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ESE-2020

(Preliminary Examination)

Current Issues

(September - 2020)

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15 All India 1st Ranks in ESE

57 All India 1st Ranks in GATE

Current Issues

(September - 2020)

World's Largest Solar Tree

- CSIR-CMERI has developed the World's Largest Solar Tree, which is installed at CSIR-CMERI Residential Colony, Durgapur.
- The installed capacity of the Solar Tree is above 11.5 kWp.
- It has the annual capacity to generate 12,000-14,000 units of Clean and Green Power.
- The Tree has been designed in a manner to ensure maximum exposure of each Solar PV Panel to Sunlight and also creation of the least amount of shadow area beneath.
- These Solar Trees can be aligned with Agriculture for substituting price-volatile fossil fuels.
- Each Solar Tree has the potential to save 10-12 tons of CO₂ emissions being released into the atmosphere as Greenhouse Gases when compared with fossil fuel fired energy generation.



- Besides, the surplus generated power can be fed into an Energy Grid.
- This Agricultural Model can provide a consistent economic return and help the farmers counter the effects of the uncertain variations in Agriculture related activities, thus, making farming an Economic and Energy Sustainable practice.
- The solar tree also has the capability to incorporate IOT based features, round-the-clock CCTV surveillance in agricultural fields, real-time humidity, wind speed, rainfall prediction and soil analytics sensors.

Germany launches Indo-Pacific Strategy

- Germany (current EU president and Europe's biggest economy) has launched its Indo-Pacific strategy with India that is expected to play a key role in Berlin's outreach in the region where China's aggressive foreign policy has rattled countries.
- Berlin's strategy also suggested opening dialogue with institutions where India plays a key role -- Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation and Indian Ocean Rim Association -- in the areas of business and maritime safety, as well as disaster risk management.
- The German government also announced that it will work to maintain rules-based order together with partners in the Indo-Pacific region. To this end, it will cooperate with India and Japan for UN Security reforms.
- The strategy also contains veiled but firm criticism of Chinese actions in the South China Sea and its fallout on global trade.
- More than 90 percent of the world's foreign trade is conducted by sea, a large part of which via the Indian and Pacific Oceans. Up to 25 percent of the world's maritime trade passes through the Strait of Malacca. More than 2000 ships per day transport goods between the Indian Ocean and the South China Sea via this bottleneck. A disruption to these maritime trade routes and thus to the supply chains to and from Europe would have serious consequences for the prosperity and supply of the population.

Steroids usage in COVID-19 cases

- International clinical trials published on Wednesday confirm the hope that cheap, widely available steroid drugs can help seriously ill patients survive Covid-19, the illness caused by the coronavirus.
- Based on the new evidence, the World Health Organization issued new treatment guidance, strongly recommending steroids to treat severely and critically ill patients, but not to those with mild disease.
- Steroids like dexamethasone, hydrocortisone and methylprednisolone are often used by doctors to tamp down the body's immune system, alleviating inflammation, swelling and pain. Many Covid-19 patients die not of the virus, but of the body's overreaction to the infection.
- In the clinical trials, only the sickest patients were treated with steroids, and it is not certain that those who are less ill will benefit or be harmed. The optimal doses and duration of treatment also need to be identified.

The largest Navy in the world

- In what could be a huge concern for India and countries across the south-east Asia region, the United States (US) Department of Defence has warned that Beijing now has the largest Navy in the world.
- In its annual report to the Congress on Chinese military power, the Pentagon warned that China has an "increasingly modern and flexible" Navy which is focused on "replacing previous generations of platforms with limited capabilities in favour of larger, modern multi-role combatants."

- According to the report, China currently has an overall battle force of approximately 350 ships and submarines which includes more than 130 major surface combatants while the US has 293 ships as of early 2020.

Global Innovation Index

- The 2020 edition of the Global Innovation Index (GII) released on Wednesday shows India jumped four places to rank at 48th position since 2019.
- The index, compiled by World Intellectual Property Organisation (WIPO) along with Cornell University and the INSEAD business school, presents the latest global innovation trends and annual innovation ranking of 131 economies.
- Switzerland bagged the first spot in the GII ranking followed by Sweden, United States of America, United Kingdom and Netherlands.
- Moving up four positions since last year, India became the third most innovative lower middle-income economy in the world.

State of Young Child in India Report

- Child development should be the foundation of our development architecture, the Vice President said while releasing ‘The State of Young Child in India’ report, a comprehensive account of the challenges related to early child development in India.
- The report has been prepared by Mobile Creches a policy advocacy organisation which works with the underprivileged children across India.

No kidding!
 The index score was computed using indicators such as poverty rate, immunisation coverage, female literacy, sex ratio and percentage of households with protected water supply. India’s average score was **0.585**

Best-performing States		Worst-performing States	
State	Index score (2015-16)	State	Index score (2015-16)
Kerala	0.858	Bihar	0.452
Goa	0.817	Uttar Pradesh	0.46
Tripura	0.761	Jharkhand	0.5
Tamil Nadu	0.731	Madhya Pradesh	0.526
Mizoram	0.719	Chhattisgarh	0.555

- Based on ranking and values on the Young Child Outcome Index (YCOI), the report named Kerala, Goa, Tripura and Tamil Nadu to be among the top performers, while eight states– Assam, Meghalaya, Rajasthan, Chhattisgarh, Madhya Pradesh, Jharkhand, Uttar Pradesh and Bihar– with scores below the national average lagged behind.

Secretive Special Frontier Force

- As tensions on the Himalayan border along the Line of Actual Control (LAC) between India and China reached another flashpoint last weekend, an Indian special operations squad is reported to have been involved in a counter offensive against Chinese efforts to alter the status quo near the Pangong Tso lake in the region of Ladakh.
- While there is no official confirmation from the Indian government, according to multiple official sources, the Special Frontier Forces (SFF) – a covert paramilitary unit consisting mainly of Tibetan refugees – is believed to have played a major role in what the Indian Army called an operation to “thwart Chinese intentions” on the night of August 29.
- The Special Frontier Force is also called Establishment 22. The commandos in the force are drawn from Tibetan refugees who took shelter in India after the Tibetan uprising.



- While officially not part of the Indian Army, it functions under its operational control with its own rank structure and training infrastructure.

- The SFF was founded in 1962 while Indo-China war was drawing close. The troopers in the force were initially trained by IB, RAW and even CIA. They are based at Chakrata, Uttarakhand.
- The SFF are skilled in mountain warfare and are paratroopers. They were deployed in covert operations behind the enemy lines that include tracking of Chinese plans to deploy nuclear war heads.
- The SFF troops are well acclaimed to harsh cold in Ladakh. They are also referred as “VIKAS” unit.
- The SFF base was in the hilly town of Chakrata, in the northern Indian state of Uttarakhand, which was home to a large Tibetan refugee population.

GoI goes digital

- The government has banned the printing of materials like calendars, diaries and festival greeting cards by all ministries, departments and public sector undertakings (PSUs).
- The finance ministry asked all the organs of the government to adopt digital means to publish such material, in a memorandum.
- The printing of Coffee Table books is also banned and appropriate use of E-Books is encouraged. Therefore, all concerned are directed to make efforts to adopt innovative means to use digital or online method for the above activities.
- The government has been making a conscious effort to adopt digital means wherever applicable.

Mission Karmayogi

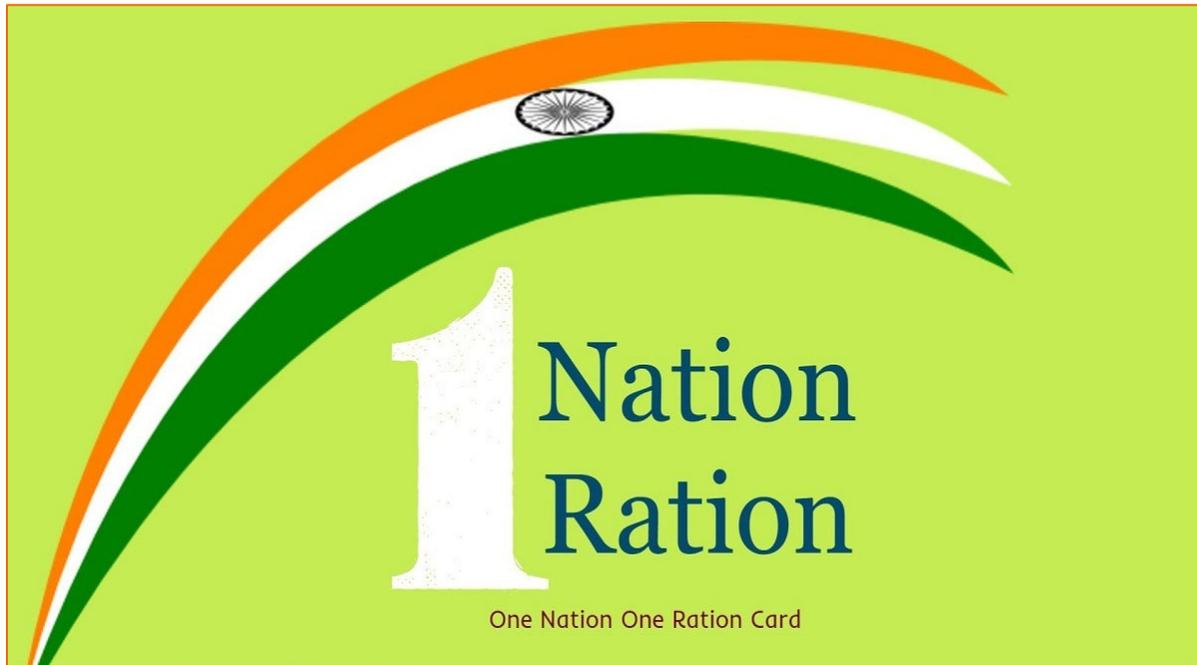
- The Union Cabinet approved ‘Mission Karmayogi’, dubbed the biggest bureaucratic reform initiative, aimed at building capacity to make government employees more ‘creative, proactive, professional and technology-enabled’, ending the culture of working in silos and ensuring transparency.
- A council, comprising select union ministers, chief ministers, eminent public HR practitioners among others and headed by the prime minister, will serve as the apex body for providing strategic direction, while a Capacity Building Commission is also proposed to be set up.



- To cover around 46 lakh central employees, a sum of Rs 510.86 crore will be spent over five years from 2020-21 to 2024-25 under Mission Karmayogi or the National Programme for Civil Services Capacity Building (NPCSCB)
- Mid-career training which was only available for All India Services will now be mandatory for all officials at all levels in all services.
- This will not only provide continuous capacity building but will also help in uniform realization of common values, priorities and future goals of the nation.
- The ultimate aim of Mission Karmayogi is to ensure ease of living for the common man, ease of doing business and “citizen-centricity” that is reducing the gap between the government and the citizens.

Ladakh and Lakshadweep integrated to One Nation One Ration Card Scheme

- On September 1, 2020, Ladakh and Lakshadweep were integrated in the One Nation One Ration card scheme. With this a total of 26 states and union territories are now connected with each other under the scheme.
- One Nation One Card is an ambitious project of Government of India that ensures delivery of food security entitlements to the beneficiaries covered under National Food Security Act, 2013. The scheme mainly targeted the migratory NFSA beneficiaries. These are the beneficiaries who frequently change their dwelling in search of temporary employments.



- Under the scheme, the beneficiaries can get their quota of food grains from any state. Currently, a ration card holder can buy food grains only from the Fair Price Shops that are assigned to him or her. This was usually the shops that are nearer to their living area.

AUDFs01

- Indian astronomers have discovered one of the farthest star galaxies in the universe, estimated to be located 9.3 billion light years away from Earth.
- This is a landmark achievement for country's first Multi-Wavelength Space Observatory "AstroSat."
- The galaxy called AUDFs01 was discovered by a team of Astronomers led by Dr Kanak Saha from the Inter-University Centre for Astronomy and Astrophysics(IUCAA) Pune.
- India's AstroSat/UVIT was able to achieve this unique feat because the background noise in the UVIT detector is much less than one on the Hubble Space Telescope of US based NASA.

Pranab Mukherjee Passes Away

- Former President and Congress stalwart, Pranab Mukherjee has passed away after undergoing treatment for nearly three weeks.
- On August 10, Mukherjee was admitted to the hospital after testing positive for Covid-19, after which he underwent a surgery following the detection of a brain clot.
- After a long political career in which he held several top posts including that of Finance and Defence Minister, Mukherjee became President in 2012 and served till 2017.

- From 2004, he went on to head three crucial ministries— external affairs, defence and finance—and became the first occupant of the Rashtrapati Bhavan to have this distinction.
- Known as “man for all seasons,” Mukherjee played a crucial role in getting through the controversial Indo-US nuclear deal – 123 Agreement — and earning an exemption for India from the Nuclear Suppliers Group.

Economic Freedom of the World Report 2020

- India has been ranked 105th on the Global Economic Freedom Index 2020, falling 26 spots from 79th position in last year’s rankings.
- The Economic Freedom of the World: 2020 Annual Report prepared by Canada’s Fraser Institute has been released in India in conjunction with New Delhi-based think tank Centre For Civil Society.
- The report highlighted that the prospect of increasing economic freedom in India depends on the next generation of reforms in factor markets including greater openness to international trade.
- According to the report, based on 2018 data, Hong Kong and Singapore once again topped the index, continuing their streak as first and second ranked, respectively.
- New Zealand, Switzerland, US, Australia, Mauritius, Georgia, Canada and Ireland round out the top-10.

UNICEF to lead procurement and supply operation of COVID-19 vaccine

- UNICEF is spearheading efforts to procure and supply COVID-19 vaccines in what could be one of the world's largest and fastest ever vaccine distributions, as part of the global vaccine plan of the COVID-19 Vaccine Global Access (COVAX) Facility led by Gavi, the Vaccine Alliance.
- Several COVID-19 vaccine candidates are showing promise. According to the timelines manufacturers shared with UNICEF, unprecedented quantities of vaccines could be produced by 28 manufacturers in 10 countries over the next two years to stop the spread of the novel coronavirus.
- As the world's largest vaccine buyer, UNICEF procures more than 2 billion doses of vaccines annually for routine immunization and outbreak response on behalf of nearly 100 countries. UNICEF will use this market shaping and procurement expertise to coordinate COVID-19 vaccine delivery for the COVAX Facility, potentially doubling its overall procurement volume in 2021 alone.

Five Star Village Scheme

- The Department of Posts has launched a scheme called Five Star Villages, to ensure universal coverage of flagship postal schemes in rural areas of the country.
- The scheme seeks to bridge the gaps in public awareness and reach of postal products and services, especially in interior villages.
- All postal products and services will be made available and marketed and publicized at village level, under the Five Star Villages scheme.

- Branch offices will function as one-stop shop to cater all post office - related needs of villagers. The schemes covered under the Five Star scheme include:
 - i) Savings Bank accounts, Recurrent Deposit Accounts, NSC / KVP certificates,
 - ii) Sukanya Samridhi Accounts/ PPF Accounts,
 - iii) Funded Post Office Savings Account linked India Post Payments Bank Accounts,
 - iv) Postal Life Insurance Policy/Rural Postal Life Insurance Policy and
 - v) Pradhan Mantri Suraksha Bima Yojana Account / Pradhan Mantri Jeevan Jyoti Bima Yojana Account.

Categories-Postal Schemes


- 1. Savings Bank (SB/RD/TD/MIS or NSC/KVP)**
- 2. Sukanya Samruddhi Account/PPF Account**
- 3. Funded POSA linked IPPB Account**
- 4. Postal Life Insurance/ Rural Postal Life Insurance Policy**
- 5. Pradhan Mantri Suraksha Bima Yojana / Pradhan Mantri Jeevan Jyoti Bima Yojana**

- If a village attains universal coverage for four schemes from the above list, then that village gets four-star status; if a village completes three schemes, then that village get three-star status and so on.

SAROD ports

- Union Minister Mansukh Mandaviya on Thursday launched a dispute redressal mechanism to facilitate affordable and timely resolution of disputes for the maritime sector.
- The mechanism - SAROD-Ports (Society for Affordable Redressal of Disputes - Ports) - for all disputes in ports and shipping sector was launched by the minister in a virtual ceremony.
- It has been established under the Societies Registration Act, 1860 for affordable and timely resolution of disputes in a fair manner.



- SAROD-Ports consist of members from the Indian Ports Association (IPA) and Indian Private Ports and Terminals Association (IPTTA).

“Levels and Trends in Child Mortality” report

- On 9 September 2020, the United Nations Inter-agency Group for Child Mortality Estimation (IGME) External link released the latest estimates for child mortality, jointly developed by UNICEF, the World Health Organization (WHO), the Population Division of the United Nations Department of Economic and Social Affairs (UN DESA) and the World Bank Group.
- The report documents remarkable progress in child survival over the past three decades. The global number of deaths among children under the age of five dropped from 12.5 million in 1990 to 5.2 million in 2019, the lowest level on record.
- Though, there is reduction in child mortality, India along with Nigeria accounts to almost one-third of under five deaths in 2019. India registered 4.5% annual rate of reduction between 1990 and 2019. The number of annual under-five deaths in India was 3.4 million in 1990 and it has now dropped to 824,000 in 2019.

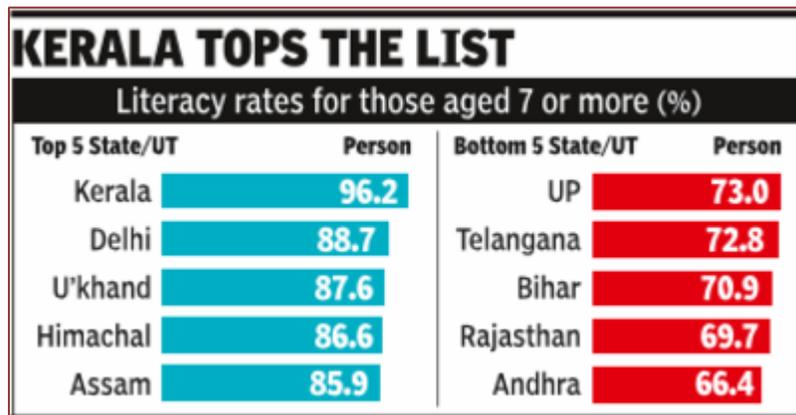
- India witnessed decrease in neonatal mortality rate from 57 in 1990 to 22 in 2019. India saw around 22 million neonatal deaths in 1990 and in 2019, the deaths were reduced to 522,000.
- The sex specific under-five deaths have also reduced. In 1990, under-five mortality rate (deaths per 1000 births) in males was 122. In females, it was 131. It declined to 34 males in 2019 and 35 females in 2019.

Three Labour Codes

- The Union cabinet approved amendments to the labour codes on social security (involving provident fund, insurance, maternity benefits), industrial relations (that will combine laws on industrial disputes, trade unions and others), and occupational safety and health (OSH), involving industrial safety and welfare laws including pension and medical benefits to gig workers
- The codes are likely to clearly define areas and conditions in which fixed-term employment will be allowed.
- The proposed amendments include a clear definition of the 'appropriate authority' on occupational safety and removal of distinction between term employees and workers in the Industrial Relations Code

NSO Survey on literacy rate

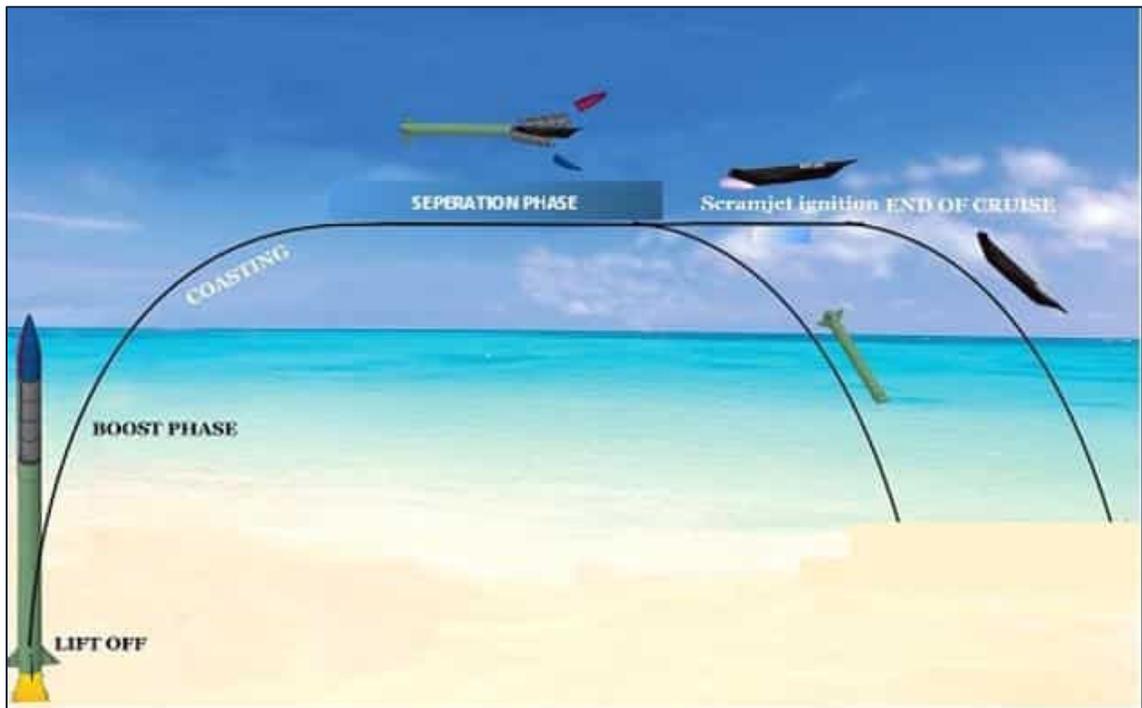
- With 96.2% literacy, Kerala has once again emerged as the most literate state in the country, while Andhra Pradesh featured at the bottom with a rate of 66.4%, showed a report based on National Statistical Office (NSO) survey.
- The report on 'Household Social Consumption: Education in India as part of 75th round of National Sample Survey - from July 2017 to June 2018' provides for state-wise detail of literacy rate among the persons aged seven years and above.
- According to the study, after Kerala, Delhi has the best literacy rate at 88.7%, followed by Uttarkhand's 87.6%, Himachal Pradesh's 86.6% and Assam's at 85.9%.



- On the other hand, Rajasthan is the second worst performer with literacy rate at 69.7%, followed by Bihar at 70.9%, Telangana at 72.8%, Uttar Pradesh at 73% and Madhya Pradesh at 73.7%.
- The study has pegged the overall literacy rate in the country at about 77.7%. In rural areas, the literacy rate is 73.5% compared to 87.7% in urban areas of the country.
- At all-India level, the male literacy rate is higher at 84.7% compared to 70.3% among women.

India tests HSTDV

- India became the fourth country after the United States, Russia and China to develop and successfully test hypersonic technology from APJ Abdul Kalam testing range (Wheeler Island) in Balasore, Odisha. This indigenous technology will pave the way towards development of missiles travelling at six times the speed of sound.
- The test of Hypersonic Test Demonstrator Vehicle (HSTDV), developed by Defence Research and Development Organisation (DRDO) was conducted using the Agni missile booster and lasted for five minutes.
- This test means that the DRDO will have the capacity to develop a hypersonic missile with scramjet engine in next five years, which will have the capacity to travel at more than two kilometres per second.
- The vehicle performed successfully on all the pre-determined parameters including the ability to handle combustion temperatures of over 2500 degrees Celsius as well as air speed.



The HSTDV is an unmanned scramjet demonstration aircraft for hypersonic speed flight. Besides its utility for long-range cruise missiles of the future, the technology has multiple civilian applications also. It can be used for launching satellites at low cost too.

The HSTDV cruise vehicle is mounted on a solid rocket motor, which will take it to a required altitude, and once it attains certain mach numbers for speed, the cruise vehicle will be ejected out of the launch vehicle. Subsequently, the scramjet engine will be ignited automatically.

Blue Flag international eco-label

- For the first time, eight Indian beaches have been recommended for the coveted International Blue Flag eco-label certification.
- The recommendations were made by an independent national jury comprises of eminent environmentalists and scientists.
- The eight beaches are –
 1. Shivrajpur in Gujarat,
 2. Ghoghla in Daman and Diu,
 3. Kasarkod and Padubidri beaches in Karnataka,
 4. Kappad in Kerala,
 5. Rushikonda in Andhra Pradesh,
 6. Golden Beach in Odisha and
 7. Radhanagar beach in Andaman and Nicobar.
- Blue Flag beaches are considered the cleanest beaches in the world.

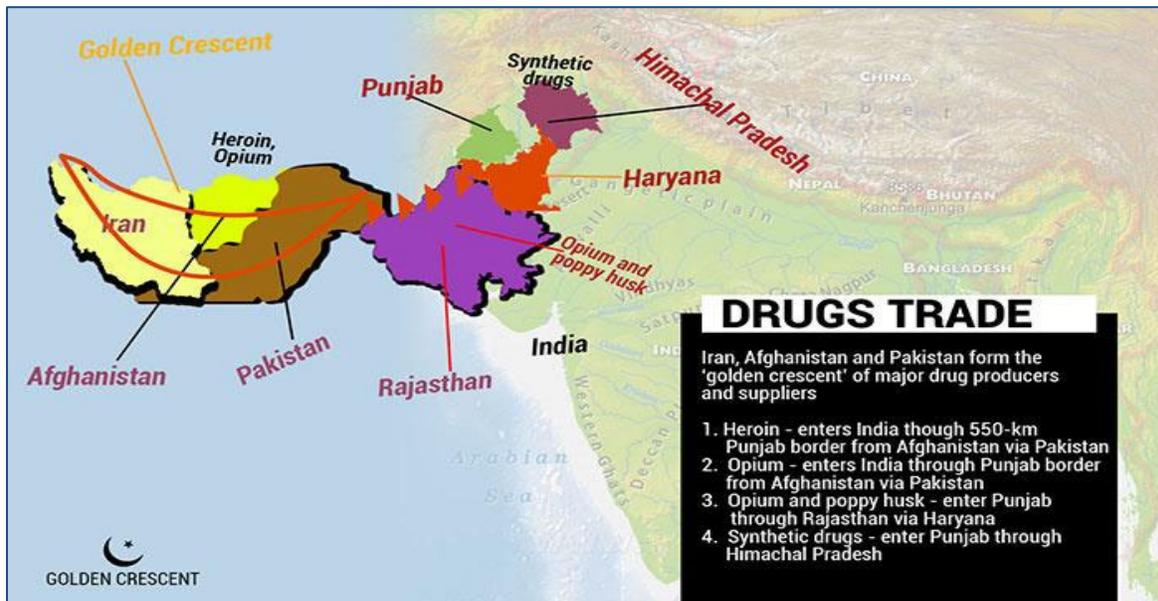


- The announcement came on the eve of International Coastal Clean-Up Day, which is being celebrated with 100 countries since 1986.
- India has its eco-label called "BEAMS" and is e-hoisting the flag simultaneously at these eight beaches.

"BEAMS" (Beach Environment & Aesthetics Management Services) has been launched by the Society of Integrated Coastal Management (SICOM, MoEFCC) under its Integrated Coastal Zone Management Project (ICZM). It is one of the several other projects of ICZM that GoI is undertaking for the sustainable development of coastal regions striving for globally recognized and the coveted eco-label Blue Flag.

Trump identifies India as major illicit drug producing country

- US President Donald Trump has identified India along with 20 other nations as major drug transit or illicit drug-producing countries and asserted that his administration is taking the fight to criminal organisations engaged in narcotics substances and their enablers on an unprecedented scale.
- He said countries such as Afghanistan, India, The Bahamas, Belize, Burma, Colombia, Costa Rica and the Dominican Republic among others are a major drug transit or illicit drug producing nations.
- The illicit drug trafficking is higher in India mainly because of its strategic location in the drug trafficking routes. India is in the middle of two major illicit opium production regions in the world.
- They are Golden Triangle and Golden Crescent. The Golden Crescent includes Iran, Afghanistan and Pakistan. On the other hand, the Golden Triangle includes Laos, Burma and Thailand.

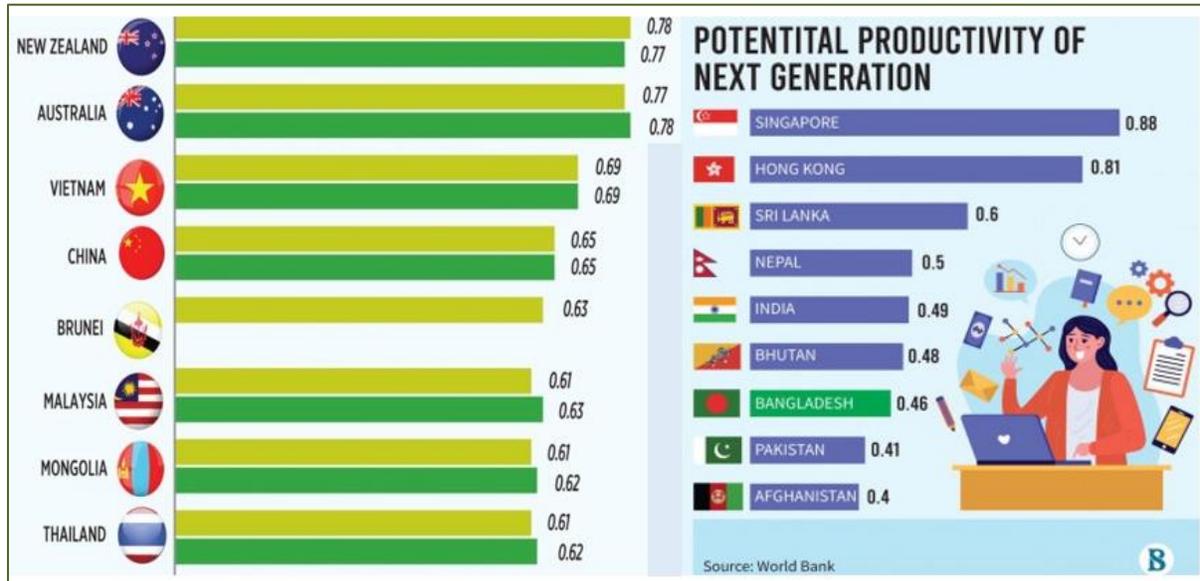




- The South East Asia is one of the major opium producing regions in the world according to world drug report 2020. Also, it is one of the oldest narcotics supply routes to North America and Europe. India has become a major victim of this drugs supply route.
- The trafficking of meth from golden Triangle to Bangladesh and then into India has increased recently.

World Bank Human Capital Index

- India has been ranked at the 116th position in the latest edition of the World Bank's annual Human Capital Index that benchmarks key components of human capital across countries.
- However, India's score increased to 0.49 from 0.44 in 2018, as per the Human Capital Index report released by the World Bank.
- The 2020 Human Capital Index update includes health and education data for 174 countries - covering 98 per cent of the world's population - up to March 2020, providing a pre-pandemic baseline on the health and education of children, with the biggest strides made in low-income countries.



HUMAN CAPITAL INDEX AND INDIA

➤ A child born today will be only 44% as productive when she grows up as she could be if she enjoyed complete education and full health.

➤ HCI for females is marginally better than that for males

➤ 96 out of 100 children born in India survive to age 5

➤ A child who starts school at age 4 can expect to complete 10.2 years of school by her 18th birthday.



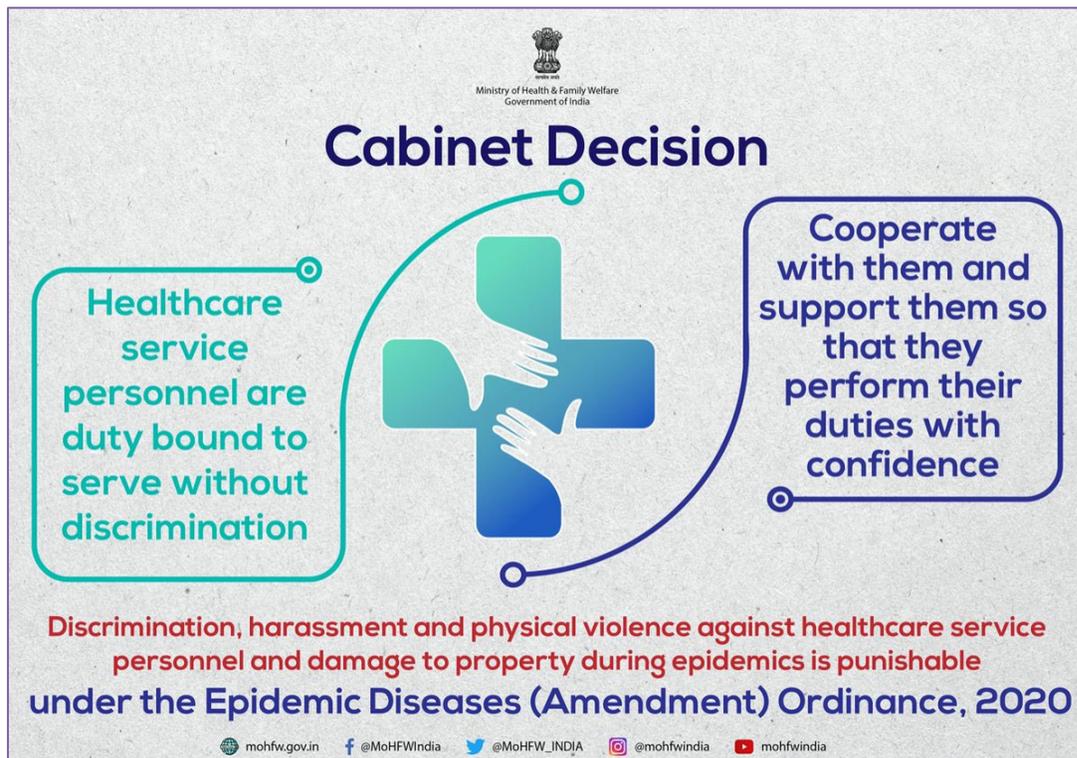
Adult survival rate | Across India, 83% of 15-year olds will survive until age 60

Healthy growth (Not stunted rate) | 62 out of 100 children are not stunted. 38 out of 100 children are stunted, at risk of cognitive and physical limitations that can last a lifetime

Gender differences | HCI for girls marginally higher than for boys

The Epidemic Diseases Amendment Bill, 2020

- The Upper House and the Lower House passed the Epidemic Diseases Amendment Bill, 2020 to bring a law that punishes those who attack health workers or doctors who are fighting the coronavirus outbreak or during any situation similar to the current Covid-19 pandemic.
- The legislation provides for up to five years in jail for those who attack doctors and health care personnel.
- The Centre implemented the Epidemic Diseases (Amendment) Ordinance 2020 to amend the Epidemic Diseases Act, 1897. The Act provides for the prevention of the spread of dangerous epidemic diseases.



- The Bill specifies that no person can:
 - (i) commit or abet the commission of an act of violence against a healthcare service personnel, or
 - (ii) Albeit or cause damage or loss to any property during an epidemic. Contravention of this provision is punishable with imprisonment between three months and five years, and a fine between Rs 50,000 and two lakh rupees.
 - (iii) This offence may be compounded by the victim with the permission of the Court. Further, if an act of violence against healthcare service personnel causes grievous harm, the person committing the offence will be punishable with imprisonment between six months and seven years, and a fine between one lakh rupees and five lakh rupees.
 - (iv) These offences will be cognizable and non-bailable.

The Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020

- The Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020 was passed in Lok Sabha on September 17, 2020.
- The bill is aimed at transforming agriculture in the country and raising farmers' income. It replaces the Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Ordinance, 2020 promulgated on 5th June 2020.
- It seeks to provide for a national framework on farming agreements.
- It protects and empowers farmers to engage with agri-business firms, wholesalers, exporters, processors, large retailers for farm services.
- It enables the farmers to sell their future farming produce at a mutually agreed price in a fair and transparent manner.
- It will also reduce marketing costs and double the farmers income. The legislation will also act as a catalyst to attract private sector investment for building supply chains. As a result, Farmers will get access to technology and advice for high value agriculture. Farmers will be engaged in direct marketing.

Prime Minister of Japan

- Japan's governing party has elected Yoshihide Suga as its new leader to succeed Shinzo Abe, meaning he is almost certain to become the country's next prime minister.
- Last month Mr Abe announced his resignation for reasons of ill health.
- Mr Suga, 71, serves as chief cabinet secretary in the current administration and was widely expected to win.
- Mr Suga won the vote for the presidency of the conservative Liberal Democratic Party (LDP) by a large margin, taking 377 of a total of 534 votes from lawmakers and regional representatives.
- He saw off two other contenders - Fumio Kishida, a former foreign minister, and Shigeru Ishiba, a former LDP secretary-general and one time defence minister.

2020 class of Young Leaders For SDGs

- Udit Singhal, an 18-year-old boy from India has been named by the United Nations to the 2020 cohort of young leaders for the Sustainable Development Goals, the highest profile recognition opportunity at the world body for youngsters who are leading efforts to combat the world's most pressing issues.
- Singhal has been named to the 2020 Class of 17 Young Leaders for the Sustainable Development Goals (SDGs). He is the founder of Glass2Sand, a zero-waste ecosystem that addresses the growing menace of glass waste in Delhi.
- Through the initiative, empty glass bottles are prevented from being dumped into landfills, where they won't decompose for a million years, and are crushed into commercially valuable sand.

- Singhal's conceived the Glass2Sand project in late 2018 when collection of bottles had become unviable for waste collectors due to dropping demand, because large storage spaces were needed and the transport costs were high.



- Empty glass bottles were not segregated anymore and started to go for dumping in the landfills, the Glass2Sand website said, adding that Singhal's initiative has stopped over 8,000 bottles from being dumped in landfills and produced 4,815 kilograms of high-grade silica sand so far.

Centre allows five states to Borrow

- The Union Finance Ministry has granted permission to raise additional financial resources of Rs 9,913 crore to Andhra Pradesh, Telangana, Goa, Karnataka and Tripura through Open Market Borrowings.
- This permission has been accorded after these States successfully met the reform condition of implementation of One Nation One Ration Card System
- Also, the Central Government allowed additional borrowing of the states by increasing their borrowing limit to 2% of their Gross Domestic Product.

- Open Marketing is the buying and selling of government securities in open market operations. This is currently being done only by the Reserve Bank of India. The GoI has now allowed the states to undertake open market operations.

State wise details of the additional borrowing permission granted by the Government on meeting reform targets

S.No.	State	Additional Borrowing granted
1.	Andhra Pradesh	Rs.2,525 crore
2.	Telangana	Rs.2,508 crore
3.	Karnataka	Rs.4,509 crore
4.	Goa	Rs.223 crore
5.	Tripura	Rs.148 crore

- RBI uses open market to control liquidity in the economy. In other words, when the reserve bank wants to infuse money in to the economy, it purchases Government Securities. By this, it gives money to the commercial banks and thus the money flow in the country increases.
- There are two types of Open Market Operations. They are outright Purchase and Repurchase Agreement. Outright Purchase is permanent and involves absolute (complete) buying and selling of government securities. On the other hand repurchase agreements are short-term and shall be repurchased.

National Medical Commission:

- The National Medical Commission (NMC), in place of the Medical Council of India (MCI), as the country's apex regulator of medical education and profession has come into existence.
- The Union government has set up the National Medical Commission (NMC) along with four other autonomous boards while abolishing the MCI.
- The four autonomous boards include:
 - Undergraduate Medical Education Board.
 - Postgraduate Medical Education Board.
 - Medical Assessment and Rating Board.
 - Ethics and Medical Registration Board.
- These boards have been constituted to help the NMC in day-to-day functioning.
- The Centre has notified the 33-member NMC, which will be chaired for three years by Suresh Chandra Sharma.

- Apart from the Chairman, the NMC will consist of 10 ex-officio members and 22 part-time members appointed by the Central government.

Fridays For Future

- The FFF is a global climate strike movement that started in August 2018, when 15-year-old Greta Thunberg began a strike in Sweden.
- It is an international movement of school students who take time off from class to participate in demonstrations to demand action to prevent further global warming.



Pinaka Rocket

- The Defence Research and Development Organisation (DRDO) kick started a key process for production of Pinaka rockets, launchers and related equipment.
- Pinaka is a free flight artillery rocket system having a range of 37.5 km.



- Pinaka rockets are launched from a multi barrel rocket launcher which has a capability to launch 12 rockets in 44 seconds. The weapon system is designed and developed by Pune-based DRDO lab, Armament Research and Development Establishment (ARDE).
- The DRDO handed over to the Directorate General of Quality Assurance (DGQA) all relevant details for mass production of the Pinaka rocket systems.
- The DGQA is responsible for ensuring quality specifications and standards of all defence equipment.

Positive Pay System

- In order to check banking fraud, the Reserve Bank of India has decided to introduce from January 1, 2021, the 'positive pay system' for cheque, under which re-confirmation of key details may be needed for payments beyond Rs 50,000.
- Under the positive pay system, the issuer of the cheque will be required to submit electronically, through SMS, mobile app, internet banking or ATM certain minimum details of that cheque like date, name of the beneficiary, payee, amount to the drawee bank.
- These details will be cross-checked before the cheque is presented for payment. In case any discrepancy is flagged by cheque truncation system (CTS) to the drawee bank and presenting bank, redressal measures would be undertaken
- Banks are advised to create adequate awareness among their customers on features of positive pay system through SMS alerts, display in branches, ATMs as well as through their website and internet banking

FELUDA

- An accurate and low-cost paper-based test strip to detect Covid-19 in less than 30 minutes has been approved for commercial launch by the Drugs Controller General of India.
- Developed by a research team led by Debojyoti Chakraborty and Souvik Maiti of the Council of Scientific and Industrial Research (CSIR) and Tata Group, the test has been named 'Feluda' - a fictional private detective from West Bengal created by renowned writer and filmmaker Satyajit Ray.
- The development comes at a time when India has been conducting an average of 10 lakh tests daily.
- Feluda, the acronym for FNCAS9 Editor Linked Uniform Detection Assay, uses indigenously developed CRISPR gene-editing technology to identify and target the genetic material of SARS-CoV2, the virus that causes Covid-19.



- According to CSIR, the test matches accuracy levels of RT-PCR tests, considered the gold standard in the diagnosis of Covid-19, has a quicker turnaround time and requires less expensive equipment.

CRISPR, short form for Clustered Regularly Interspaced Short Palindromic Repeats, is a gene editing technology and finds its use in correcting genetic defects and treating and preventing the spread of diseases. Moreover, the technology can also be configured for detection of multiple other pathogens in the future.

Prices of oxygen cylinders capped

- In a massive setback for hoarders and black marketers, the National Pharmaceutical Pricing Authority (NPPA) has capped the prices of medical oxygen and oxygen cylinders amid an increasing demand for them for coronavirus patients.
- The present situation of COVID-19 has resulted in increased demand of Medical Oxygen (MO) in the country and hence its availability is of utmost importance. Many of the States/UTs are dependent on the medical oxygen supply from other States/UTs
- As per reports, the demand for medical oxygen has gone up almost four times, from 750 metric tonnes per day to 2,800 metric tonnes daily, causing a strain at all levels in the value chain of production and supply.
- It has been decided to cap the ex- factory price of liquid medical oxygen at manufacturers end at ₹15.22/CUM exclusive of GST; and to further cap the ex-factory cost of Medical Oxygen Cylinder at filler end at ₹25.71/CUM exclusive of GST in suppression of the existing Ceiling Price of ₹17.49/CUM, subject to transportation cost fixation at state level, for six months.