



CURRENT AFFAIRS

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- CURRENT AFFAIRS FROM NEWS PAPERS

TIMES OF INDIA
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THE HINDU
BUSINESS LINE

N1/1020. Nobel in Medicine 2020 for Hepatitis C discovery

- Harvey Alter, Charles Rice (both from America) and Michael Houghton, British won the Noble in Medicine for 2020.
- They identified the Hepatitis C virus.
- Virus is blood-borne. Infects 70 million people & causes about 4,00,000 deaths each year.
- Discovery has made possible blood tests and new medicines that have saved millions of lives.
- Chance of eradicating the Hepatitis C virus in next decade
- Award amount 10 Million Swedish Crowns (\$ 1.1 Million)

N2/1020. Makers of Gene ‘Scissors’ win Chemistry Nobel

- French-American duo developed CRISPR-Cas 9 tool to edit the DNA with precision
- Jennifer Doudna (US) 56 years, & Emmanuelle Charpentier (France) 51 years old have won the Noble for gene-editing technique. They are 6th and 7th women to receive the Nobel Prize in Chemistry.
- Using the tool, “ researchers can change the DNA of animals, plants and microorganisms with extremely high precision
- It has contributed to new cancer therapies & may make the dream of curing inherited diseases come true.

CRISPR-Cas9 DNA snipper 'scissors'

- Charpentier discovered a molecule part of bacteria's ancient immune system that disarms viruses by snipping off parts of their DNA.
- They programmed the scissors to cut any DNA molecule at a predetermined site- paving the way for scientists to rewrite the code of life where the DNA is snipped
- The tool has contributed significantly in gaining in crop resistance, altering their genetic code to better withstand drought and pests.
- The technology helped in cancer treatment. It is set to revolutionized basic science.
- There can be misuse of technique to create gene edited humans

N3/1020 India Records Highest-Ever Current Account Surplus

- Highest-ever quarterly current account surplus of \$19.8 billion or 3.9% Of GDP in April-June quarter
- During this quarter:
 - Imports: \$ 62.3 billion
 - Exports: \$ 52.3 billion
 - Trade Deficit: \$ 10 billion
- Net overseas investment income payments rose to \$ 7.7 billion
- Private transfer receipts mainly representing remittances by Indians employed overseas by Indian employed overseas amounted to \$ 18.2 billion

Current Account

- A country's current accounts records the value of exports and imports of both goods and services & international transfers of capital
- It is one of the three components of its Balance of Payments (BOP) the others being the Capital account & the Financial account
- BOP: it the difference between all money flowing into the country and outflow of money to the rest of the world. The period can be a quarter or a year.
- Current accounts reflects a country's net income, while the capital account reflects the net change in ownership of national assets.

Financial Capital

- Financial capital is the internal retained earnings generated by the entity or the funds provided by lenders and investors to business in order to purchase real capital equipment or services for producing new goods or services.

N4/1020: Black Hole Researchers Get Physics Nobel

- Roger Penrose of Britain (89 years old)
Reinhard Genzel of Germany (68 years old)
Andrea Ghez of the US (55 years old) (4th women to get Nobel Prize in Physics since 1901)
- They got Nobel for ‘one of the most exotic phenomena in the universe, the black hole’
- Dr. Penrose proved ‘that the general theory of relativity leads to the formation of black holes.’
- Genzel & Ghez proved ;that an invisible & extremely heavy object governs the orbits of stars at the centre of our galaxy’

Black Hole

- The term 'black hole' refers to a point in space where matter is so compressed as to create a gravity field from which even light can not escape.
- Dr. Penrose, proved that black-holes- super dense objects formed when a heavy star collapses under the weight of its own gravity.
- They studied on a region called Sagittarius A* at the centre of the Milky Way.
- They discovered an extremely heavy, invisible object- around 4 million times greater than the mass of the Sun- that's pulls on surrounding stars, giving the galaxy its characteristic swirl.

Black Hole

- Sagittarius A* occupies the centre of the Milky Way which is about 26,000 light years away.
- These dead ends of the cosmos devour light and even time.
- Other end of the black-hole is 'Singularity'. Singularity is a place where the densities and curvatures go infinity. Black-hole prevents us from seeing the singularity.
- If one fall into a black-hole, then one will pretty well inevitably get squashed into this Singularity at the end. And that's the end.

N5/1020: Anti-Dumping Duty

- The Directorate General of Trade Remedies (DGTR), the investigative arm of the Commerce Ministry has initiated a probe to review re-imposition of anti-Dumping duty on certain kinds of steels from seven countries including China
- India had imposed anti-dumping duty on certain types of steel products imported from China, Korea, European Union, South Africa, Taiwan, Thailand and the US.
- In International trade parlance, dumping happens when a country or a firm exports an item at a price lower than the price of that product in its domestic market.
- Anti-dumping duty is imposed to protect local businesses and markets from unfair competition by foreign imports.

N6/1020: Labour Reforms Can Reshape India's Growth Trajectory

- India is projected to have the largest working population in the world between 2022 and 2034, with 10 million youth entering the workforce every year.
- Gearing up for this three Labour codes were passed by parliament.
- Other reforms were also introduced in recent past
Shram Suvidha Portal
MUDRA (Micro Units Development and Refinance Agency)
Startup India
Make in India
Skill India
- The codes on wages, Industrial Relations, Social Security and Welfare and Safety have been enacted.

Labour Laws

- Existing Labour Laws were found to be out of sync with the evolving business regulatory environment and India's growth aspirations.
- The Labour Code on Wages was the first code passed by Parliament in 2019.
- The Code subsumes four major acts concerning wages and ensures the minimum and timely payment of wages to all workers in both the organised and Unorganised sectors. Many Unorganised workers such as agricultural and other workers who were out of the ambit of the earlier Minimum Wages Act.
- The Code on Industrial Relations 2020 is the central Code that impacts the industrial ecosystem and labour relations in the country.

Labour Laws

- The introduction of Fixed Term Employment and change in the threshold limit for retrenchment will boost generation of new employment, particularly for larger firms. The increase in the threshold for taking prior permission of the government for retrenchment from 100 to 300 workers will enable smaller firms to grow.
- Further, the Code provides for speedier adjudication of Disputes and appropriate rules for strikes and lock-outs to be preceded by a mandatory 14 days prior notice.
- The Code on Occupational Safety, Health and Working Conditions applies to establishments employing at least 10 people, all workers in mines and docks, and hazardous operations employing even a single worker.

Labour Laws

- The provision of a national helpline for interstate migrant workers and an annual travel allowance from the employer to visit their place of origin gives protection and relief to them.
- The Code permits women to work in night shifts in all establishments for all types of work, which would help enhance female workforce participation.
- The Code on Social Security replaces nine laws dealing with the issue. The insurance benefits under ESI are extended to plantation workers, gig workers, platform workers and Unorganised sector workers. The option for becoming a member of ESIC is being given to establishments employing less than 10 workers as well.
- The Labour reforms will boost entrepreneurship and investments and are an important step for reviving India's economy

N7/1020: Pink Bollworm

- Pink Bollworm is pest of cotton crops
- Pheromone traps have been developed. These traps attract insects
- A single trap costs Rs. 50
- 2-3 traps per acre are sufficient
- Use of pesticide comes down if traps are used.
- During cotton picking time, the life cycle of PWB increases four-fold

N8/1020 : Mudra Loans

- Pradhan Mantri Mudra Yojana (PMMY) was launched in April 2015 to provide loans up to Rs. 10 lakh to non-corporate, non-farm small/micro enterprises.
- These collateral free loans come under three categories
Shishu: loan upto Rs. 50,000
Kishore: loan upto Rs. 5 lakh
Tarun: loan upto Rs. 10 lakh
- These loans are given by commercial banks, RRBs, small finance banks (SFBs), MFIs and NBFCs.
- 2019-20 sanctioned amount: Rs. 3,23,574 crore
2018-19 sanctioned amount : Rs. 321,723 crore
- MUDRA loans are likely to increase NPAs of financial institutes

N9/1020 : Masala Bonds

- Indian corporates raised Rs. 1088 crore through masala bonds recently.
- Masala bond- a form of external commercial borrowing (ECB) was launched by the government and International Finance Corporation in 2014-15 to contain the account deficit, reducing rupee volatility, attracting long-term funds for infrastructure projects and internationalizing the rupee.
- The term 'masala' was ascribed to these bonds to give an Indian flavor, similar to 'Dim Sum Bonds' of China or Turkey's 'Baklava Bonds'.
- Masala bonds are investments raised and settled in rupees. Therefore the currency risk is transferred to investors.

N10/1020: Forensic Audit

- SEBI has made the rule that all listed entities are required to make compulsory disclosures to stock exchanges, while initiating any forensic audits into their books along with the reasons for commissioning them.
- On completion, the final audit reports along with the management comments need to be filed with exchanges too.
- This is done to protect the investors.
- A forensic audit into IL&FS had unearthed evidence of top managers of the project lender maintaining cozy relationships with rating agencies to secure and retain top-notch credit ratings.
- In DHFL and PMC Bank cases, forensic investigations brought to light the multitudes of fictitious accounts used to channel depositor funds to related parties in the form of loan disbursements

N11/1020: Property Rights in Space

- Now one can buy land on Mars with a deed registered with the International Association of Human Planetary Exploration (IAOHPE)
- There is an Outer Space Treaty (OST, 1967) which covers the moon and other celestial bodies on specific of rights. India is signatory to the Treaty.
- The Treaty bans the stationing of weapons of mass destruction (WMD) in outer space, prohibits military activities on celestial bodies, and details legally binding rules governing the peaceful exploration and use of space.
- Article II of this Treaty seems clear enough, at least in intent. “Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty by means of use or occupation, or by any other means.”

N12/1020: Natural Gas

- The total domestic production is around 75 mmscmd (million standard cubic meters a day) and imports 85 mmscmd.
- Gas makes only 6% of India's energy basket mix, at present.
- Domestic production is yet to take off. Almost 80% of Indian domestic gas is produced from blocks given on nomination basis to national oil companies.
- Gas is sold at varied prices from \$1.79 a unit to \$7.4 a unit (gas is measured in million British thermal units)
- Recently Government announced Natural Gas Marketing Reforms. Emphasis is on increasing domestic gas production and to have 'One Nation One Gas Grid and to shift towards a gas-based economy.

Natural Gas Policy

- There will be greater marketing freedom in sale of natural gas through e-bidding. India's first automated national-level gas trading platform has been launched.
- This prescribes standard procedures to discover the market price of gas.
- The new e-bidding process will govern discoveries which came on stream from February 2019 onwards.
- The new regime will be applicable to producers from the areas offered under the Open Acreage Licensing Policy. In this regime, producers have complete marketing and pricing freedom.
- Reliance Industries-BP Joint Venture in Krishna-Godavari Basin off the Andhra Pradesh Coast and Cairn Oil & Gas (Vedanta Ltd) Barmer fields in Rajasthan and ONGC in Krishna-Godavari Basin

N13/1020 : Pakistan to stay on FATF Grey list till 2021

- The Financial Action Task Force (FATF) has decided to keep Pakistan on the “Grey List” (Jurisdictions under increased monitoring) till the next review of its compliance of recommendations made.
- Pakistan has addressed 21 of 27 action items
- FATF wants Pakistan for full compliance by Feb2021
- Key points on which Pakistan failed to deliver:
 - lack of action against charitable organizations linked to terror groups banned by the UN Security Council
 - Delays in the prosecution of banned individuals such as Hafiz Saeed, Zaki Ur Rahman Lakhvi and Masood Azhar
 - Non compliance in cracking down on terror financing through narcotics and smuggling of mining products, including precious stones

N14/1020:QUAD Quadrilateral Security Dialogue

- The Quadrilateral Security Dialogue is an informal strategic Dialogue is an informal strategic forum between the United States, Japan, Australia and India that is maintained by semi-regular summits, information exchanges and military drills between member countries.
- In 2008 Australia left QUAD
- In 2020 Australia rejoined, and decided to take part in the Malabar exercises scheduled at the end of November to be held on both sides of the Indian coastline in the Bay of Bengal and the Arabian Sea.

N15/1020: Stubble Burning

- Stubble burning refers to the practice of farmers setting fire to plant debris that remain in farms after harvest.
- Before the 1980s, farmers used to till the remaining debris back into the soil after harvesting the crops manually
- The Green Revolution increased greatly rice and wheat production, which simultaneously increased stubble post harvest.
- Stubble burning releases harmful gases including nitrogen oxide and carbon monoxide into atmosphere.
- Stubble burning is practiced mainly by farmers in north India.

Stubble Burning

- In recent years, this practice has created vast smoke blankets across the Indo-Gangetic Plain and numerous neighboring States, including Delhi.
- This directly exposes millions of people to air pollution. Air is polluted 20 times than permissible level
- Stubble burning also has a deleterious impact on soil fertility, destroys organic fertilizers and reduce ground water levels.
- In 2013, stubble burning was banned by the Punjab government
- In 2015, the National Green Tribunal imposed a ban on stubble burning in Rajasthan, Uttar Pradesh, Haryana and Punjab and directed government to assist farmers by obtaining equipment like happy seeders and rotavator

Stubble Burning

- The 15-20million tonnes of paddy stubble burnt in Punjab, Haryana and Western UP, emit PM2.5 that is 4-5 times the annual PM2.5 emissions from all vehicles plying on Delhi roads. Thus the intensity of emission is very high.
- Winds coming from the northwest picks up pollutants from Punjab and Haryana and brings them to Delhi, worsening its already polluted air.
- Farmers using Combine Harvester are most likely to burn the stubble whereas those practicing manual harvesting don't. Combines cut grainery part of the paddy plant called spike and leave about 30cm of stem intact in the field. As removing these stems are costly so burning them is the cheapest solution to farmers.

Stubble Burning

- Stubble burning to farmer is a low-cost and speedy solution available to farmers due to the limited time period of 20-25 days between harvesting one crop and sowing another.
- Stubble burning is an offence under Section 188 of the Indian Penal Code and the Air (Prevention and Control of Pollution) Act of 1981.
- The solution is in timely stubble removal. Farmers can hire the machinery such as the happy seeder, rotavator, paddy straw chopper etc.
- IARI, PUSA has developed Decomposer named it as PUSA Decomposer, it is a set of four tablets made by extracting fungi strains that the paddy straw to decompose at a much faster rate than usual. This has the potential to both reduce air pollution and increased soil fertility.

N16/1020 : Transfer Pricing

- Transfer pricing refers to the prices of goods and services that are exchanged between companies under common control.
- Its main objective is to ensure that transactions between associated enterprises take place at a price as if the transaction was taking place between unrelated parties.
- Objectives of Transfer Pricing:
 - Maximising overall after-tax profits
 - Reducing incident of customs duty payments

N17/1020: Carbon-based Molecule Spotted in Titan's Atmosphere

- NASA scientists discovered a molecule in Saturn moon. Molecule is Cyclopropenylidene
- This may be precursor to more complex compounds that could be responsible for life on Titan
- It was discovered while sifting through a spectrum of unique light signatures collected by the telescope
- Cyclopropenylidene can react easily with other molecules it comes into contact with and form different species.
- Dragonfly is a planned spacecraft and NASA mission, which will send a robotic rotorcraft to the surface of Titan, the largest moon of Saturn. The mission will study prebiotic chemistry and extra-terrestrial habitability.

N18/1020: Global Hunger Index

- India has been ranked 94 on the 2020 Global Hunger Index.
- The GHI showed that nearly 690 million people in the world are under nourished
144 million children suffer from stunting
47 million children suffer from wasting
- The GHI is an annual peer-reviewed publication by Concern Worldwide and Welthungerhilfe. It aims to track hunger at global, regional and national levels.
- It uses four parameters to calculate its scores.
- One third of the score comes from the level of undernourishment in a country, which is the share of the population with insufficient caloric intake, and uses Food and Agriculture Organization data.

Global Hunger Index

- The other three parameters are based on children under the age of five years
- A third of the score comes from child mortality rate.
- The remaining third of the score is based on child wasting, which is the share of children who have low weight for their height, reflecting acute undernutrition and child stunting, which is the share of children who have low weight for their age, reflecting chronic undernutrition.
- These parameters use information from the WHO , the World Bank and UNO. These international organizations take data from nations. In India data is collected under National Family Health surveys.

Global Hunger Index

- The result is compiled in a 100-point scale, with zero meaning no hunger at all.
- Countries scoring 9.9 and less are classified as having a low severity.
- A score between 10 and 19.9 is considered moderate
- From 20 to 34.9 is serious, and a score of 35 or more is alarming.
- In 2020 India falls in the 'serious' category on the Index, with a total score of 27.2.
- China and Brazil both scored under 5
- South Africa 13.5

Global Hunger Index

- In terms of overall undernourishment, 14% of India's population does not get enough calories
- It was 20% in 2005-07
- The child mortality rate is 3.7% which was 9.2% in 2000.
- India's poor score comes almost entirely from the child stunting and wasting parameters.
- Almost 35% of Indian children are stunted. This was 54.2% in 2000.
- Also, 17.3% of Indian children under 5 are wasted which is the highest in the world.

Global Hunger Index

- Mothers are too young, too short, too thin and too undernourished themselves.
- Almost 42% of adolescent girls aged 15-19 have a low body mass index(BMI) while 54% have anemia.
- Almost 27% girls are married before they reach the legal age of 18years, 8% of adolescents have begun child bearing in their teens.
- Poor sanitation leads to diarrhea
- Jharkhand is worst overall. Bihar performs the worst with 42% of children too short for their age.
- Food insecurity, poor sanitation, inadequate housing and limited access to health care are the main reasons for such poor statistics.

N19/1020: RBI to buy Rs. 20,000 Cr. Of G-Secs

- Following a review of current liquidity and financial conditions, RBI decided to buy Govt. Securities under Open Market Operation (OMO)
- By purchase of G-Sec from market RBI injects money into the economy
- Injecting of money lowers the interest rates
- RBI some times resorts to simultaneous selling and buying of G-Sec. This operation of RBI is called Operation Twist. The aim of Operation Twist is to lower the long-term interest rates to stimulate a weak economy.

N20/1020: India - a hub for financing aircraft purchase & leasing

- Finance Ministry has notified 'aircraft lease' as a financial product
- As a financial product it can be transacted at Gujarat's GIFT City, the country's sole international financial services centre (IFSC)
- Aircraft leasing and financing is the most profitable segment of the aviation value chain.
- This will support local carriers, which had placed orders for more than 1000 aircrafts.
- The move would encourage foreign providers of aircraft leasing services to set up shop in GIFT city.

N21/1020: ISRO to launch satellite EOS-01 on Nov 7

- India will launch its latest earth observation satellite EOS-01 onboard its Polar rocket PSLV-C49 from the space port of Sriharikota, Satish Dhawan Space Centre in Andhra Pradesh on November 7.
- EOS-01 is intended for applications in agriculture, forestry and Disaster management support.
- The customer satellites are being launched under commercial agreement with New Space India Limited (NSIL), Department of Space.

N22/1020: 2+2 Dialogue

- 2+2 Ministerial is the highest-level institutional mechanism between the two countries. It is a format of dialogue where the defence/foreign ministers or secretaries meet with their counterparts from another country
- India holds such talks with Australia, Japan and the USA.
- In October 3rd 2+2 Ministerial Dialogue meeting was held with USA.
- Will finalize and sign the Basic Exchange and Cooperation Agreement (BECA)
- Talks to focus on 1. regional and global security, 2. defence information sharing, 3. strengthening and working in the Indo Pacific 4. cooperation on public health to tackle the coronavirus pandemic

India-US 2+2 Dialogue

- US Secretary of State Mike Pompeo and US Defence Secretary Mark Esper for the third round of the 2+2 Dialogue with their counterparts from India.
- The Basic Exchange and Cooperation Agreement (BECA) was signed.
- It provides for the sharing of geospatial data is the fundamental agreement
- The General Security of Military Information Agreement (GSOMIA), relating to security of each other's military information was signed in 2002.
- In 2018, India and US signed Communications Compatibility and Security Agreement permitting encryption standards of communication systems.

N23/1020: Dairy Production in the Indus Valley Civilization

- Dairy products were being produced by the Harappans as far back as 2500BC
- This was concluded by analyzing residues on ancient pots. Molecular technique was used to study the residues from ancient pottery.
- Traces were seen in cooking vessels indicating that milk have been boiled and consumed.
- It is also possible that they were further processing milk into different forms.
- It was also concluded that cows and buffalo were consuming millets, while sheep and goats ate grass and leaves.

N24/1020: Ziro Valley

- Ziro valley is in Arunachal Pradesh. It is in lower Subansiri-home to Apatani tribe.
- Apatani tribe practice a unique agriculture system and are recognized globally for championing ecological sustainability. Their ingenious cultivation of paddy-cum-fish culture without any modern farming tools has put Ziro on Unesco's tentative World Heritage Site list.
- In 2017 China claimed Ziro within Chinese territory.
- Arunachal Pradesh is today racing against time to overcome critical gaps in infrastructure.
- There is a plan for construction of the Hollongi greenfield airport. This will improve access to the capital Itanagar

N25/1020: Without Women, India Can't Progress

- The mistreatment of women and constant threat of assault is holding India back not just for reasons of human dignity and rights, but economic ones too.
- A report by McKinsey and Company, achieving gender equality could annually add \$770 billion to India's GDP by 2025.
- This opportunity predominantly hinges on women participating in the labour force in greater numbers.
- The increasing India's female labour force participation rate by just 10% points would help realise 70% of this incredible opportunity.

Women Force

- The IMF estimated that India's GDP would be 27% greater if women participated in economic activities in numbers equal to those of men.
- However, India's female labour force participation (FLEP) has been declining. From a high of 31.7% in 2005, India's FLFP is now at 20.3%.
- +Women in Delhi don't take up better education opportunities due to risk of street harassment.
- The decision to work is not an individual one for women. It is household decision.
- In 2019, women made up less than 9% of India's police force. There is correlation between the presence of women police officers and the reporting of sexual assault

N26/1020: Vande Bharat Mission

- Vande Bharat Mission was launched on May 7 2020, to evacuate Indian citizens stranded abroad after the breakout of Covid-19 pandemic and the resultant lockdowns across the world.
- It involved repatriations by air, land and sea. Total flights 7659.
- The mission was also to facilitating travel to people who wanted to leave India on account of nationality, residency or work commitments.
- By October more than 20 Lakh people availed travel arranged by the Mission
- Under operation Samudra Setu, conducted by the Indian Navy, carried back 3987 people. Further, 1,75,501 people were evacuated by land.

Air Travel Bubble

- Overseas Indians from as many as 93 countries have availed repatriation through Vande Bharat Mission.
- India had entered into special travel arrangements called 'air travel bubbles' with 19+ countries. It was reciprocal in nature, the bilateral pact was aimed to benefit airlines from both countries.
- Most Indians returning home were from the United Arab Emirates, with more than 4.5 lakh repatriations, followed by Saudi Arabia and Qatar with 1.63 lakh and 1.04 lakh respectively
- The VBM is the largest civilian evacuation conducted by a country in the world.

N27/1020: Agriculture Produce Market Committees (APMCs)

- The APMCs are state-controlled market yards set up after Independence to ensure that all farm produce is sold at designated places.
- The aim was to help farmers, large and particularly small, benefit from auction-determined prices.
- In practice APMCs have not lived up to this objective, with vested interests seizing control
- The demand from farmers is to have more APMCs
- As per the State of Indian Agriculture, 2015-16 while the all India average area served by a regulated market is 449 square km the density varies widely from one per 119 square km in Punjab to one per 11,215 square km in Meghalaya.

APMCs

- The National Farmers Commission (2004) had recommended that a regulated market should be available to farmers within a radius of 5km corresponding to a market area of about 80 square km.
- The APMCs over the years apparently have not allowed private markets to come up in their vicinity, despite changes in the States' APMC laws since 2003 to allow alternative platforms
- With the new Farm Laws the Centre has decided to leave the task of creating more market platforms to private players.
- Centre wants the private players to work for the welfare of farmers. This appears to be difficult as farmers and traders have conflicting goals.

Agriculture Produce in West

- Studies have shown that the compression of intermediaries in developed world has not helped farmers get a higher share of the final price.
- Monopoly buyers have squeezed farmers margins over time
- There is a growing movement in the West to grow and procure locally, and organically, rather than source food of uncertain quality over huge distances.
- Farm-to-Fork Model: This model is known to aims at minimizing the steps from farmer to to the retail store. A farm-to fork model either sets up a logistical chain owned by the retail company, or outsources it to a logistic company.

N28/1020: New Salivary Glands

- Researchers have discovered a set of salivary glands in the nasal cavity.
- They have been named as ‘tubarial glands’ as they are located over cartilage called tubarius
- The glands probably lubricate and moisten the upper throat behind the nose and mouth.
- This new discovery may help in treating patients with head and neck tumors.
- Patients with head and neck cancer, including tumors in the throat or tongue are treated with radiation therapy.

N29/1020: INS Kavaratti Commissioned

- INS Kavaratti, the last of the four indigenously built Anti-Submarine Warfare (ASW) stealth corvettes built under Project 28 (Kamorta class) by Garden Reach Shipbuilders & Engineeres (GRSE) Kolkata was formally inducted into the Navy, in the Naval Dockyard in Eastern Naval Command.
- The ship named after the capital of the Lakshadweep group of islands, has been constructed using high-grade DMR 249A steel produced in India.
- The ship spans 109 meters in length, 14 meters in breadth with a displacement of 3,300 tonnes and is regarded as one of the most potent Anti-Submarine Warships
- The induction of the ASW corvettes will strengthen India's capabilities.

N30/1020: Ethanol Blending Programme (EBP)

- The Centre has been implementing EBP programme under which oil marketing companies sell petrol blended with ethanol up to 10%
- This programme was extended to whole of India except Union Territories of Andaman Nicobar and Lakshadweep islands with effect from April 1, 2019 to promote the use of alternative and environment-friendly fuels.
- This is to reduce import dependence for energy requirements and give a boost to the agriculture sector
- Ethanol procurement by public sector OMCs has increased from 38 crore liter in 2013-14 to over 195 cr. liter in 2019-20.
- Govt. has increased the price of sugar juice-based ethanol to Rs. 62.65 a liter. GST will also be paid by buyers.

N31/1020: Ideal Body Weight of Indian Men 65kg, Women 55kg

- ICMR National Institute of Nutrition (NIN) has redefined the ideal or reference Indian adult man and woman weight 65kg for males and 55 kg for females.
- Adult age put at 19-39 years
- This is based on National Family Health Survey-42015-16, National Nutrition Monitoring Bureau (NNMB) 2015-16, the WHO 2006-07 and the Indian Academy of Paediatrics (IAP) 2015, to 'derive acceptable reference body weight values through the lifespan.'
- On the basis of ideal body weight dietary allowances and nutrient requirements for Indians Estimated Average Requirements are decide.

Nutrient Requirements

- The cereal-legume-milk composition of the diet for moderately active man has been suggested as 3:1:2.5
- Visible fat intake for sedentary, moderate and heavy activity has been set at 25g, 30g, and 40g a day for adult man and 20g, 25g, and 30g a day for adult women.
- Fiber based on energy intake level about 40g/2000Kcal is recommended
- For carbohydrates, the EAR has been set at 100g /day for ages 1 and above with a RDA of 130g/day
- With regard to sodium due to emerging concerns on prevalence of hypertension a safe intake of 2000mg/day which amounts to 5gm/day is recommended, while an intake of 3,510 mg/day is recommended for potassium

Nutrient Requirements

- It has also been recommended a minimum of 400g/day of fruits and vegetables to obtain sufficient amount of antioxidant nutrients such as beta-carotene, vitamin C and certain non nutrients like polyphenols and flavonoids which may protect against chronic diseases
- This should be complemented with sufficient amounts of vegetable oil so as to obtain Vitamin E.
- Water required from beverages for adult man ranges from 32-58 ml per kg body mass and for woman it ranges from 27-52 ml per kg body mass.
- For children and pregnant woman the requirement for water is more.
- For old age, water requirement from beverages is 33 ml to 38ml per kg body mass.

N32/1020: Choking the NGO Sector - FCRA Amendment

- Foreign Contribution (Regulation) Amendment Bill, 2020
- It was debated that the amendment will bring greater accountability
- It was feared that NGOs are misusing the funds for development by investing them for religious conversions
- The Bill proposed four major changes
 - It restricted any FCRA organisation which receives the money from onwards distribution to even other FCRA organisation
 - Restricting administrative expenses to 20%
 - Every FCRA bank account in a single Delhi branch of SBI
 - The enhancement of power of the investigative officers and government officials for inquiry

NGOs

- In 2019, there were 22,447 NGOs registered under the FCRA Act.
- The most immediate victim of these amendments is Amnesty International whose bank accounts were frozen for violations of the FCRA provisions. Amnesty International has decided to shutting its operations in India.
- Most of the NGOs are doing good work in vital areas of social and economic life.

N33/1020: National Commission for Protection of Child Rights

- The NCPCR is a statutory body established by an Act of Parliament, the Commission for Protection of Child Rights (CPCR) Act, 2005
- Assess and review the safeguards that are provided for **child rights protection** in India under existing laws and also suggest measures for implementing them effectively.
- The provision guarantees specific **children's rights**, including the right to nationality from birth, parental care, basic nutrition, shelter, basic health care services, social services, protection from abuse, exploitative labour practices and from detention, among others.

NCPCR

- Examine and review the safeguards provided by or under any law
- Inquire into violation of child rights
- Examine all factors that inhibit the enjoyment of rights of children affected by terrorism, communal violence, riots, natural disaster, domestic violence, HIV/AIDS, trafficking, maltreatment, torture and exploitation, pornography and prostitution and recommend appropriate remedial measures;
- Look into matters relating to children in need of special care and protection, including children in distress, marginalised and disadvantaged children, children in conflict with law, juveniles, children without family and children of prisoners and recommend appropriate remedial measures.

N34/1020: UN'S Food Programme Wins 2020 Noble Peace Prize

- The United Nation's World Food programme won the Noble Peace Prize for its efforts to combat hunger in regions facing conflict and hardship at a time when the coronavirus pandemic has driven millions more people to the brink of starvation
- The UN's World Food Programme delivers food assistance in emergencies, from wars to civil conflicts, natural disasters and famines.
- Aiming to feed 13 million people each month- among them 1.1 million women and young children- the WFPs operation in Yemen is its largest emergency response in the world
- Fed 97 million people in 2019

World Food Programme

- Founded in 1961 and funded entirely by donations, the UN body helped 97 million people last year, distributing 15 billion rations to people in 88 countries
- WFP focuses on emergency assistance as well as rehabilitation and developmental aid. Two thirds of its work is in conflict-affected countries, where people are three times more likely to be undernourished than elsewhere
- It delivered 2 million tons of food during Ethiopia's 1984 famine. It was present in Sudan, Rwanda and in Kosovo then later in Asia after the 2004 tsunami, and Haiti's 2010 earthquake
- It helps 4.5 million people in war-torn Syria and 3,00,000 acutely malnourished children in Nigeria.

N35/1020: India Tests Anti-Radiation Missile Rudram-1

- Anti-Radiation Missile (RUDRAM) was tested successfully which hit a radiation target located at Wheeler Island off the coast of Odisha. Developed by DRDO.
- The missile was launched from an SU-30 MKI Fighter
- The missile can reach up to a range of 200km achieving a maximum speed of 2 mach (twice the speed of sound)
- It can be fired from an altitude envelope of 500 meters to 15 km.
- An anti-radiation missile can locate and target radiation-emitting sources such as enemy radars, communication sites and other radio frequency emitting targets.

Rudram-1

- The missile has a passive homing head for the final attack. The passive homing head can detect, classify and engage targets over a wide band of frequencies as programmed.
- The missile is a potent weapon for IAF for Suppression of Enemy Air Defence effectively from large stand-off ranges.
- The country has established indigenous capability to develop long range air-launched anti-radiation missiles for neutralizing enemy radars, communication sites. And other RF emitting targets
- Once the radars are destroyed, their air defence will collapse.

N36/1020: Nagaland Inauguration Day

- Dr. Sarvepalli Radhakrishnan inaugurated Nagaland on December 1, 1963, as the 16th State of the Indian Union.
- 16 tribes are Nagaland's indigenous inhabitants
- Non Naga tribes are Kukis, Kacharis, Garos, Karbis
- Nagaland has few big water bodies.
- Birds found in forests of Nagaland are Common peafowl, common babbler, hoopoe, Malabar pied, Spotted dove, Black partridge, spotted owlet and many more.

N37/1020: River Terminals

- The Inland Waterways Authority of India is the statutory authority in charge of the waterways in India.
- It was constituted under IWAI Act 1985 by parliament of India.
- 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. Out of the 111 NWs, 106 were created in 2016.
- The National Waterway 1, Ganga-Bhagirathi-Hooghly river system is 1620km long is the longest waterway in India.
- The 3 major terminals Sahib Ganj ,Varanasi and Haldia have been developed by IWAI

N38/1020: Television Target Rating Points (TRP)

- About 760 million-800 million individuals view TV in India per week
- While TV penetration in rural India is about 52% in urban India it is about 87%.
- DTH (Direct to Home) is used by about 70 million-80 million households. Cable is used by 60 million
- About 550 million individuals tune into TV sets daily and spend roughly 3.45 hours per day watching TV.
- Industry has more than 800 channels
- Total revenue is about Rs. 66,000 crore 40% of which is attributed to advertising and 60% to subscription
- Digital advertising market is about \$2billion

TRP

- TRP stands for Television Rating Point. TRP is used by advertisers to measure a show or channel's viewership.
- Channel's viewership is measured by Broadcast Audience Research Council (BARC)
- TV channels who want their ratings to be measured have to embed an audio watermark in video content before up linking for broadcast.
- These watermarks are not audible to the human ear, but can be detected and decoded by dedicated hardware and software.
- At the consumer end BARC has installed 44,000 BAR-O-meters at sample households called panel homes. These BAR-O-meters record all the TV viewing activity in the households

TRP

- BARC uses metric known as impressions.
- Impressions refer to the number of individuals from a target audience who viewed an event, averaged across minutes or average reach multiplied by total time spent divided by the total duration of the event.
- Reach is the total number of individuals who viewed the event for at least one minute.
- Higher TRP mean more viewership for the show and channel, and thus more money. Most advertising volumes are decided on cost per rating points
- BARC India is joint industry body of three key stakeholders- broadcasters, ad agencies and advertisers. It was launched officially in 2014.

TRP

- Television Rating Point, a method to evaluate programmes based on the views. These views are generally on per second. The popularity of the show is also dependent on the channel and actors involved in the show.
- This money is shared by the producer and channels in any proportion they agreed on.
- **TRPs are calculated** using the denominator as the total target audience, and the numerator as the total impressions delivered to this audience x 100. (As in 1,000,000 impressions among the target audience / 10,000,000 people in total in the target audience x 100 = 10 TRPs).

N39/1020: The Targeted Long-term Repo Operation

- RBI introduced the Targeted Long Term Repo Operations as a tool to enhance liquidity in the system.
- LTRO is a tool that lets banks borrow one to 3 year funds from central bank at repo rate, by providing government securities with similar or higher tenure as collateral.
- It is called 'Targeted LTRO'. This helps banks get funds for a longer duration as compared to short-term upto 28 days liquidity provided by the RBI through other tools such as liquidity adjustment facility (LAF) and marginal standing facility (MSF).
- LTROs provide banks with access to cheaper capital from the RBI. This, in turn, encourages them to lend more and spur economic activity. They can also invest these long-term funds in assets that yield better returns to improve profitability.

N40/1020: World Food Day

- Food is a fundamental human right and requisite for human survival.
- World Food Day is celebrated on 16th October every year to commemorate the founding anniversary of the Food and Agriculture Organization.
- Hunger and malnutrition remain an enormous challenge and continue to be a matter of concern to developing countries.
- Nearly 26 crore people were undernourished in India between 2004-06. The number was brought down to 19 crore between 2015-17.

World Food Day

- “Zero hunger” is one of the Sustainable Development Goals aimed at ending hunger and malnutrition by 2030
- Food waste is a serious global issue that affects the economy, health index, mortality rates and the environment.
- India has launched schemes to tackle the problem of hunger
 - Integrated Child Development Service Programme (ICDS)
 - Mid-Day meal(MDM)
 - UNICEF Assistance for Women and Children, special Nutrition Programme (SNP)
 - CARE Assisted Nutrition Programmes, Balwadi Nutrition Programme, Mothers Absolute Affection

N41/1020: Atmanirbhar Bharat in Chemicals

- 79 chemicals have been identified where import substitution is possible.
- Of these for 39 chemicals we are 70-100 % dependent on imports.
- GSFC has identified 21 products that it could make in India
- To start with GSFC has started selling locally made calcium nitrate-a water soluble fertilizer that has been fully imported so far.
- India consumes about 125 lakh tonnes of calcium nitrate worth 225 crore per year which is completely imported and about 76% of that comes from China.

N42/1020: Conversion of Carbon Dioxide Into Fuel

- There is a move to convert Carbon dioxide into fuels and chemicals. Carbon dioxide industry will take care of greenhouse gas emission.
- We can make gaseous fuels like methane and ethane, intermediate hydrocarbons like methanol and ethanol
- If carbon dioxide is fed to bacteria or algae in suitable form a myriad of chemicals such as Omega 3 fatty acids
- Carbon dioxide can be used in making concrete, where the gas is used as a replacement to water for curing the concrete.
- In 2019, the world emitted 44 billion tonnes of Carbon dioxide.

Carbon Dioxide

- A little more than half of the emissions are absorbed by the oceans and by land.
- Roughly 45% of the emissions migrate to the upper atmosphere, become a heat shield and cause the world to warm, with all the deleterious effects.
- There are two major uses of carbon dioxide
 - in the crude oil industry, where the gas is pumped into the wells so as to push the oil up
 - to make fertilizers (urea)About 230 million tonnes of carbon dioxide is used up
- Efforts to convert the gas into fuels is the best way of neutralizing carbon dioxide

Carbon Dioxide as Fuel- Challenges

- Hydrogen is needed to split Carbon and Oxygen in Carbon Dioxide-called a 'reduction reaction'
- This hydrogen needs to be produced both cheap and green, because of the production of hydrogen itself will produce Carbon Dioxide. It will defeat the very purpose of carbon dioxide use.
- The George Olah plant in Iceland produces methanol, using 5600 tonnes of carbon dioxide a year.
- The second challenge in carbon dioxide to fuel is finding a suitable catalyst. Catalysts are chemicals that do not participate in a chemical reaction but their presence makes the chemical reaction happen. Without catalysts it is not possible to separate Carbon and Oxygen in carbon dioxide.

N43/1020: NASA Launches Spacecraft named 'Kalpana Chawala'

- An US resupply mission in the International Space Station has been dedicated to Indian-American astronaut Kalpana Chawala
- A Cygnus spacecraft of US firm Northrop Grumman is carrying over 3600kg of scientific investigations and other cargo.
- Kalpana's area of specialty was flight dynamics and that's why some cargo flying on to the space station related to experiments on improving life in space- a new toilet worth \$23 million.
- The capsule also carried radish seeds and delicacies like brie, tomatoes and chocolate-laced cranberries the astronauts had requested. And a 360 degree camera to provide cinematic views of spacewalks was also stashed inside the Kalpana capsule.

N44/1020: Lebanon and Israel to hold Talks

- Lebanon and Israel have reached an agreement on a framework of indirect US mediated talks over a longstanding disputed maritime border between the two countries.
- They will talk via UN team. It is breakthrough in the Middle East. Talks will happen in Naqoura border town of Lebanon.
- The talks will bring greater stability, security and prosperity in the region
- This is in addition to recent agreements in which the UAE and Bahrain Gulf countries that have never gone to war with Israel - agreed to recognize Israel and establish diplomatic relations.

Lebanon & Israel

- Israel and Lebanon have no diplomatic relations and are technically in a state of war.
- The goal of talks is a peaceful resolution on the matter of the Exclusive Economic Zone bordering between Israel and Lebanon.
- Lebanon is going through its worst economic and financial crisis. It is hoping that oil and natural gas discoveries in its territorial waters will help it pay back its massive debt.
- There has been gas discoveries on the Israel side of Mediterranean .

IMAGE: TABLET MAGAZINE; ORIGINAL IMAGE SHUTTERSTOCK



N45/1020: Biodiversity of India - 544 species added

- The number of plant species found in India are 50,012 and accounts roughly for 12% of all flora species in the world.
- Indian faunal diversity stood at 1,02,161 species which is equivalent to 6.52% of all the species across the globe.
- Animal Discoveries 2019: lists 368 faunal species as new to science, and 116 species as first records from India.
- Plant Discoveries 2019: lists 180 new plant species and new records discovered from the country.

New Species

- Among the discoveries, 294 species are invertebrates and 74 vertebrates. Insects outnumbered other groups in general and in vertebrates, fish diversity is high with 38 new species and 5 new records.
- 2019 volume of plant discoveries contains 134 seed plants, five fern, six bryophytes, 18 lichens, 51 fungi, 23 algae and 16 microbes.

N46/1020: MSMEs----re-defined for growth

- Micro, small and medium enterprises are amongst the strongest drivers of the economy with a vast network of about 6 crore enterprises, contributing about 45% to manufacturing output, 50% to export, around 30% to GDP, and creating employment for about 11 crore- second only to agriculture.
- MSMEs have been affected by the Covid-induced lock-down and disruptions. Government has given new Definition:

Investment Criteria			Investment & Turn over		
	Manufacturing	Service		Investment	Turnover
Micro	25L	10L	Micro	1 Cr	5Cr
Small	5Cr	2Cr	Small	10Cr	50Cr
Medium	10Cr	5Cr	Medium	20Cr	250Cr

N47/1020: NASA Artemis Programme

- NASA will land the first woman and next man on the Moon by 2024. Will explore more of the Lunar surface.
- Artemis was Apollo's twin sister and the goddess of the Moon in Greek mythology
- Eight nations, including the US have signed the Artemis Accord. The nations are Canada, UK, Italy, Japan, Australia and United Arab Emirates
- It is based on the 1967 Outer Space Treaty which is signed by 110 Countries.
- ARTEMIS has following provisions:
 - All activities will be conducted for peaceful purposes
 - Commitment for Rescue of Astronauts

Artemis

- - Nations will commit to the protection of sites and disposing of space junk properly disposed
 - All plans and policies are to be in transparent manner
 - Registration of Space Objects
 - Space Resources are for all, no country will claim sovereignty
 - Interoperability of systems is critical to ensure safe and robust space exploration
 - Release of scientific data publicly to ensure that the entire world can benefit
 - Avoiding harmful interference is important principle of Outer Space Treaty.

N48/1020: Gender Equality Still a Distant Goal

- Twenty five years ago, the world's nations came together to make sure that half of Earth's population gained the rights, power and status of the other half.
- Gender inequality is the overwhelming injustice of our age and the biggest human rights challenges we face today.
- The Covid-19 pandemic has hit women and girls the hardest. This may set 'gender equality' back by decades.

N49/1020: Manufacturing PMI Improved

- The Purchasing Managers' Index (PMI) is an index of the prevailing direction of economic trends in the manufacturing and service sectors.
- It consists of a diffusion index that summarizes whether market conditions, as viewed by purchasing managers, are expanding, staying the same or contracting.
- A PMI reading over 50 or 50% indicates growth or expansion, while reading at 50 indicates status quo.
- The Purchasing Managers Index (PMI) is calculated by adding all the replies of “better” to those that answered “same”. This figure is then changed to a percentage.

PMI Index

- PMI aims in providing information regarding the current and future conditions of a business to the decision-makers, analysts and investors of the company.
- Purchasing Manager's Index (PMI) focuses mainly on the five major Survey Areas:
 - Employment
 - Production
 - Supplier deliveries
 - New orders
 - Inventory levels
- The PMI is a weighted average of the following five indices: New Orders (30%), Output (25%), Employment (20%), Suppliers' Delivery Times (15%) and Stocks of Purchases (10%)
- HIS Markit tabulates PMI on the basis of response from purchasing managers associated with around 400 manufacturer

PMI

- In September Manufacturing PMI had a fastest growth in 8 years.
- This was due to accelerated increases in new orders and production.
- INS Markit India Manufacturing Purchasing Managers' Index increased from 52.0 in August to 56.8 in September- highest since January 2012.
- The upturn in total sales was supported by a renewed expansion in new export orders. One area that lagged behind, however was employment.
- Manufacturing has a share of around 15% in India's GDP

N50/1020: MSP - FRP of Sugarcane

- MSP of sugar has been fixed taking into account the components of Fair & Remunerative Price (FRP) of sugarcane and minimum conversion cost of the most efficient mills.
- Government has revised the MSP of white/refined sugar from Rs. 29/kg to Rs. 31/kg w.e.f. 14.02. 2018
- The FRP, which is determined under Sugarcane (Control) Order, 1966, is the minimum price that sugar mills have to pay to **sugarcane** farmers.
- The Cabinet Committee on Economic Affairs approved Rs. 285 per quintal for a basic sugar recovery rate of 10% as FRP for cane payable by Sugar mills for 20-21 sugar season.

FRP of Sugarcane

- The approval of Rs. per quintal hike in FRP was made on the recommendations of the Commission for Agricultural Costs and Prices.
- Current MSP is Rs. 31 per kg. which was fixed in 2019 February.

N51/1020: To Help Economy, Save Environment

- The Arctic sea has recorded its second lowest ice coverage in 40 years of satellite measurements. This year, according to the National Snow and Ice Data Center (NSIDC), US, the sea ice extent has been calculated at 3.7 million sq. km. the lowest levels since 2012.
- The rate at which the Arctic sea ice is dwindling may mean that in another 20 years, the Arctic Ocean would have an ice-free summer.
- The global consequences are many- from the wiping out of polar bears and other animals to rising oceanic surface temperatures, changes in weather patterns and a jump in sea levels.

Save Environment

- Arctic sea ice has been below its 40 years average for the last 18 years.
- The latest biennial Living Planet Report by WWF makes some critical revelations:
There has been a 70% decline in wild populations of animals, plants and birds since 1970.
- The only way to save the global economy, livelihood and health is by saving the environment.

N52/1020: Khadi & Village Industries Commission

- It started selling its khadi face masks online in July and its online catalogue now has a variety of products that can be purchased including hand wash and sanitizers, grocery, cosmetics and personal care products
- KVIC has been working towards uplifting the rural economy through several schemes including the Modified Market Development Assistance Scheme, the Interest Subsidy Eligibility Certificate Scheme and the Work-shed Scheme for khadi artisans
- These initiatives provide financial assistance and more market opportunities, enhance skills, and upgrade technology facilities.
- Production in 2018-19 was Rs. 58,130.34 crore and sales were Rs. 74,292 Cr.

KVIC

- Providing employment opportunities has been one of the primary objectives of KVIC
- Employment rose to nearly 147 lakh in 2018-19
- As many as 1.03 lakh project applications were approved and forwarded by KVIC to financing banks during 2020 (April to August)

N53/1020: Herd Immunity

- Herd Immunity is when a large part of the population is immune to a specific disease
- This provides indirect protection to those who are not immune to the disease
- For example, if 80% of a population is immune to a virus, four out of every five people who encounter someone with the disease won't get sick (and won't spread the disease any further). In this way, the spread of infectious diseases is kept under control. Depending how contagious an infection is, usually 50% to 90% of a population needs immunity to achieve herd immunity.
- Measles, mumps, polio, and chickenpox are examples of infectious diseases that were once very common but are now rare because vaccines helped to establish herd immunity.

Sero-Surveillance

- Sero surveillance survey are key tool used by epidemiologists to ascertain the prevalence of an infectious disease like Covid-19 in a susceptible population
- Once geographical areas are identified, the experts randomly choose volunteers keeping in mind a fair representation of the target population.
- A tiny amount of blood is drawn from volunteers and analyzed for the presence of certain antibodies.
- The presence of these bio-molecules- produced by the body in its flight against the infection- indicates that an individual is exposed to the virus already.

Sero-Surveillance

- Apart from helping public health experts design containment strategies, sero studies can show how long it will take a country to achieve herd immunity.
- At the national level, epidemiologists led by the ICMR carried out two rounds of sero survey.
- The first was in May-June and second in August-September. Both these surveys were carried out in the same 700 habitats in 21 states.
- The volunteers who participated in both the surveys belonged to different house-holds. In the first survey 28,000 individuals were tested. In the second one 29,000 individuals
- The second sero survey showed that nearly 6.6% of the sample population was exposed to the virus up from 0.73 percent in the first survey.

N54/1020: Manali-Leh Tunnel (Atal Tunnel)

- The world's longest highway tunnel above 10,000 feet .
- Distance between Manali and Sissu to be cut short by 46km.
- From Manali to Leh via Atal Tunnel =428 km
via Rohtang Pass = 474 km
- In the first and last 400 meters, speed limit is fixed at 40km per hour, for the remaining length of the tunnel the maximum speed is 80kmph. Cost Rs. 3300Crore
- There is an emergency exit every 500 meters
- Overall height of the tunnel is 8.9 meters
- There is fire hydrant every 60 meters, CCTV cameras every 150meters and telephone every 200 meters, air quality monitors every km.

N55/1020: States Borrowing

- States can borrow money. States can borrow upto 3% of the gross state domestic product (GSDP)
- States having sound financial position are allowed to borrow directly from other countries which give Official Development Assistance for major infrastructure projects.
- States can borrow directly from RBI. They can borrow over 50,000 crore via RBI's 'Ways and Means Advances'
- GST Council allows states to tap RBI to cover short fall in tax mop-up
- FRBM caps on borrowing by states.

N56/1020: Alien Species

- Alien species are those that humans have moved around the world to places where they do not naturally occur
- Some of these aliens can go on to become invasive, with damaging impacts to ecosystems and economies
- Alien species are one of the main drivers of extinctions of animals and plants.
- The Indian rose-ringed parakeet is considered an invasive species across many European countries.
- The number of alien species particularly insects, arthropods and birds is expected to grow alarmingly by the middle of the century.
- The starling has been included in the IUCN List of the World's 100 worst invasive species.

N57/1020: Perseverance Rover

- Perseverance Rover to use X-rays to scan fossils on Mars
- NASA's Mars 2020 Perseverance rover is on its way to the Red Planet.
- After descent and landing phase of the mission in Feb 21 it will begin searching for traces of microscopic life from billions of years back.
- Mission duration is 1 Mars Year -About 687 Earth Days
- Perseverance has a 7-foot-long robotic arm.
- The rover's most important samples will be collected by a coring drill on the end of the arm. Then it will be stashed in metal tubes.

- Thank You