s largest spanning 1.55 million square kilometres in the Ross Sea.
5.6. Tasmanian Tiger

- The Tasmanian tiger, a large striped carnivore, is believed to have gone extinct over 80 years ago -- but newly released Australian government documents show sightings have been reported as recently as two months ago.

- Tasmania's Department of Primary Industries, Parks, Water and Environment (DPIPWE) recently released a document detailing eight reported sightings of the Tasmanian tiger, or thylacine, in the last three years.

- The thylacine, a marsupial that looked like a cross between a wolf, a fox, and a large cat, is believed to have gone extinct after the last known live animal died in captivity in 1936.

- It had yellowish brown fur, with powerful jaws and a pouch for its young, according to the Australian Museum.

5.7. The Western Ghats Still Home To A Rainbow Of Butterflies

- The four-day butterfly survey conducted by the forest department in Wayanad Wildlife Sanctuary (WWS) has revealed significant butterfly diversity.

- The survey team recorded as many as 191 species of winged beauties.

- The survey has also recorded first sightings of six species in WWS, including three rare butterfly varieties.

- The first-time sighting of Silver forget me not, Common three rings, and Brown onyx was also recorded. The sighting of Silver forget me not was reported only from the Chinnar Wildlife Sanctuary in Idukki district of the State.

- The survey was mainly aimed at assessing the butterfly diversity in the forest areas of the region, which is vulnerable to climatic changes.

- It was also wanted to assess the availability of nectar plant and larval host plant, essential for the survival of butterflies.

- This year's butterfly survey had taken place during the annual butterfly migration in south India from the plains to the Western Ghats areas.

- The sighting of 191 species of butterflies is an evidence of a healthy butterfly habitat in the region, but the degradation of the riparian forest in many part of the region may adversely affect the butterfly habitat in the near future.
Also, the sanctuary provided a healthy ecosystem for butterflies (227 butterfly species so far recorded in the sanctuary, it is significant that the survey could spot 191 species in this year’s survey) the proliferation of Senna spectabilis was a cause for concern as the domination of the plant would mean stifling of many host plants of butterflies.

5.8. Lift Travel Curbs On NH 766, Says Kerala

The Kerala Assembly has passed a resolution demanding the Union government to lift the travel restrictions on National Highway-766 linking Kerala and Karnataka and safeguard the right of the people of north Kerala to move freely.

The resolution pointed out that night travel on this main artery passing through the Bandipur National Park had been banned since 2009 for protecting wildlife.

National Highway 766 passing through the Bandipur tiger reserve connects Wayanad with Chamarajanagar district of Karnataka.

It is seen as a survival route for the people of Wayanad which lacks rail and connectivity and water routes.

Bandipur is home to about 140 tigers, more than 1,500 elephants and over 25,000 deer and is one of the oldest tiger reserves in India.

When Project Tiger was launched in 1973, Bandipur forest was declared as a tiger reserve.

In 1984, Bandipur tiger reserve became a national park.

- It is spread over about 1,000 sq km across three states - Karnataka, Tamil Nadu and Kerala.
In fact, it connects three reserved forests of the Nagarhole National Park of Karnataka, the Mudumalai Wildlife Sanctuary in Tamil Nadu, the Wayanad Wildlife Sanctuary of Kerala.

5.9. EU Bank To Cease Funding Fossil Fuel Projects By End Of 2021

- The European Investment Bank said that it would stop funding fossil fuel projects at the end of 2021, in a landmark decision.
- The bank’s new energy lending policy, which was approved with “overwhelming” support, will bar most fossil fuel projects, including traditional use of natural gas.
- Under the new policy, energy projects applying for EIB funding will need to show they can produce one kilowatt hour of energy while emitting less than 250 grams of carbon dioxide, a move which bans traditional gas-burning power plants.
- Gas projects are still possible, but would have to be based on what the bank called “new technologies,” such as carbon capture and storage, combining heat and power generation or mixing in renewable gases with the fossil natural gas.
- Environmental organisations celebrated the EIB decision, but expressed disappointment at the one year delay.
- (Originally proposed end of fossil fuel lending from the end of 2020 to end of 2021)
- The EIB, the biggest multilateral lender in the world, has ambitious goals on sustainable finance.
- The bank wants to “set the standard” for what it means for a multilateral bank to be aligned with the Paris agreement

5.10. Swachh–Nirmal Tat Abhiyaan

- To strive to make our beaches clean and create awareness amongst citizens about the importance of coastal ecosystems, the Ministry of Environment, Forest and Climate Change (MoEF&CC) are undertaking a mass cleanliness-cum-awareness drive in 50 identified beaches under the “Swachh – Nirmal Tat Abhiyaan”, from 11th-17th November, 2019.
- The identified beaches are in 10 coastal States/Union Territories (UTs) namely Gujarat, Daman & Diu, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Puducherry, Andhra Pradesh, and Odisha.
- The beaches have been identified after the consultation with the States/UTs
- The cleaning drives in all beaches are being undertaken, involving school/college students of Eco-clubs, district administration, institutions, volunteers, local communities and other stakeholders.
- For beach cleaning activities which will be a duration of two hours on daily basis, a minimum of one Kilometer stretch of the beach shall be identified.
- Beach sand cleaning machines shall also be deployed.
- Thereafter collected waste will be processed as per extant Waste Management Rules, 2016.
• Environment Education Division of the Ministry and Society of Integrated Coastal Management (SICOM) under the aegis of this Ministry will be responsible for the overall coordination for the drive in 50 beaches.

• Respective State Governments and Central Ministries will also be actively participating in the beach cleaning drives.

• The Ministry has also decided that on completion of the drive; best three beaches will be suitably awarded along with a Certificate of Appreciation for all the participating Eco-clubs.

5.11. Thousands Of Migratory Birds Die Mysteriously In Rajasthan’s Sambhar Lake

• Thousands of migratory birds of about ten species were found dead around Sambhar Lake, the country’s largest inland saltwater lake near Jaipur, sending shock waves among locals and authorities.

• The Sambhar Salt Lake is located 80 km southwest of the city of Jaipur.

• It surrounds the historical Sambhar Lake Town.

• It attracts thousands of migratory birds every year.

• There could be some sort of contamination in the water.

• The increased salinity of the water could also be another reason, as it increases salt concentration in the blood, which can further lead to slow blood flow and the internal organs like the brain may stop working.

• The lake is also a favourite of flamingos, stilts, stints, garganey, gulls and a number of other species of birds.

5.12. Geochemical Baseline Atlas Of India Released

• For the first time, ‘Geochemical Baseline Atlas of India’ developed by CSIR-National Geophysical Research Institute (NGRI) for use by policy makers to assess environmental damage.

• The atlas consisting 45 maps of metals, oxides and elements present in top and bottom soils across India will serve as a reference against which future generations of the country would be able to assess the chemical compositional changes on Earth’s surface.

• These maps help in finding out future contamination caused by industries or other bodies which cause pollution.

• To develop the maps, the globe was divided into 5,000 cells of 160 km by 160 km each. Of it, India has 122 cells.

• The work in started in 2007 from cell number 1 which is in Kanyakumari.

• The last cell is in Arunachal Pradesh.

• Soils from uninhabited places were collected.

• The work ended in 2011.
• There are maps for 22 metals.

• With a glance at it, we will get to know regions with high and low concentrations of a metal.

• The geochemical data presented in these maps will be a part of the global map to be prepared by the International Union of Geological Sciences (IUGC).

5.13. No Elephant Safari in Dudhwa National Park This Season

• Tourists visiting the Dudhwa National Park will not be able to enjoy elephant safari this season as most trained jumbos have been deployed in patrolling duties.

• Another major reason to put restrictions on the safari is the aggressive nature of male elephants, which may pose a serious threat to the safety of riders.

• Dudhwa National Park is a national park in the Terai belt of marshy grasslands of northern Uttar Pradesh.

• It is part of the Dudhwa Tiger Reserve covering the areas of Kheri and Lakhimpur districts. It is located on the Indo-Nepal border. Major attractions of Dudhwa National Park are the tigers and swamp deers.

• Dudhwa National Park is a stronghold of the barasingha. In March, 1984 Indian rhinoceros was reintroduced into Dudhwa from Pobitora Sanctuary in Assam and Nepal. It is the only place in U.P. where both tigers and rhinos can be spotted together.

5.14. Sea Level Along Indian Coast Rose By 8.5 Cm In Last 50 Years

• Sea level along the Indian coast has risen by 8.5 cm in the last five decades.

• On an average, the sea level along the Indian coast is considered to be rising at about 1.70 mm/year meaning thereby that during the past 50 years, the sea level along the Indian coasts has risen by 8.5 cm. Further, satellite altimetry and model simulations showed that the North Indian Ocean (NIO) also exhibits decadal variability.

• During the last decade (2003-2013) it experienced sea level rise at a rate of 6.1 mm/year.

• The rising sea levels can exacerbate the coastal inundation along the low lying areas during extreme events such as tsunami, storm surge, coastal flooding and coastal erosion.

• Rate of increase of sea level due to climate change cannot be attributed with certainty. Since no long term data on land subsidence or emergence are available for these locations, the rate of increase of sea level due to climate change cannot be attributed with certainty.

• Recently, a report of the UN’s Inter Governmental Panel on Climate Change (IPCC) had warned that global sea levels are set to rise by at least 1 m by 2100 if carbon emissions go unchecked, submerging hundreds of cities, including Mumbai and Kolkata, and in some cases entire countries.

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5.15. Odisha To Compensate 8,000 Fishermen Families For Fishing Ban For Olive Ridley Protection

• The Odisha government would compensate 8,000 fishermen families who would bear losses due to the fishing ban imposed for protection of the endangered Olive Ridley sea turtles.

• The annual fishing ban would be in force from November, 2019 to May 31, 2020 during which lakhs of turtles would arrive at the Odisha coast for mass nesting.

• The olive ridley sea turtle, also known as the Pacific ridley sea turtle, are the second smallest and most abundant of all sea turtles found in the world; this species of sea turtle is found in warm and tropical waters, primarily in the Pacific and Indian Oceans.

• These turtles, along with the related Kemps ridley turtle, are best known for their unique mass nesting called arribada, where thousands of females come together on the same beach to lay eggs.

• The olive ridley is classified as vulnerable according to the International Union for Conservation of Nature and Natural Resources (IUCN), and is listed in Appendix I of CITES.

  ✓ Gahirmatha beach
  ✓ Astaranga coast
  ✓ Three river mouths, namely Dhamara, Devi and Rushikulya

5.16. Tiger Conservation Gets A Boost In AP

• Due to concerted efforts by the Tiger Conservation Foundation (TCF), the number of tigers in the Nagarjunasagar Srisailam Tiger Reserve (NSTR) in Andhra Pradesh has gone up, reversing the steady decline in the number of the endangered species over a period.
Enthused by the findings of the fourth cycle of the All India Tiger Estimation (AITE), which showed an increase of six in Andhra Pradesh and Telangana, the TCF has drawn up an action plan to double its efforts to facilitate proliferation of the big cats in the largest tiger reserve in the country.

Nagarjunsagar-Srisailam Tiger Reserve is the largest tiger reserve in India.

The reserve spreads over five districts of Andhra Pradesh and Telangana.

The multipurpose reservoirs, Srisailam and Nagarjunasagar, are located in the reserve.

The area consists mostly of the Nallamala Hills. The hill ranges contain number of plateau of which Amrabad, Srisailam, Peddacheruvu, Sivapuram, Nekkanti are noteworthy. The Krishna river cuts its basin almost 200 m (660 ft) deep over a distance of 130 km (81 mi) through the reserve. It is home to a dazzling array of wild animals.

In addition to the Bengal Tiger, which is the apex predator, many other species like leopard, rusty-spotted cat, sloth bear, wild dog, pangolin, mouse deer, Chausingha, Mugger Crocodiles, Indian Rock Python, and innumerable varieties of birds are found here.

5.17. Emissions Gap Report By UNEP


The report warns that unless global greenhouse gas emissions fall by 7.6 per cent each year between 2020 and 2030, the world will miss the opportunity to get on track towards the 1.5°C temperature goal of the Paris Agreement.

Produced annually since 2010, the UNEP flagship report assesses the gap between anticipated emission levels in 2030 and levels consistent with a 2°C/1.5°C temperature target.

The ‘Emissions Gap Report 2019’ presents the latest data on the expected gap in 2030 for the 1.5°C and 2°C temperature targets, exploring different scenarios, from no new climate policies since 2005 to full implementation of all national commitments under the Paris Agreement.

The top four emitters (China, USA, EU and India) contributed to over 55% of the total emissions over the last decade, excluding emissions from land-use change such as deforestation.

The rankings would change if land-use change emissions were included, with Brazil likely to be the largest emitter.

The largest share of emissions comes from the energy sector and its fossil fuel emissions.

Industry produces the next largest footprint, followed by forestry, transport, agriculture and buildings, it said.

G20 nations collectively account for 78 per cent of all emissions, but only five G20 members have committed to a long-term zero emissions target.

The report, however, adds that India is among a small group of countries that are on track to achieve their self-declared climate targets under the Paris Agreement with their current policies in place.

However, it mentions that there are uncertainties regarding India’s emissions future, the biggest of which is how rapidly the country’s economy will grow.
5.18. Living Root Bridges

- The jingkiengjri or living root bridges, aerial bridges built by weaving and manipulating the roots of the Indian rubber tree — have been serving as connectors for generations in Meghalaya.

- Spanning between 15 and 250 feet and built over centuries, the bridges, primarily a means to cross streams and rivers, have also become world-famous tourist attractions.

- A root bridge uses traditional tribal knowledge to train roots of the Indian rubber tree, found in abundance in the area, to grow laterally across a stream bed, resulting in a living bridge of roots.

- The process begins with placing of young pliable aerial roots growing from Ficus elastica (India rubber) trees in hollowed out Areca catechu or native bamboo trunks.

- These provide essential nutrition and protection from the weather, and also perform as aerial root guidance systems.

- Over time, as the aerial roots increase in strength and thickness, the Areca catechu or native bamboo trunks are no longer required.

- Ficus elastica is conducive to the growth of bridges because of its very nature.

- There are three main properties
  - They are elastic,
  - The roots easily combine
  - The plants grow in rough, rocky soils.

5.19. Sumatran Rhino Extinct In Malaysia As Lone Survivor Dies

- The Sumatran rhinoceros has become extinct in Malaysia, after the last of the species in the country succumbed to an illness.

- IUCN Status – Critically Endangered

5.20. New Snake Species Found In Arunachal

- Researchers have discovered a new species of non-venomous burrowing snake in Arunachal Pradesh, named Trachischium apteii.

- It was found under fallen logs inside a thickly forested area of the Tally Valley Wildlife Sanctuary near the town of Ziro in Arunachal Pradesh.

- Experts behind the discovery suggested that due to the burrowing habits of species of this genus, snakes belonging to the group are seldom seen and hence remain poorly studied.

- This could have been one of the reasons that the species had eluded the researchers.

- **Trachischium apteii** was named so to honour the contribution of Deepak Apte, well-known marine biologist and Director of the BNHS.

- **Trachischium** species are commonly called slender snakes, and are currently known by seven species that are distributed across the Himalayas, and the Indo-Burma and Indo-China regions.
5.21. Kolleru Lake

- The Atapaka Bird Sanctuary at Kolleru Lake has become a safe breeding ground for two migratory species namely, Grey Pelicans and Painted Storks. (Both are Near Threatened)
- The migratory birds have chosen a few locations within Kolleru Lake for breeding and have arranged the nests.
- The birds’ census in Kolleru Lake is likely to be carried out in early January, documenting the number of bird species that arrive at the lake, and the status of breeding.
- Kolleru lake is located between the deltas of the Krishna and Godavari rivers in Andhra Pradesh. It is an important habitat for an estimated 20 million residents and migratory birds like Grey or Spot-billed pelicans.
- It was declared a wetland of international importance in 2002 under Ramsar convention.

To watch the following topics on YouTube click on the links given below:

- Video 1
- Video 2
- Video 3
- Video 4

6.1. African Swine Fever

- It is highly contagious hemorrhagic viral disease of domestic and wild pigs, which is responsible for serious economic and production losses
- Although signs of ASF and classical swine fever (CSF) may be similar, the ASF virus is unrelated to the CSF virus

Transmission

- The epidemiology of ASF is complex and varies depending on the environment, types of pig production systems, the presence/absence of competent tick vectors, human behaviour, and the presence/absence of wild pigs. Routes of transmission can include:
  - direct contact with infected domestic or wild pig
  - indirect contact, through ingestion of contaminated material (e.g. food waste, feed, or garbage)
  - contaminated fomites, or biological vectors (soft ticks of the genus Ornithodoros) where present
- ASF is not a risk to human health

6.2. Tech Sagar

- National Cyber Security Coordinator’s office in partnership with data Security Council (DSCI) of India launched TechSagar
  - DSCI is a not-for profit, industry body on data protection in India, setup by NASSCOM
- It is a platform to discover India’s technological capability through a portal
- The portal will list business and research entities from the IT industry, startups, academia and individual researchers
- The repository will facilitate new opportunities for businesses and academia to collaborate, connect and innovate in future
- TechSagar is a consolidated and comprehensive repository of India’s cyber tech capabilities which provides actionable insights about capabilities of the Indian Industry, academia and research across 25 technology areas like internet of things (IoT), Artificial Intelligence (AI), Machine Learning (ML), blockchain, cloud & virtualisation, robotics & automation, ar/vr, wireless & networking, and more
TechSagar will allow targeted search, granular navigation and drill down methods using more than 3000 niche capabilities. As of now, the repository features 4000+ entities from industry, academia and research including large enterprises and start-ups providing a country level view of India’s cyber competencies.

It will be frequently updated with new entities and information to maintain its relevancy and usefulness.

6.3. CartoSAT-3 Mission/PSLV-C 47

- It was the 21st flight of PSLV in ‘XL’ configuration (with 6 solid strap-on motors)
- It was injected into an orbit of 509 km
- Cartosat-3 satellite is a third generation agile advanced satellite having high resolution aerial imaging capability in the world
- It is eighth in a series of indigenous Earth observation satellites
- It will also image across multiple spectra — panchromatic (captures all visible colours of light), multispectral (captures light within specific ranges in the electromagnetic spectrum) and hyper spectral (captures light from across the electromagnetic spectrum) earth observation mission
- It will serve in large-scale urban planning, rural resources and infrastructure development, monitoring of coastal land use and land cover etc.

6.4. Golden Rice

- German scientists (in 1990s) developed a genetically modified variety of rice called Golden Rice
- It was claimed to be able to fight Vitamin A deficiency, which is the leading cause of blindness among children and can also lead to death due to infectious diseases such as measles
- Bangladesh could be on the verge of becoming the first country to approve the plantation of this variety
  - Advocates of this variety stress how it can help countries where Vitamin A deficiencies leave millions at high risk
  - In Bangladesh, over 21 per cent of the children have vitamin A deficiency
- Rice is naturally low in the pigment beta-carotene, which the body uses to make Vitamin A
  - Golden rice contains this pigment, which is why it has golden colour

**Vitamin A**

- It is a fat-soluble vitamin that maintains healthy vision, skin, bones and other tissues in the body
- It is important for growth and development, for the maintenance of the immune system and for good vision (retina)
6.5. Winter Grade Diesel

- Indian Oil Corporation has developed winter-grade diesel for Ladakh to address the problem of loss of fluidity in fuel during extreme winter conditions.
- Winter grade diesel produced by Panipat Refinery for the first time has a pour point of -33 degree C and does not lose its fluidity function even in the extreme winter weather of the region unlike the normal grade of diesel.
- This fuel also meets BIS specification of BS-VI grade diesel and has been successfully produced and certified for the first time by Panipat Refinery on November 8, 2019.

BS VI

- Bharat Stage VI is the new emission standard that all vehicles in the country will have to adhere to from April 1, 2020.
- Maruti Suzuki has said that BS-VI compliant petrol vehicles will lead to a substantial reduction of nearly 25% in Nitrogen Oxides (NOx) emissions and 70% for diesel engines.
- Sulphur content is five times lower than that in BS-IV.
- The presence of OBD (onboard Diagnostics) and RDE (Real Driving Emission) on all vehicles will also enable real-time tracking of emissions.

6.6. Pink Ball Cricket

- India played its first pink-ball, day-night Test match against Bangladesh at Eden Gardens.
- Pink was the consensus colour after ball makers tried optic yellow and bright orange.
- Red, white and pink — all cricket balls are made of cork, rubber and woolen yarn, using similar production techniques.
  ✓ The colour of the dye on the tanned cowhide, and the difference in ‘finishing’ decide in which format a ball is used.
- Day/Night Test pink ball cannot be dipped into grease since grease would dull the fluorescent pink, affecting the visibility of the ball under lights.
  ✓ It gets a pigment finish and is sprayed with a thick coat of pink so that it sparkles for long.
- It is lighter than red, and swings more with a greater seam movement.

6.7. Vigyan Samagam

- Vigyan Samagam exhibition will traverse you through the world from micro to macro, unveiling the efforts of the international community in understanding the Universe.
- Aiming to bring mega-science one step closer to the society, it showcases India’s contribution to some of the biggest international collaborations on fundamental science and research, and provides a common interactive platform for mega-science activities, industry, academia and institutions.
The exhibition also presents fundamental science and research as a strong career options for the youngsters.

The Department of Atomic Energy (DAE), Department of Science and Technology (DST), the funding agencies of these projects and the National Council of Science Museums (NCSM), Ministry of Culture, who are venue partners and having expertise in design and hosting such exhibitions, have joined hands to organize this prestigious Science Exhibition.

A first-of-its kind exhibition, the exhibition being hosted in a caravan mode at four cities — Mumbai, Bengaluru, Kolkata and Delhi — from May 2019 to March 2020.

It takes you through the workings of the Universe, from discovery of the Higgs particle to that of the gravitational waves from merger of neutrons stars and black holes.

The Mega Science Projects in which India is participating are the Large Hadron Collider (LHC) at the European Organization for Nuclear Research (CERN), ‘Facility for Antiproton and Ion Research’ (FAIR), ‘India-based Neutrino Observatory’ (INO), ‘International Thermonuclear Experimental Reactor’ (ITER), ‘Laser Interferometer Gravitational - Wave Observatory’ (LIGO), ‘Thirty Meter Telescope’ (TMT) and ‘Square Kilometers Array’ (SKA) for this purpose. All these projects will be showcased during the Exhibition at a single place.

6.8. Alzheimer’s disease

Dementia is not a single disease, but is the name for a group of symptoms that include problems with memory and thinking.

The new drug, Oligomannate, a sugar derived from Chinese seaweed, works by modifying gut bacteria to reduce inflammation in the brain.

The method adopted by the Chinese researchers is a departure from Alzheimer’s drug development that has focused on attacking the plaque that forms in the brains of patients; this protein build-up interferes with neural signaling.

Alzheimer’s disease

It is a progressive brain disorder that usually appears in individuals who are in their mid-60s.

Very rarely it occur in individuals younger than 65 years of age.

The disease was first described by Alois Alzheimer in 1906 and manifests itself by disrupting the message carrying neurotransmitters after it destroys brain cells and nerves.

A person with Alzheimer’s also loses the ability to perform day-to-day tasks.

According to the US-based Alzheimer’s Association, there are over 4 million people in India who suffer from some form of dementia.

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Causes

- Exact causes not yet known. There is, however, some degree of consensus among scientists that the disease involves two proteins — beta-amyloid and tau. When the former reaches abnormal levels, it forms plaque that deposits itself between neurons, disrupting cell function. Tau too reaches abnormal levels, as a result of which it forms “neurofibrillary” tangles inside neurons, blocking the transport system of neurons.

- Lifestyle factors such as diet, physical fitness, smoking, alcohol are related to one-third of Alzheimer’s cases.

Alzheimer’s v. Dementia

- Dementia is a syndrome and not a disease, which Alzheimer’s is. The two are, however, closely related. Dementia’s various symptoms include loss of memory, thinking skills, problems with language, changes in the mood, deterioration in behaviour and an individual’s ability to perform everyday activities.

- It is most commonly caused by Alzheimer’s disease, which accounts for dementia in over 50-75% of the cases. Dementia can be caused by other diseases such as Parkinson’s and Huntington’s disease as well.

- It also has types, such as Lewy body and vascular dementia. As per the ADI report, the global costs of dementia have reached to over $1 trillion. The figure is expected to double by 2030.

6.9. International Treaty of Plant Genetic Resources for Food and Agriculture (ITPGRFA)

- ITPGRFA also known as Seed Treaty, was adopted by the 31st Session of the Conference of the Food and Agriculture Organisation in 2001.

- It is a comprehensive international agreement for ensuring food security through conservation, exchange and the sustainable use of the world’s plant genetic resources for food and agriculture (PGFRA), as well as the fair and equitable benefit sharing arising from its use.

- It also recognises farmers’ rights, subject to national laws.

Objective

- recognising the enormous contribution of farmers to the diversity of crops that feed the world.

- establishing a global system to provide farmers, plant breeders and scientists with access to plant genetic materials.

- ensuring that recipients share benefits they derive from the use of these genetic materials with the countries where they have been originated.

Provisions

- **Multilateral system**: It puts 64 of our most important crops into an easily accessible global pool of genetic resources that is freely available to potential users.
• **Access and benefit sharing:** The Treaty prevents the recipients of genetic resources from claiming intellectual property rights over those resources in the form in which they received them, and ensures that access to genetic resources already protected by international property rights is consistent with international and national laws.

• **Farmers’ rights:** It calls for protecting the traditional knowledge of farmers, increasing their participation in national decision-making processes and ensuring that they share in the benefits from the use of these resources.

• **Sustainable use:** Most of the world’s food comes from four main crops – rice, wheat, maize and potatoes. However, local crops, not among the main four, are a major food source for hundreds of millions of people and have potential to provide nutrition to countless others. The Treaty helps maximize the use and breeding of all crops and promotes development and maintenance of diverse farming systems.

### 6.10. Tiger Triumph 2019

• India-US tri-services amphibious exercise Tiger Triumph

• It continued for 9 days off the Vishakhapatnam and Kakinada coasts

• It will enhance US-India military-to-military relations and hone individual and small-unit skills in humanitarian assistance and disaster response

• More than 500 US Marines and sailors and about 1200 Indian soldiers and airmen are participating

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### 7.1. Defining Happiness

- A state of emotional well-being that a person experiences either in a narrow sense, when good things happen in a specific moment, or more broadly, as a positive evaluation of one’s life and accomplishments.

- Overall—that is, subjective well-being.

**What Happiness is NOT**

- Happiness can be distinguished from negative emotions - such as sadness, fear, and anger and also from other positive emotions - such as affection, excitement, and interest.

**Manifestation of Happiness**

- This emotion often co-occurs with a specific facial expression: the smile.

**Happiness as Well – Being**

- More inclusive concept of subjective well-being

- Characterized by a broad collection of happiness-related phenomena rather than a specific momentary emotion.

- Happy people report being satisfied with their lives and the various domains in their lives.

### 7.2. Work and Happiness

- It is possible that someone could experience a great deal of negative emotions yet still acknowledge that the conditions of his or her life are good ones.

- For example, someone who works with the poor, the sick, or the destitute may experience frequent negative emotions but may also feel satisfied with life because the work is worthwhile.

- Similarly, people who spend lots of time engaging in hedonistic pleasures may experience frequent momentary positive emotions, but they may also feel that life is empty and meaningless.

**How to know if you are Happy**

- Surveys reveal that, apart from a lot of personal factors a lot of Social factors also influence Happiness. Such as –
  
  ✓ Health
  ✓ Relations
  ✓ Number of close friends
  ✓ Religiosity/Spirituality
  ✓ Education
Both upward and downward social comparisons can lead to either increases or decreases in happiness.

**Happiness & Creativity**

- Barbara Fredrickson – 1998
- Posits that the function of happiness (or more precisely, the function of positive emotions) is to broaden one's thinking and to build one's resources

**Aristotle & Happiness**

- Happiness, the term that Aristotle uses to designate the highest human good, is the usual translation of the Greek *eudaimonia*.
- If life is to be worth living, it must surely be for the sake of something that is an end in itself—i.e., desirable for its own sake.
- One popular conception of the highest human good is pleasure.
- The pleasures of food, drink, and sex, combined with aesthetic and intellectual pleasures.

**Aristotle**

- Eudemonia is something more like well-being or flourishing than any feeling of contentment.
- Aristotle argues that happiness is activity of the rational soul in accordance with virtue.
- There are two kinds of virtue:
  1. Moral and Intellectual.
  2. Moral virtues are exemplified by courage, temperance, and liberality.
    The key intellectual virtues are wisdom, which governs ethical behaviour, and understanding, which is expressed in scientific endeavor and contemplation.

**Happiness – According to Me**

- When I am not alienated.
  - Alienation is the state of feeling estranged or separated from one's environment, work, products of work, or self.