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General Studies-01

Mumbai's Victorian and Art Deco buildings get World Heritage tag

News: The city's Victorian and Art Deco ensembles were given the green light by the International Council for Monuments and Sites, an advisory body to the UNSECO, thus securing **India its 37th World Heritage site**, and Maharashtra its fifth.

Beyond News

- The buildings around the Fort, Churchgate and Marine Drive areas of the city, with notable structures such as the Bombay High Court, Elphinstone College, the National Gallery of Modern Art and CSMT, form a part of the collection of Victorian, Neo-Classical and Indo-Saracenic architecture in the city.
- Residential buildings along Oval Maidan and around the Cricket Club of India, and the first row of buildings along Marine Drive, as well as the Regal and Eros cinema theatres, are part of the Art Deco cluster.
- Mumbai's Victorian buildings are amongst the finest and most cohesive 19th century Victorian architecture in the world, and the city's Art Deco buildings of the 20th century make up the second largest homogenous collection in the world.



Mini Neanderthal brains grown in U.S. lab

News: Scientists have successfully grown pea-size versions of Neanderthal brains, an advance that may help better understand the species that went extinct about 40,000 years ago.

Beyond News

- ➔ Cultivating and studying these mini brains may reveal why Neanderthals died out and Homo sapiens went on to conquer much of the planet.
- ➔ Researchers compared the genome of Neanderthals with that of modern humans. Out of 200 candidate genes that showed significant differences between the two species, the researchers focussed on a gene expression regulator known as NOVA1.
- ➔ To grow mini Neanderthal brains, they used the gene-editing tool known as CRISPR to "Neanderthalise" human pluripotent stem cells, or immature cells that can develop into any cell in the body.

General Studies-02

EC portal to aid disabled voters

News: The Election Commission will launch a voter education and electoral participation portal, with a section dedicated to the Persons with Disabilities (PwDs), in the backdrop of a two-day national consultation programme on issues pertaining to their inclusion in the poll process.

Beyond News

- ❖ The programme on “Inclusion of Persons with Disabilities (PwDs) in the Electoral Process” is being organised with a view to come up with a national policy on the issue.
- ❖ According to the 2011 census, India has around 70 million people with disabilities.
- ❖ Post-consultation, a comprehensive report on challenges along with short/medium/ long-term action points will be prepared. Among the participants will be senior government functionaries, representatives from political parties and NGOs, and experts.
- ❖ Under the EC’s Strategic Plan 2016-2025, greater participation of PwDs in the electoral process has been identified as one of the core objectives.

Punjab withdraws contentious legislation

News: The Punjab government has withdrawn a contentious legislation that proposed life imprisonment for sacrilege of the Guru Granth Sahib, the holy book of the Sikhs.

Beyond News

- The Indian Penal Code (Punjab Amendment) Bill, 2016, and the Code of Criminal Procedure (Punjab Amendment) Bill, 2016, enabled introduction of a new amended Section 295 AA in the IPC for desecrating the religious book.
- The Bill was introduced in 2016 after over hundred incidents of desecration of the holy book. The government had suspected “foreign hand” in the incidents. The existing provision, Section 295A of the IPC (deliberate and malicious acts, intended to outrage religious feelings of any class by insulting its religion or religious beliefs), makes such a crime punishable by imprisonment of three years.
- As per Home Ministry records, the Punjab government withdrew both legislations on May 3.
- The Home Ministry examines the Bills passed by the Assemblies that are repugnant to Central laws before they get the President’s assent to become a law.
- The Bill was returned by the Home Ministry to the State government in March 2017 as it violated the principle of secularism as mentioned in the Constitution.
- The government, sought legal opinion on the legislation and was told that the Bill could fail judicial scrutiny as it focussed on a particular religion. The Home Ministry recently reviewed over hundred pieces of legislation awaiting presidential assent.
- It called for a meeting of all State representatives to take a final decision on the Bills where a response was awaited from the State governments.

India backs FATF’s grey-listing of Pak.

News: India welcomed the step by an international organisation that placed Pakistan on a special list of countries that are kept under watch in a move to counter international terror financing.

Beyond News

- In a statement, the External Affairs Ministry welcomed the grey-listing of Pakistan by the Paris-based Financial Action Task Force (FATF), and expressed hope that Pakistan would prevent terror acts emanating from its territory.
- Being on the grey list will require Pakistan to meet additional guarantees while borrowing finance from international donors such as the International Monetary Fund.
- Pakistan had been on the grey list between 2012 and 2015 but was taken off the list.
- But subsequent terror attacks on Indian targets by groups such as the Lashkar-e-Taiba (LeT), headed by Hafiz Saeed, and Jaish-e-Mohammed, led by Masood Azhar, revived the international demand to place the country back on the list.
- The decision to place Pakistan back on the grey list was taken following the plenary session of the FATF in February and it finally came into force. Pakistan had activated diplomatic channels to prevent the listing but Islamabad could not stop the move.

Anti-conversion law must stay: tribal groups

News: Followers of indigenous faiths in Arunachal Pradesh have resented Chief Minister's move to repeal an anti-conversion law that they say is necessary to save traditional belief systems and local cultures.

Beyond News

- Arunachal Pradesh Freedom of Religion Act framed in 1978 would be repealed in the next Assembly session.
- In statements issued, the Indigenous Faith and Cultural Society of Arunachal Pradesh (IFCSAP) and the Nyishi Indigenous Faiths and Cultural Society (NIFCS) slammed the move as “minority appeasement and detrimental to the growth of indigenous people of the State”.
- The Nyishi, belonging to the Tani group, is the largest ethnic community in Arunachal Pradesh. The IFCSAP and the NIFCS are major organisations that fight for preservation of indigenous faiths such as Donyi-Polo and Rangfra.
- These organisations believe the growth of Christianity in the State from none in 1951 to being the largest religious group at 30.26% in 2011 has been at the expense of the followers of indigenous faiths.
- Repealing the law that safeguards the indigenous people would open the floodgates of poaching and it would lead to marginalisation of the indigenous people.
- The NIFCS said scrapping the anti-conversion law would extensively damage the basic structure of indigenous faiths and cultures that are still languishing from the persistent and aggressive influence of foreign cultures.



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General Studies-03

Agni-V to be part of nuclear arsenal soon

News: India's longest-range ballistic missile, Agni-V, will be inducted into the nuclear arsenal very soon.

Beyond News

- The Intermediate Range Ballistic Missile (IRBM) with a range of over 5,000 km can reach most parts of China.
- It is a strategic asset which will act as a deterrent.
- Missile features the latest technologies for navigation and improved accuracy. Earlier variants of the Agni family of long-range missiles have already been deployed.
- Last month, the canisterised variant of the missile was successfully test-fired by the user, the Strategic Forces Command (SFC). A few more user trials are planned in the next few weeks.
- The Agni series of missiles constitute the backbone of India's nuclear weapons delivery, which also includes the Prithvi short-range ballistic missiles and fighter aircraft.
- The submarine-based nuclear arsenal, which assures second strike capability in the face of the proclaimed no-first-use policy, is taking shape.
- While one nuclear ballistic missile has been inducted, more submarines and longer range submarine-launched ballistic missiles are under various stages of development.

PSLV bags first Australian order

News: The Indian PSLV launcher has broken into a rising Australian space market and bagged its first small but promising order from Down Under.

Beyond News

- Fleet Space Technologies, an IoT (Internet of Things) startup, disclosed last week that its first 10-kg nanosatellite Centauri I would fly to space on a PSLV later this year.
- The prospect for the PSLV is in the fact that Adelaide-based Fleet plans to put up a constellation of an unstated number of tiny satellites all of which will need a suitable, timely launch vehicle to take them to space.
- Australia is in the throes of setting up its space agency and an industry around it. Adelaide in South Australia is the current hub of this activity. The second nanosat, Centauri II, is to be launched on the U.S. SpaceX's Falcon 9 rocket later this year.
- The Indian Space Research Organisation (ISRO) has planned a part-commercial PSLV flight around August.
- The PSLV's three versions can lift satellites of 1,000-1,750 kg to distances of around 600 km in pole-to-pole orbits.
- A neat launch record has made the booster a trusted and affordable space vehicle for small satellites. Big rocket players are focussed on taking heavy, multi-tonne satellites to space.
- Since its first commercial launch in 1999, the PSLV has put in orbit 237 small satellites of 28 countries, About half of them are from the US. Antrix recently said it has many more orders confirmed or under discussion.

- A news release from the Australian company said it is developing a series of 10-kg nano satellites about the size of a shoebox to enable low-cost connectivity for agriculture, logistics, mining and other industries.

Decreasing 'greenness' in India's forests

News: 'Greenness' is consistently decreasing across more than 46 lakh hectares of various types of forest in India, particularly in core protected areas. This indicates that our forests are vulnerable.

Findings

- India's diverse forests face several threats including forest degradation, as the loss of greenness signifies. Scientists analysed NASA's MODIS satellite images of India's forests at eight-day intervals for 15 years (2001 to 2014) and assessed the persistent decreases in greenness. Using an index that determines the amount forest "vigour," they assessed the seasonal greenness of 14 different forest types: the negative the trend of greenness over years, the more degraded and vulnerable the forest.
- They found that the highest degradation is in moist deciduous forests (more than 20 lakh hectares), especially in the states of Chhatisgarh, Odisha, Maharashtra and Madhya Pradesh.
- Wet evergreen forests – including those in the Western Ghats and Eastern Himalayas are also affected, with the major changes observed in Karnataka and Arunachal Pradesh, followed by Kerala and Meghalaya.
- More than 15% of India's total mangrove forests also showed a decrease in greenness. Nearly 80% of these changes occurred in 'core' forests like protected areas.
- Using statistical analyses, the team determined the 'spots' or areas where the decrease in seasonal greenness were high and spatially contiguous.
- West Bengal was a major hotspot of mangrove degradation. Arunachal Pradesh, Kerala, Karnataka and Meghalaya were hotspots of decreasing greenness of wet evergreen forests while Manipur, Tamil Nadu, Mizoram, Sikkim and Arunachal Pradesh showed degraded montane (high-elevation) wet forests.
- The result of this study could provide first hand information to prioritise and plan conservation of these areas or restore them to their original glory.



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JULY 2 AND 3

General Studies-02

India, Maldives ties on the brink again

News: Bilateral relations between India and Maldives are on the brink once again as the deadline for India to withdraw its two helicopters has passed and the issue of visas for thousands of Indian job-seekers remains unresolved.

Beyond News

- The visas of more than 26 Indian Navy personnel operating the Advanced Light Helicopter (ALH) were valid till June 30. However, Male has refused to extend their visas and has already asked India to take back the two ALHs.

Background:

- The two helicopters were gifted by India in 2013 and one was operated by the Indian Coast Guard and the other by the Indian Navy. The validity for the Coast Guard helicopter had expired earlier this year but the helicopter still remains there.
- End of May, the visas of Navy personnel were extended by one month after intervention of External Affairs Minister.
- Maldives Ambassador to India said there had been no news on whether the issue over the helicopters had been resolved, adding that the matter was being handled “directly in Male.”
- Hundreds of Indians say their jobs may be on the line as tensions between the two countries continue.
- MEA sources admitted that they had received several complaints about difficulties faced by Indians in obtaining Maldivian work permits and the matter was being pursued officially.
- Meanwhile, most companies in the Maldives are routinely calling for job applicants who are “not Indian nationals.”

2021 census data to be stored electronically

News: The data collected during the 2021 Census will be stored electronically, the first time since the decennial exercise was conducted in 1951 in Independent India.

Beyond News

- The schedules and other connected papers shall be disposed of totally or in part by the Director of Census Operations, after creating an electronic record of such documents.

- A Home Ministry spokesperson said till now the “schedules” (a tabular form containing details of individuals), carried by enumerators to households, were being stored in a physical form at the government’s storehouse in Delhi.
- It is based on these schedules that the relevant statistical information on population, language, and occupation are sorted and published.
- The records running into crores of pages were occupying space in government office and it has now been decided that they will be stored in an electronic format. Any tampering with the data will invite punishment under the Information Technology Act, 2000.
- The RGI issued the notification as the process for the 2021 Census kicks in.
- An individual’s household data is not published by the RGI. They are published in the form of tables on the Census website. The data is preserved for 10 years and then it is destroyed. From now on it can be stored forever in electronic format.

General Studies-03

Astronomers capture image of a planet’s birth

News: Astronomers say they’ve captured the first confirmed image of a planet forming in the dust swirling around a young star.

Beyond News

- Planet appears as a bright spot in the snapshot taken using the European Southern Observatory’s Very Large Telescope in Chile.
- Miriam Kepler of the Max Planck Institute for Astronomy in Germany said hints of baby planets have been detected before, but astronomers weren’t sure whether those observations might simply be features in the swirling dust.
- Scientists describe the planet, located about three billion km from the star PDS 70, as a gas giant bigger than Jupiter.
- It has a cloudy atmosphere and a surface temperature of 1,000 degrees Celsius.



NGT directs NBCC not to cut any trees till July 19

News: The National Green Tribunal (NGT) directed the Centre and NBCC (India) Limited to maintain ‘status quo’ and not fell any trees for the redevelopment project in south Delhi colonies till July 19.

Beyond News: A Bench also directed NBCC to make a categorical statement on how many trees are to be felled for the project.



- The green panel also issued notices to the MoHUA, NBCC, Central Pollution Control Board, Central Public Works Department, civic bodies and others. It has sought replies from the authorities before July 19.
- The directions came while the green panel was hearing three different petitions seeking a stay on the felling of trees.
- One of the petitions alleged that environmental clearances for the project were granted without taking into account the adverse affects of felling of trees.
- The contention of the applicant is that the project activity involves felling of more than 17,000 trees, which will destroy the ecology and adversely affect the environment.
- The Delhi High Court had on June 25 asked how the national Capital could afford felling of trees for the housing project. During the hearing, the NBCC gave an undertaking that it will not cut any trees till July 4.
- Noting that the matter is being heard at the High Court, the Tribunal noted that the proposal of the project proponent to fell several trees, whether be it 17,000 more or less, is likely to seriously impact the environment unless proper impact assessment is done.

The petitioners also asked for the trees to be incorporated within the existing plans for redevelopment.

General Studies-04

At least 5 of 192 buildings identified for heritage tag have 'vanished'

News: As heritage conservation experts get ready to document 192 heritage buildings, Chennai Metropolitan Development Authority (CMDA) officials have discovered that several of these buildings have already been pulled down for redevelopment.

Beyond News:

- However, the reality is that at least five heritage buildings on the list of 192 buildings that remain to be documented have already been demolished and redeveloped in the past few years.
- Among them are the old buildings housing the Sacred Heart Church on Pantheon Road, Kalaiwanar Arangam on Wallajah Road and Chennai Central Prison, which have been pulled down and redeveloped.
- Urban planning expert said that the Old Jail building on Prakasam Road had vanished. The building is on the list of heritage buildings yet to be documented.
- Stressing on the need for documentation of all heritage buildings, a delay in notification of the buildings in the Gazette has led to a rapid loss of heritage buildings across the city.
- As many as 65 owners of heritage buildings have already opposed the move to put their buildings on the heritage list.

JULY 4

General Studies-01

Mummy found in Russia

News: Archaeologists have discovered the naturalised remains of a mummy, dating back about 2,000 years, in an ancient reservoir in Russia.

Beyond News

- According to the researchers, the remains found in an ancient gravesite near the Sayano-Shushenskaya Dam belong to a mummified young girl.
- They also found a belt with beads and a buckle made of jet, a vase resembling those used by Huns of the period, and a box made of birch wood that held a small mirror.
- The Huns lived in parts of what is now **modern China and Siberia** almost 2,000 years ago.
- They were migratory, and previous studies have shown they tended to mix with local people.
- Initial examination of the mummified remains revealed patches of skin, soft tissue and cloth remnants that appeared to be made of silk.
- The researchers noted that the clothing and materials in the grave indicate the girl was likely a nomadic Hun – likely one of high regard, and could have been part of the nobility.
- They also suggest that the vase contained what appeared to be a funeral meal and that a sack of pine nuts had been placed on her chest.

General Studies-02

Nipah outbreak from fruit bats

News: The Indian Council of Medical Research (ICMR) has confirmed that fruit bats were the primary source of the Nipah outbreak in Kozhikode and Malappuram districts in Kerala, where 17 people died due to the virus earlier this year.

Beyond News

- Initially, a Central medical team had ruled out bats as the primary source of the infection after samples collected from bats in two **Kerala** districts tested negative.
- Later, another medical team, in its report to the Union Health Ministry, said bats could not be ruled out as the samples were collected from insectivorous bats, which were not known to be Nipah carriers.
- In the second round, samples from 55 fruit bats were collected and sent to the National Institute of Virology in Pune.
- An ICMR official said the samples from fruit bats tested positive for the virus, confirming that they were the source of Nipah infection in Kozhikode and Malappuram districts.
- The natural host of the virus are fruit bats of the Pteropodidae family, Pteropus genus. Intermediate hosts of this instance were found to be pigs.



EC launches app to report electoral malpractice

News: The **Election** Commission launched an Android-based mobile application named “**cVigil**” for citizens to share proof of malpractices by political parties, their candidates and activists when the Model Code of Conduct is in force.

Beyond News

- The mobile application also facilitates sharing of geo-tagged photographic and video evidence without disclosing the identity of the sender.
- The uploaded information will be transmitted to the control room, and from there the field units or flying squads, mapped on a Geographic Information System, will be immediately alerted for further action.
- In case the complainant does not opt for anonymity, the person will also receive an action-taken report within about 100 minutes.
- The application, whose Beta version has now been released, will be made available for use during the four State Assembly elections scheduled for later this year.

Chinese Army team visits Delhi, Agra

News: A high-level Chinese Army delegation is in India as part of the bilateral efforts to strengthen military-to-military ties.

Beyond News:

- According to the Army, the Chinese delegation, led by Deputy Commander of the Western Theatre Command, visited Delhi and Agra before heading to the headquarters of the Sukna-based 33 Corps.
- This visit is seen as a major initiative to strengthen the relationship between the **armed forces** of both nations.
- The Chinese delegation, comprising 10 senior military officials, has been interacting with senior Indian military leaders.
- The visit of the Chinese delegation to the local military headquarters is “a significant step towards increasing interactions at the level of military commanders, and implementation of various agreements to maintain peace.”



General Studies-03

Karnataka to survey farmers outside institutional credit system

News: Karnataka government will launch a survey to identify farmers who are outside the

Farm estimates



ambit of the lending schemes of financial institutions.

Beyond News

- Of the 74 lakh farmers in the State, about 24 lakh have been found to be outside the institutional credit system.
- While there are 22 lakh farmers availing loans from the cooperative sector, around 28 lakh are availing credit facility from nationalised banks.
- Incidentally, 54 lakh farmers in the State fall in the 'small and marginal farmer' category with landholding of less than five acres.
- According to sources, the survey was perceived as necessary as during deliberations on farm loan waiver, many crucial issues, including secretaries of local cooperative banks indulging in fraudulent withdrawal in the name of gullible farmers, were noticed.
- In light of this, the government is mulling over transferring the loan waiver amount directly to the beneficiary's account, to be later adjusted in the books.
- In a large number of cases, farmers' loans have been renewed but without any genuine benefits.
- The State government is working on a scheme that could help lakhs of hawkers by providing institutional credit for the small amounts that they require to run their daily businesses.
- Mobile credit facility, for which cooperative societies would be roped in, is being considered. It will provide the needed capital even a thousand rupees to help the beneficiaries run their business.



Century's longest lunar eclipse on July 27

News: The longest total lunar eclipse of this century would be visible from all parts of the country on July 27.

Beyond News

- The celestial body would also be tinged with a reddish hue, a phenomenon popularly referred to as a **blood moon**.
- The total lunar eclipse would last for one hour and 43 minutes while partial eclipses, which would precede and follow the total eclipse, would last more than an hour, he said.
- During a total lunar eclipse, the Moon's disk can take on a dramatically colourful appearance from bright orange to blood red and more rarely dark brown to very dark gray, depending upon the part of the Earth's shadow it would be passing through. This was the reason a totally eclipsed Moon, at times, was called as blood moon.

SpaceX delivers AI robot to space station

News: The International Space Station got its first robot with artificial intelligence, along with some berries, ice cream and identical brown mice.

Beyond News:

- The nearly 6,000-pound (2,700-kilogram) delivery includes the round robot Cimon, pronounced Simon.
- Slightly bigger than a basketball, the AI robot from the German Space Agency is meant to assist German astronaut Alexander Gerst with science experiments.
- Cimon's brain will constantly be updated by IBM so its intelligence and role keep growing.
- There are also genetically identical mice for a study of gut bacteria.

JULY 5

General Studies-02

Supreme Court relies on 1987 report to declare Delhi is not a State

News: The Supreme Court on July 4 followed the 1987 Balakrishnan Committee report to conclude that Delhi is not a State.

Beyond News

- The report had envisaged that Delhi cannot have a situation where the national capital has “two Governments run by different political parties. Such conflicts may, at times, prejudice the national interest.”
- Chief Justice, in his leading opinion for the Bench reproduces excerpts from the report, which said “Delhi as the national capital belongs to the nation as a whole.”
- The report foresaw that if Delhi becomes a full-fledged State, there will be a constitutional division of sovereign, legislative and executive powers between the Union and the State of Delhi.
- The Parliament would have limited legislative access and that too only in special and emergency situations. The Union would be unable to discharge its “special responsibilities in relation to the national capital as well as to the nation itself”.
- The report said the control of the Union over Delhi was vital in the national interest.
- The report dealt extensively with the modifications in the aid and advice given by the Council of Ministers to the LG as the Administrator of Delhi.
- It pointed out that the ‘aid and advice’ concept cannot apply to the exercise by the Administrator of any judicial or quasi judicial functions. The LG is bound to the aid and

advice of the Delhi Cabinet only in matters in respect of which the Legislative Assembly has the powers to make laws

- The LG's role is not that of merely a Constitutional figurehead, though the ultimate responsibility for good administration of Delhi is vested in the President acting through the Administrator. However, the Administrator has to take a somewhat more active part in the administration than the Governor of a State.
- Hence, differences of opinion would arise between the LG and the elected government. The report had recommended that the "best way" of doing this is to let the LG refer such differences of opinion with the elected government to the President for a final decision.

Union Cabinet clears DNA profiling bill

News: The Union Cabinet has cleared a bill that allows law enforcement agencies to collect DNA samples, create "DNA profiles" and special databanks for forensic-criminal investigations.

Beyond News

- The DNA Technology (Use and Application) Regulation Bill, 2018, is the latest version of a Bill that originated as a DNA "profiling" Bill, framed by the Department of Biotechnology.
- The aim of that draft legislation was to set in place an institutional mechanism to collect and deploy DNA technologies to identify persons based on samples collected from crime scenes or for identifying missing persons.
- Several clauses of the Bill were tightened to make it stronger and immune to data abuse.
- The Bill creates a DNA Profiling Board that would be the final authority that would authorise the creation of State-level DNA databanks, approve the methods of collection and analysis of DNA-technologies.

India braces for more U.S. pressure on Iran sanctions

News: The Government of India is bracing for more "pressure" from the U.S. on Iran sanctions in the coming weeks, but hopes that there may be an exception made for its dealings on the Chabahar port, as officials meet with a U.S. delegation in the next few weeks.

Beyond News

- The government was yet to take any decision on cutting oil import from Iran, as the U.S. had demanded, when its U.N. envoy visited India last week.
- Iran remains an "important near neighbour" for India, and a major oil supplier, and the government hoped to have further discussions with the U.S. to understand the options it has on dealing with Tehran, given the sanctions proposed to kick in by November 4, 2017.
- India is second only to China when it comes to oil import from Iran, and in February 2018, after President Rouhani's meeting with Prime Minister Narendra Modi in Delhi, India had committed to increase that intake by 25% this year.

- However the U.S.' decision to walk out of the multilateral nuclear agreement with Iran and re-imposition of sanctions by November has cast a shadow on its future engagement.
- This week the U.S. State Department reiterated its intention to get tough with all countries engaging with Iran for trade, energy and infrastructure projects.
- The discussion on Iran sanctions, as well as on impending sanctions under the new American CAATSA law that imposes strictures on trade with Russian and Iranian entities, were expected to have been taken up during the "2+2" meeting between External Affairs Minister, Defence Minister and their counterparts in Washington this week, but the talks were cancelled by the U.S., owing to another meeting in North Korea for nuclear talks.
- Government officials called speculation over the cancellation "unfounded".

Uttarakhand HC declares animals to be 'legal persons'

News: In a unique ruling, the Uttarakhand High Court accorded the status of "legal person or entity" to animals in the State, saying "they have a distinct persona with corresponding rights, duties and liabilities of a living person."

Beyond News

- A Division Bench of Justices bestowed the unique status on animal kingdom while issuing a series of directions to prevent cruelty against animals.
- The entire animal kingdom, including avian and aquatic ones, are declared as legal entities having a distinct persona with corresponding rights, duties and liabilities of a living person.
- In common law jurisprudence, there are two types of persons natural persons or human beings and artificial person, which are also known as juristic persons, juridical entity or a legal person other than a natural person.
- Legal or juristic persons are created by law and recognised as a legal entity, having distinct identity, legal personality and besides duties and rights. They include private business firm or entity, non-governmental or government organisations, trusts and societies, besides others.
- The Division Bench also gave directions ranging from the amount of load allowed to be pulled by various animals in accordance with the kind of carriage being pulled to the amount of riders per carriage.
- Further banning the use of spike or other sharp tackle or equipment on the animal, the court also directed the State government to ensure that if temperature exceeds 37°C or drops below 5°C, no person be permitted to keep in harness any animal used for the purpose of drawing vehicles.



- The court also went into the aspect of animal safety, **highlighting the need for fluorescent reflectors in carriages and animals, certificates of unladen weight of vehicles, compulsory shelter of suitable size for horses, bullocks and stray cattle** and a direction to the veterinary doctors of Uttarakhand to treat any stray animals brought to them or by visiting them.
- The order came on a public interest lawsuit seeking restrictions on the movement of horse-drawn carts between Indian and Nepal through Banbasa.
- It was also prayed for in the PIL that there should be provisions for vaccination, medical checkup of the horses for suspected infections before entering into the Indian territory from Nepal and for regulating traffic in the border areas.

General Studies-03

ISRO to test its astronaut escape feature

News: Indian Space Research Organisation (ISRO) has scheduled a 'pad abort test' of an experimental space crew capsule as an important cog of its plan to send Indians to space one day.

Beyond News

- The launch pad abort test, or PAT, involves aborting a space capsule at launch to save the inmates. It is slated at ISRO's Sriharikota launch venue, the Satish Dhawan Space Centre (SDSC), in coastal A.P.
- A two-hour band has been slotted for the test, according to information on the website of ISRO's Space Application Centre, Ahmedabad.
- SAC has provided devices that enable satellite communication and navigation of this flight.
- ISRO describes PAT as the first milestone in qualifying its crew escape system in an emergency. The test is also one of the many main and supporting technologies that the space agency is developing ahead of its ambitious Human Space Flight Programme (HSP).
- A roughly 3,770-kg trial crew module, aided by four solid-fuelled rockets built around it, will be flown up to a distance of 2.4 km. On firing, the module will be jettisoned and demonstrate a safe descent with the help of parachutes all this in around three minutes.

Cosmic rays from massive star system may reach earth

News: Eta Carinae the most luminous and massive stellar system within 10,000 light-years is accelerating particles to high energies, some of which may reach the earth as cosmic rays, a study using data from a NASA telescope has found.

Beyond News: Astronomers know that cosmic rays with energies greater than one billion electron volts (eV) come to us from beyond our solar system. However, because



these particles electrons, protons and atomic nuclei, all carry an electrical charge they veer off course whenever they encounter magnetic fields. This scrambles their paths and masks their origins.

- Eta Carinae, located about 7,500 light-years away in the southern constellation of Carina, is famous for a 19th century outburst that briefly made it the second-brightest star in the sky.
- This event also ejected a massive hourglass-shaped nebula, but the cause of the eruption remains poorly understood.
- The system contains a pair of massive stars whose eccentric orbits bring them unusually close every 5.5 years.
- The stars contain 90 and 30 times the mass of our Sun and pass 225 million km apart at their closest approach about the average distance separating Mars and the Sun.
- NASA's Fermi Gamma-ray Space Telescope also observes a change in gamma rays – light packing far more energy than X-rays – from a source in the direction of Eta Carinae.

JULY 6

General Studies-01

Mass Inca grave uncovered in Peru

News: Peruvian archaeologists are exploring a mass grave belonging to the ancient Inca civilisation in the coastal region of Lambayeque.

Beyond News

- The grave, found at the archaeological site of Tucume which is home to 26 pyramids, will help confirm the extension of the Inca Empire.
- Some 24 mummified corpses were found in the grave, along with funerary offerings such as ceramics, grains and finely woven robes.
- One of the mummies could be a high-ranking personage, given the quality of the funerary offerings found alongside the body.
- The empire flourished along western South America between the 13th and 16th centuries in parts of what are now Ecuador, Peru, Bolivia, Chile and other countries.

General Studies-02

India to take back helicopters gifted to Maldives.

News: India is preparing to bring back the two helicopters it had gifted to the **Maldives**, in a sign that it is hoping to use dialogue as the way forward in resolving issues with Male after months of strain in ties, caused by a squeeze on work permits to Indians and unhappiness over the Maldivian election process.

Beyond News: The government has in principle decided to withdraw the helicopters, as well as accompanying personnel from two atolls in the Maldives, which has been the consistent demand of the Yameen government for the last few months.



- MEA officials declined to comment on the specific status of the decision, saying only that talks on the helicopters were still “ongoing.”
- The helicopters were gifted in 2013 and the agreement for the first one, operated by the Indian Coast Guard, expired earlier this year but the helicopter has remained there. The agreement for the second one operated by the Indian Navy expired on June 30. About 28 Navy personnel are still in Maldives with expired visas awaiting instructions to return.
- After months of a standoff, the government is understood to have decided that talks are the only way forward and that India will not force any action on the Maldives.
- India hopes that it will also persuade the Maldives to end an unofficial squeeze on visas to Indians, particularly of non-essential job-holders who have been employed by hotels and educational institutions, but have not received work permits for several months.
- However, India will continue to raise its concerns over the conduct of elections in the Maldives, which it believes it is entitled to as a “SAARC country and as a neighbour.”

[Allow gambling in sports but regulate it, says law panel](#)

News: The Law Commission of India submitted a report to the government, saying that since it is impossible to stop illegal gambling, the only viable option left is to “regulate” gambling in sports.

Beyond News

- The commission, recommended “cashless” gambling in sports as a means to increase revenue and deal a blow to unlawful gambling.
- The money generated can be used for public welfare activities. For that the revenue from gambling should be taxable under laws like Income Tax Act, the Goods and Services Tax Act.
- Transactions between gamblers and operators should be linked to their Aadhaar and PAN cards so that the government could keep an eye on them, the panel said.
- The commission recommended a classification of ‘proper gambling’ and ‘small gambling.’ Proper gambling would be for the rich who play for high stakes, while small gambling would be for the low-income groups, it said.
- The panel wanted the government to introduce a cap on the number of gambling transactions for each individual, that is, monthly, half-yearly and annual.
- Regulations need to protect vulnerable groups, minors and those below poverty line, those who

Roll of the dice
Legal status of gambling globally

Europe: The biggest markets are the U.K., Spain and Germany, which have legal and regulated gambling, both land-based casinos and online betting. France and Iceland have banned online casinos, but allow land-based casinos.

Americas: Canada and Mexico have legalised all forms of gambling. In the U.S., some States allow gambling. Nevada allows all forms of gambling.

Australia: Land-based and online casinos are legal under regulations.

Asia: Gambling was outlawed in Singapore since 2014. Japan has recently allowed land-based casinos. In China, all forms of gambling, except for physical sports betting, are outlawed.

Argentina, Peru, Panama, Costa Rica and the Dominican Republic have legalised all forms of gambling. Chile and Brazil only allow off-shore casinos, while Cuba has outlawed gambling.

Africa: Over 30 countries have legalised all forms of gambling. South Africa is a well-known hotspot for casinos.

draw their sustenance from social welfare measures, government subsidies and Jan Dhan account holders from exploitation through gambling.

- According to the commission, Foreign Exchange Management and Foreign Direct Investment laws and policies should be amended to encourage investment in the casino/online gaming industry. This would propel tourism and employment.
- The Commission said even as Indian society has traditionally frowned upon gambling, the argument made for 'revenue over morality' lacked merit. The Commission reasoned that online gambling and betting have acquired a global presence.

Centre aims to boost academic research, infrastructure

News: With the Cabinet approving the expansion of the capital base of the **Higher Education Financing Agency (HEFA)** to ₹10,000 crore so that it can mobilise ₹1 lakh crore funds for building research infrastructure, like labs, and academic infrastructure in higher education institutions is all set to move to HEFA.

Beyond News

- The rationale, the HEFA process allows the channelling of finances for this purpose irrespective of the budget exercise.
- HEFA proposes to mobilise funds from the market through government-guaranteed bonds and commercial borrowings.
- Till now, projects worth ₹2016 crore for the IITs at Kanpur, Delhi, Madras (Chennai), Bombay (Mumbai) and Kharagpur have been approved by HEFA.
- The redefined HEFA is more comprehensive than the original HEFA proposal on many fronts.
- HEFA had been set up in 2017 to follow a specific process for financing educational infrastructure: an institution had to escrow a certain amount and access 10 times the funds, as per the project's requirement, with the government servicing the interest and the institution repaying the principal amount.
- However, this has been revamped, with many categories of institutions now required to repay much less or nothing.

Act to regulate private schools passed

News: The Tamil Nadu State government adopted a legislation that seeks to regulate recognised private schools with an emphasis on safety and security of children in private schools.

Beyond News

- The emphasis of the Tamil Nadu Private Schools (Regulation) Act, 2018, was to regulate admissions, collection of fee and conduct of examinations and ensuring quality education by ensuring basic minimum standards and norms in private schools.
- The government had made an announcement in 2012 to constitute an expert committee to suggest a new Comprehensive Act to govern all private schools in the light of the Tamil Nadu



Rules of the game

It is the outcome of suggestions made by an expert committee for a comprehensive act to govern all private schools in Tamil Nadu, taking into account the Tamil Nadu Uniform System of School Education Act, 2010, and the Right of Children to Free and Compulsory Education Act, 2009

Some of the salient features of the Tamil Nadu Private Schools (Regulation) Act, 2018

- It applies to all aided and unaided schools and specifically prohibits the admission of a child into any school that does not have a recognition certificate
- A severe penalty can be imposed on a school or educational agency if a student is prevented from appearing for the board examination on account of poor academic performance
- Among special provisions for minority private schools, the government can exempt them from provisions of the Act or other rules and orders which can impinge upon the educational institution's minority character
- The withdrawal of recognition to a school should be done only after necessary arrangements are made for the students to continue in other schools
- The Act also states that if recognition is withdrawn during the course of an academic year, the order will take effect only at the end of the academic year

Uniform System of School Education Act, 2010 and the Right of Children to Free and Compulsory Education Act, 2009.

- The Committee had submitted the draft Act for consideration of the government. Based on the draft, the government had decided to enact a comprehensive legislation.
- A legislation to amend the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Act, 1961 was also tabled.
- The government also adopted the Tamil Nadu Sugarcane(Regulation of Purchase Price) Act, 2018, to regulate the price of sugarcane purchased by sugar factories from farmers in the State, as per the revenue sharing price fixation model from the current season as announced during the 2018-19 budget.

General Studies-03

ISRO's first 'pad abort' test, critical for future human space mission, successful

News: The first 'pad abort' test critical for a future human space mission was conducted successfully, the Indian Space Research Organisation has announced.

Beyond News

- The test was conducted at the Satish Dhawan Space Centre, Sriharikota.
- The Pad Abort Test demonstrated the safe recovery of the crew module in case of any exigency at the launch pad.
- Describing it as a major technology demonstrator the space agency said the PAT (pad abort test) is the first in a series of tests to qualify a crew escape system technology of a manned mission in the future.
- The Crew Escape System is an emergency escape measure to quickly pull the crew module the astronaut cabin along with astronauts out to a safe distance from the launch vehicle in the event of a launch abort.
- Teams also tried out at least five new secondary technologies related to satellite communication, navigation and telemetry during the test. A few more trials related to the safety of astronauts would be taken up later.
- It was propelled on its own seven specially made complex in-built rockets. In the next four-odd minutes, it reached a height of 2.7 km and curved down into the Bay of Bengal on parachutes. It landed in sea at a distance of 2.9 km from the launch centre.
- Three recovery boats were sent out to retrieve the module.
- The rockets are solid-fuel powered and specially designed for quickly ejecting the crew module and astronauts to a safe distance without exceeding the safe G-levels, an ISRO statement said.
- Nearly 300 sensors recorded various functional aspects of the mission during the test flight.



Cosmic collision reshaped Milky Way

News: Astronomers have discovered an ancient cosmic collision with an object, dubbed the "Sausage" galaxy, that reshaped the structure of the Milky Way galaxy.

Beyond News

- The crash was a defining event in the early history of the Milky Way and helped fashion both its inner bulge and its outer halo.
- Scientists propose that around 8 billion to 10 billion years ago, an unknown dwarf galaxy smashed into the Milky Way.
- The dwarf did not survive the impact: it quickly fell apart, and the wreckage is now all around us.
- Researchers used data from the European Space Agency's Gaia satellite.
- The paths of the stars from the galactic merger earned them the moniker "the Gaia Sausage".
- The Milky Way continues to collide with other galaxies, such as the puny Sagittarius dwarf galaxy.

JULY 7

General Studies-02

China and U.S. fire first salvos in a long haul trade war.

News: China joined the trade war with the United States, by announcing it was ready for a long campaign after authorities in Washington declared a 25 % additional levy on Chinese products worth \$ 34 billion.

Beyond News:

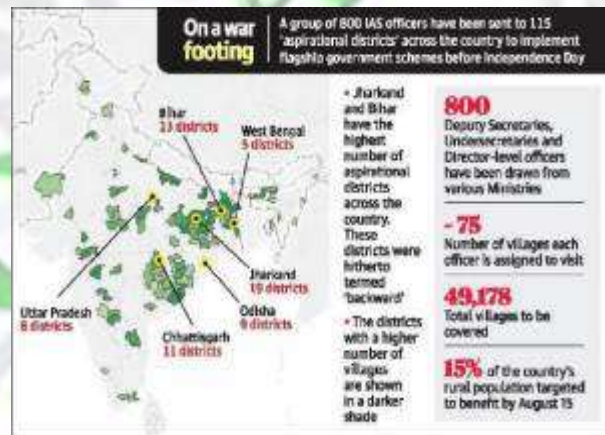
- The Chinese have retaliated in equal measure, opening the possibility of tit-for-tat tariff escalation, which could disrupt existing international network of supply chains, and slow down the global economy, which was yet to fully recover from the 2008 recession.
- In mid-June the Chinese commerce ministry had declared that 545 types of U.S. products of equal value, including soybeans, automobiles and seafood, would face an additional tariff of 25 %.
- Analysts say that the US is targeting the Made-in-China 2025 project an initiative that can make Beijing a market leader in sunrise hi-technology areas, including robotics, semiconductors, electric vehicles, drones and products powered by Artificial Intelligence (AI).
- By restricting its market for hi-end products, the U.S. hopes that this would deter its companies, with cutting edge technology, from investing in China. The U.S. has earlier charged Beijing of forcing American companies to part with their intellectual property, which can be funneled into the Made-in-China 2025 project, as a precondition for doing business in China.

Govt. deploys 800 IAS officers for village outreach.

News: A battalion of Central government IAS officers has been drafted to ensure on the ground implementation as the Centre races to saturate 117 “aspirational districts” with seven flagship social welfare schemes by Independence Day.

Beyond News:

- At least 800 Deputy Secretaries, Under-Secretaries and Director-level officers, drawn from Ministries as diverse as Defence and Urban Affairs, have been assigned about 75 villages to visit, as part of the Extended Gram Swaraj Abhiyan (EGSA) from June 1 to August 15.
- In total, 49,178 villages most with a majority SC/ST population are being targeted.
- Over the two-and-a-half month period, these Central officials are being absorbed into EGSA duty for at least 15 working days.
- In each village, the Central team convenes a meeting of villagers and beneficiaries along with a State government or district official, a lead bank representative and local officials from the agencies responsible for enrolling people into the schemes.
- The teams can also directly input the day’s progress into a data system.
- Senior Ministry officials also make direct daily calls to a section of District Collectors to monitor progress, while third-party observers for each district mostly from NGOs or academia have been drafted in to do random checks of villages and report back to the Ministry.



General Studies-03

Alternative cereals can save water.

News: If Indian farmers were to switch from growing rice and wheat to ‘alternative cereals,’ such as maize, sorghum, and millet, it could reduce the demand for irrigation water by 33%.

Beyond News:

- This could also improve nutritional availability to consumers, according to an analysis by researchers.
- For their analysis, the scientists considered water as well as cereal-production data from 1996-2009. Because actual water consumption data was not available, they used a proxy — Crop Water Requirement (CWR), which is the product of the water required by a crop and the harvested area to calculate water consumption in every district in this period.

- In this time, cereal production grew by 230%. Although the combined production of alternative cereals was larger than that of wheat in the 1960s, their relative contribution to the cereal supply has steadily dwindled.
- Yet, alternative cereals disproportionately account for the supply of protein, iron, and zinc among kharif crops. At the same time, total CWR demand for Indian cereal production increased from 482 to 632 km per year during the study period.
- The nub was that rice is the least water-efficient cereal when it came to producing nutrients, and was the main driver in increasing irrigation stresses.
- Replacing rice with maize, finger millet, pearl millet, or sorghum could save irrigation and improving production of nutrients such as iron by 27% and zinc by 13% .
- In some districts, however, the shift in cereals translated into a reduction in calorie content.
- This week India announced a 50% hike, or RS 200 per quintal, in the minimum support price for paddy the key kharif crop along with several other crops. Though hikes were also announced for alternative cereals, some of which were included in the analysis, the government doesn't procure these crops like it does rice and wheat. It mainly uses these procured cereals to meet obligations under the Food Security Act.
- For those eligible, India is mandated to provide 5 kg of foodgrains per person per month at subsidised prices of RS 3/2/1 per kg for rice/wheat/coarse grains.

Portable system to issue rail tickets.

News: A low-cost Portable Unreserved Ticketing System (P-UTS) has been developed by Southern Railway to eliminate printed card tickets and issue unreserved tickets at the 5,000-odd halt stations in the railway network, other remote locations, and at melas and large congregations.

Beyond News:

- The P-UTS consists of a thin client, monitor, keyboard and a thermal printer, meeting the specifications of the Centre for Railway Information Systems (CRIS), which handles the passenger and ticketing system of Indian Railways.
- These components are housed in a compact box of 20 x 16 x 6.5 that weigh 9 kg.
- The P-UTS unit can be charged with the required amount from the serving railway station and UTS tickets issued up to that amount.
- Pre-loaded with ticket image, the unit prints the railway ticket on getting the command. The P-UTS can work independently for three days at a stretch.
- An extended counter of the UTS at a remote location that can be used without any network connectivity, the P-UTS can be synchronised with the UTS server at the serving station after the value is exhausted.
- After successful in-house trials, Southern Railway forwarded the P-UTS for the approval of the Railway Board and to define it as a regular UTS terminal.

- Once the nod is obtained, the software and required applications will be uploaded by CRIS and the P-UTS will be put on trial in 10 halt stations.
- The P-UTS has been developed as Railways are closing down printing presses under it and phasing out card tickets. The P-UTS can issue UTS tickets from any non-networked location.

Hominins walked like modern humans, climbed like apes.

News: Our early hominin ancestors, including their toddlers, could stand on two feet and walk upright, but also had several ape-like foot characteristics that could have aided in climbing trees.

Beyond News:

- The team discovered that hominin toddlers possessed many of the structures necessary to walk on two legs that have been found in adult specimens, but also retained a convexity of the medial cuneiform a bone important for joint movement, such as that involved in climbing into adulthood.
- The findings, are based on a rare tiny foot fossil, about the size of a human thumb, of a nearly 3.32 million-year-old skeleton of a young female hominin ancestor, Australopithecus afarensis, discovered in 2002 in the Dikika region of Ethiopia.
- This is the most complete foot of an ancient juvenile ever discovered.
- This evidence of increased mobility of the toe is an ape-like pattern that is suggestive of a selective advantage of this trait and which offers new insights into the evolution of bipedality.
- These findings are critical for understanding the dietary and ecological adaptation of these species and are consistent with our previous research on other parts of the skeleton especially, the shoulder blade.

NASA solar probe gets unique heat shield.

News: NASA's Parker Solar Probe aiming to get the closest ever to the sun has got its "revolutionary" heat shield permanently attached to the spacecraft.

Beyond News:

- The shield will help the spacecraft remain safe as it collects data about the inner workings of the corona.
- The shield, with a diameter of 2.4 metres, protects instruments within its umbra, the shadow it casts on the spacecraft.
- At Parker Solar Probe's closest approach to the sun, temperatures on the heat shield will reach nearly 1,371 degrees Celsius, but the spacecraft and its instruments will be kept at a temperature of about 30 degrees Celsius.



- The heat shield is made of two panels of superheated carbon composite sandwiching a lightweight 11.5 cm thick carbon foam core.
- The sun-facing side of the shield is also sprayed with a specially formulated white coating to reflect as much of the sun's energy away from the spacecraft.
- Because Parker Solar Probe travels very fast 6,92,018 km per hour at its closest approach to the Sun, the shield and spacecraft have to be light to achieve orbit.
- The heat shield itself weighs only about 72.5 kg, as its foam core is 97% air.

JULY 8 & 9

General Studies-02

India's 'Request For Information' for fighter jets get six bids

News: Six global aircraft manufacturers have responded to a Request for Information (RFI) from the Indian Air Force to supply 110 fighter aircraft.

Beyond News

- The deadline for the RFI was July 6. All six manufacturers have earlier bid for the Medium Multi-Role Combat Aircraft (MMRCA), which was cancelled in 2015.
- Officials confirmed that six bids have been received, of which Lockheed Martin F-16 and SAAB Gripen are single-engine fighters, while Boeing F-18, Dassault Rafale, Eurofighter Typhoon and United Aircraft Corporation MiG-35 are twin-engine ones.
- The RFI, issued on April 6, states that the government plans to buy 110 fighters jets, of which 85% will have to be built in India under the 'Make in India' programme in partnership with a "Strategic Partner/Indian Production Agency."
- The procurement will be processed through the Strategic Partnership (SP) model under the Defense Procurement Procedure. However, the SP model itself needs some clarification which could delay the process.
- Air Force sources expressed confidence that the technical evaluation and trials can be completed very quickly, as all the aircraft have been extensively tested earlier.
- Earlier, the IAF was looking for a single-engine jet to replace the MiG-21s and MiG-27s being phased out of service, but the RFI did not specify it, opening up the contest to both single-and twin-engine jets. Officials said both configurations were equally competent and the final choice would depend on the price and extent of technology transfer.



- According to informal estimates, the entire cost could be worth over \$15 billion. Single-engine aircraft will cost lower than the twin-engine jets, both in unit and operational costs.
- The move comes almost two decades after the IAF began the last major effort to acquire fighters in large numbers.
- The effort culminated in the global tender for 126 fighters under the MMRCA deal which was cancelled in 2015 after the Modi government decided to buy 36 Rafale fighters from France under a government-to-government deal.

General Studies-03

Govt. taps RBI to track all financial transactions

News: In a move aimed at widening the crackdown on black money and following the money trail flowing in and out of thousands of shell companies, the Centre is planning to set up an information technology (IT)-based mechanism to keep a tab on all non-cash, financial transactions in the country.

Beyond News

- Reserve Bank of India (RBI) had been asked to develop the IT infrastructure for this purpose. There have been a series of interactions over the past one month to discuss the issue, with these parleys attended by top government officials from the Ministries of Finance and Corporate Affairs as well as RBI officials.
- Currently, the idea is to make the RBI the sole repository of such information, which will not be made available to other agencies such as the income tax department and the enforcement directorate as a default. Such agencies may be required to make specific requests to the central bank if they want information on a particular set of entities.
- An official aware of the development said that although the data will be captured for all transactions irrespective of the size of the transactions, the large ones would be relevant for enforcement purposes.
- Under the Prevention of Money Laundering Act, banks and financial institutions are already required to alert the Financial Intelligence Unit, under the Finance Ministry, to any suspicious transactions, cash or otherwise. Cash transactions of more than ₹10 lakh (including a series of transactions integrally connected to each other and exceeding ₹10 lakh in a month), need to be reported to the FIU.
- All suspicious transactions need to be reported to the unit within seven days after it is concluded that those are suspicious in nature.
- The move to track all financial transactions is the latest in a series to curb black money and identify shell companies.
- Following the 2016 demonetisation exercise that rendered more than 86% of the currency in circulation invalid, it was found there had been a significant spurt in the operations of shell firms that typically have no assets or active businesses.

- The Centre has shut down more than two lakh such entities. More than two lakh other firms that have not been carrying out operations have been sent notices. Depending on their responses, a decision would be taken on how many would be deregistered.
- In FY17, the FIU had received more than 15.9 million Cash Transaction Reports and 4.73 lakh Suspicious Transaction Reports.

Chuck that plastic for a bamboo sipper

News: A scientist from the Botanical Survey of India (BSI) in the Andaman and Nicobar Islands, has come out with a green alternative to use-and-throw plastic drinking straws, by tapping bamboo.

Beyond News

- The bamboo species *Schizostachyum andamanicum*, endemic to the islands looks ideal for the purpose.
- Discovered on the island about two decades ago, this bamboo is characterised by thin large hollow erect culm (stem) with long internodes.
- In its natural form, the bamboo species cannot be used as a straw but after observing the plant's appearance and structure, they found that it was ideal to be turned into a drinking straw.
- First, the sections of the culm between the nodes are cut into small pieces, to the length of a drinking straw. This can be done either by machine or manually, and then the culm sheath and solid nodes are removed.

Importance

- Not only is a bamboo straw biodegradable, it can be reused for years. People can keep one in their homes and use it multiple times like tooth brushes, avoiding plastic straws. And the cost, Just 50 paise per piece. Its longevity makes it cheaper than plastic.
- Invention is timely in the campaign against plastic pollution.
- If the per capita consumption of plastic has to be brought down, it can be done by promoting natural products like bamboo and jute and other such innovations.
- 'Straw bamboo' is found all over the islands and can be cultivated by farmers.

Quarrying doom foreseen in Kaziranga

News: A report by the divisional forest officer has underlined the imminent threat that Kaziranga National Park, a UNESCO World Heritage Site and prime one-horned rhino habitat, faces from unscientific stone quarrying in its vicinity.

Beyond News

- The 884 sq. km. Kaziranga is also a tiger reserve with one of the highest population densities of the striped cat.

- The National Tiger Conservation Authority asked the Assam government to immediately stop all mining, quarrying and stone crushing activities in the Kaziranga-Karbi Anglong landscape.
- The southern edge of Kaziranga adjoins the hilly Karbi Anglong the park's animals flee there during high floods.
- There are numerous waterbodies and streams flowing down the Karbi Anglong hills and joining larger streams, including the Diffolu river, to flow into the Kaziranga National Park and Tiger Reserve area. The stone quarrying process is affecting the water quality and thereby affecting the wildlife habitat in and around Kaziranga, and the environment as a whole.
- The report further said the unscientific quarries were blocking natural springs originating from the hills and physically changing the course of water flow. There is also a higher degree of siltation and increase in turbidity of water due to the carrying of unfertile soil from the quarrying sites by the rains during monsoon season.
- The quarrying process is also causing noise pollution in and around the southern boundary of the Bagori, Kohora and Burapahar ranges [of the Kaziranga National Park]. Noise pollution is adversely affecting animal behaviour and their movement in these areas.

Biodegradable plastic made from tree glue

News: Scientists have found that a natural 'tree glue' which stiffens plant cells can be turned into a strong, biodegradable plastic.

Beyond News:

- The natural glue called lignin holds cellulose fibres together.
- Researchers genetically modified a bacteria called *Rhodococcus jostii* to turn lignin into useful chemicals.
- There are only a small number of organisms that can break down lignin.
- Normally the bacteria uses it for growth, and breaks it down into small molecules which it uses as food to grow.
- So they are trying to intercept that process so it still can grow but it can do something for us at the same time.
- Because lignin is complex, as you break it down you get a complex mixture but what's nice is with these bacteria they are able to funnel all this.
- Plastic is notoriously difficult to recycle and only 12 per cent of household waste is reprocessed. The rest is either burnt or goes to landfill. Lignin is a byproduct of the paper making process.

Human population, roads reduce effectiveness of protected areas

News: Designated protected areas such as wildlife parks and sanctuaries are effective at preventing forest loss except when there are roads or more populous areas nearby, find scientists.

Findings:

- Loss of forests is a worry in most tropical countries including India which is home to the Western Ghats, one of the world's major biodiversity hotspots.
- To assess trends of forest loss in the Ghats, a team, analysed high-resolution Landsat satellite imagery from 2000 to 2016.
- The team examined whether the forest loss correlates with factors including protection status of an area (protected area PA, versus non-PA) and proximity to roads and towns. They collected biophysical (slope, elevation etc, which play a role in patterns of forest loss), demographic (human population densities from census data) and administrative (protection status of an area) data from multiple sources, incorporating this into their spatial analysis.
- The results, show that forest loss though confined to only small patches is higher in wetter areas, higher altitudes and near rivers and lakes across 89,681 sqkm of forests in the Ghats. Protected areas were 30% less likely to lose forest than non-protected areas, especially when forests were closer to roads and towns. However, the advantage of protection declined by 32% when local population densities increased.
- However, the results varied when the team analysed two smaller landscapes in Karnataka, hinting that local factors are important mediators of forest loss patterns. This could include how locals use forests in their vicinity and working with communities could improve long-term forest conservation.

General Studies-04

Fish samples in Chennai test positive for formalin

News: As many as 11 out of 30 samples of fish species purchased from Chinthadripet and Kasimedu, the two major fish markets in **Chennai**, on two different days, have tested positive for formalin, a cancer-inducing chemical used illegally to preserve fish.

Beyond News:

- Formalin causes irritation in the eyes, throat, skin and stomach. In the long run continued exposure causes harm to the kidneys, liver and can even cause cancers.
- This is the first time samples of fish in Tamil Nadu have tested positive for formalin.

- Food Safety and Standards Authority of India (FSSAI) officials have been undertaking tests at fish markets and harbours across the State to test for formalin following a scare in neighbouring Kerala that fish sourced from here were chemically contaminated.
- Fish industry experts said that formalin or formaldehyde is sprayed on the fish or injected into the fish or the fish is dipped into the solution.
- This helps keep the fish fresh for a longer time. Usually people who buy fish check the gills for freshness, if it is red it denotes freshness, when formalin is used the gills remain red for longer periods. In some cases, fishermen also apply kumkum to retain redness.

JULY 10

General Studies-01

Ancient water tank found in Hampi

News: In yet another chance discovery, the Archaeological Survey of India (ASI) has found a water tank within the precincts of the Virupaksha Temple at Hampi, the erstwhile seat of the **Vijayanagar empire**.

Why it's important?

This makes Hampi & vijayanagar empire relevant to upsc preparations.



General Studies-02

China to cut tariffs on Indian cancer drugs: foreign ministry

News: India and China have reached an agreement to reduce tariffs on Chinese imports of Indian medicines, particularly cancer drugs.

Beyond News

- It was days after a Chinese movie on a leukaemia patient, Dying to Survive, highlighted the need for paving the way for import of cheap Indian drugs.
- Indian drugs are in big demand in China as they are far cheaper than their western counterparts.

Govt. to allow spouses of Indian nationals to convert visa category even if married abroad

Fishy business | What the tests revealed:

30 samples lifted	11 samples tested positive for formalin	5 samples had high levels of formalin (20 ppm)
6 samples had mild levels of formalin (5 ppm)	<ul style="list-style-type: none"> • Affected varieties: Sura, Squid, Yeri Vavvaal, Kelithi, Ottu Kanava, Pei Kanava • Affected varieties: Big and small lizard fish (Kezhanga or panna), big and small Paarai fish 	

ppm: parts per million

Formalin causes irritation in the eyes, throat, skin and stomach. Long-term exposure could harm kidneys, liver and even cause cancer

News: Spouses of the Indian nationals getting married abroad will no longer have to face difficulties in converting their tourist visa as the government plans to change existing rules.

Beyond News

- The move came after the Philipino spouse of an Indian national, who married outside the country, faced difficulties in converting her tourist visa to X2 (dependent visa) as the existing visa rules did not permit to do so.
- The husband had complained to Home Minister.
- As per the visa manual, tourist visa can be converted to X2 visa only when the marriage takes place in India and gets registered within the validity of the present tourist visa.
- Contrary to that, if anyone wants to do so has to go back to his or her country and come back on an X2 visa.
- With the amendment of the visa rules and streamlining the process, the conversion of tourist visa to X2 would be allowed even if the marriage takes place on foreign soil.
- However, the facility will not be offered to the nationals of Pakistan, Afghanistan, Sudan and Iraq, and citizens of Pakistani origin and stateless persons.
- Home Minister had said that, the government would facilitate safe and convenient entry inside the country to legitimate international travellers and provide all visa-related and consular services to foreigners staying in India in a faster and convenient mode.

Tamil Nadu finally set to get Lokayukta

News: A day before the expiry of the Supreme Court-set deadline for establishing the Lokayukta in the State, the Tamil Nadu Assembly on adopted a legislation for constituting the anti-corruption panel.

Beyond News

- The proposed Lokayukta, comprising a chairperson and four members, would be empowered to inquire into complaints of corruption by public servants and recommend departmental action against them.
- According to the Bill, which was moved by Personnel and Administrative Reforms Minister, the Lokayukta would have all the powers of a civil court under the Code of Civil Procedure, 1908, and would have jurisdiction over all MLAs, former MLAs, Ministers, former Ministers and all public servants defined in the Prevention of Corruption Act, 1988.
- On receipt of a complaint, the Lokayukta would initially decide whether to proceed with the matter and eventually order a preliminary inquiry.

General Studies-03

Action plan for protection of olive ridley turtles

News: The concerns of the environmentalists over the deaths of the olive ridley turtles in the process of reproduction every year will soon come to an end with the **World Wildlife**



Fund (WWF) coming out with a plan of action that involves all the stakeholders to ensure protection to the endangered species.

Beyond News

- Since East Godavari is one of the major nesting destinations with two conservation sites on the Hope Island and the Sacramento Island under the **Coringa Wildlife Sanctuary**, some of them die every year crushed by the fishing boats during their journey to the breeding grounds.
- The toll of the carcasses washing ashore is anything between 150 and 200 but it's humanly impossible to figure out the exact number, as the deaths take place in the sea.
- Falling under the Wildlife (Protection) Act, the turtles commence their journey from the Indian Ocean during their mating season in October and November.
- When they reach the Bay of Bengal, the females start laying eggs on the beaches. Each female lays 100 to 150 eggs in a pit dug by it carefully and leaves the shore after covering the hollow with sand. Six weeks later, the hatched turtles start the journey to their Indian Ocean habitat.
- Though the Forest department, in association with the NGOs, is taking steps to protect the eggs and release the hatchlings into the Bay of Bengal every year, no concrete steps have been taken so far to prevent the mortality of the mothers.

Seven new wasp species discovered in the Amazon forests

News: An international team of researchers have discovered seven new wasp species belonging to the genus Clistopyga from Peru, Venezuela and Colombia.

Beyond News

- A recent report describes their morphology, such as colouration, wing size and other distinct features.
- The most notable among them is Clistopyga crassicaudata, named after its distinctly thickened ovipositor. The ovipositor is a tube-like organ present in many insects that helps in laying eggs and also in injecting venom.
- These new species could be parasitoid wasps, which lay their eggs near a host, which the larvae then feeds on and, eventually, kills.
- The other new species include kalima, C. panchei and C. taironae, named in honour of Kalimas, Panches and Toiranas, indigenous tribe groups of Colombo.
- Another species was named C. nigriventri, indicating its entirely black body, and another C. splendida because of its multicoloured body.

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JULY 11

General Studies-02

India, South Korea agree on framework to improve trade

News: India and South Korea signed a joint statement agreeing to discuss an 'early harvest' package for the Comprehensive Economic Partnership Agreement (CEPA) aimed at identifying key areas for enhanced trade between the two countries.

Beyond News: Resolving to work towards promoting mutual prosperity, India and South Korea agreed to expand bilateral trade, including through the early conclusion of ongoing negotiations to upgrade the ROK-India Comprehensive Economic Partnership Agreement (CEPA)

- The two countries also agreed to try to increase their bilateral trade to \$50 billion by 2030, up from current levels of \$20 billion.
- According to the Ministry of Commerce, the signing of the early harvest package was in keeping with the ongoing discussions with South Korea, and was one of many objectives the two countries wanted to achieve.
- In the last meeting held in 2017, three deliverables were identified: early harvest package of CEPA, forming futures strategy group to jointly harness fourth generation technology and innovative products and a trade remedies MOU, the Commerce Ministry said in a statement.
- An early harvest agreement of the CEPA which has three chapters: goods, services, and investments (was agreed to), Indian Ambassador to South Korea said.
- India and South Korea want to see progress in all three. The original CEPA that came into existence in 2010 contained the space for this expansion.

Section 377: Partner can be from the same sex, says Justice Chandrachud

News: A person's choice of a partner is a fundamental right, and it can include same-sex partner, Justice D.Y. Chandrachud said.

Beyond News

- The observation came on the first day of hearing by a Constitution Bench of petitions challenging the constitutionality of Section 377 of the Indian Penal Code, a colonial era provision that criminalises private consensual sex between adults.
- Justice Chandrachud drew his observation from the March 2018 judgment in the Hadiya case,



which held that neither the State nor one's parents can influence an adult's choice of partner. That would be a violation of the fundamental right to privacy. Hadiya, a Hindu girl from Kerala, converted to Islam and chose to marry a Muslim man.

- The Constitution Bench, also comprising Justices, is re-visiting the December 2013 verdict of the Supreme Court in the Suresh Koushal case, which had upheld Section 377. It had dismissed the LGBT community as a negligible part of the population, while denying them the right of choice and sexual orientation.
- Senior advocate said Section 377 described such sexual acts as against the order of nature.
- At one point, the judges on the Bench mooted various means to approach the case. Justice said the court should not confine itself to a declaration on whether Section 377 was constitutional or not. It should go beyond the topic of sexual orientation and examine the wider concept of "sexuality" to include co-habitation, etc.
- But Chief Justice Misra observed that the Bench should first decide the constitutionality of Section 377.
- Senior advocate said, though it was silent, the government had never supported Section 377. The Centre had not appealed in the Supreme Court against the historic Delhi High Court judgment of 2010 which had protected the LGBT community from Section 377.
- In fact, it was the Centre which filed the review petition against the apex court judgment of December 2013.

India will lose 'special privileges' if it buys crude from Saudi Arabia, U.S.: Iranian diplomat

News: Iran will end "special privileges" for India if New Delhi tried to replace Iranian crude with supplies from Saudi Arabia, Russia, and the United States, said a senior Iranian diplomat in New Delhi.

Beyond News

- Senior Iranian diplomat said that Iran had tried to help India whenever possible on strategic issues like energy and connectivity, but argued that India's investment promises in the port of Chabahar have not been delivered.
- The Iranian response comes days after India was asked by the Donald Trump administration to drastically cut down crude supply from Iran.
- India has not spelt out how it would address the concerns of the U.S. government. The Ministry of External Affairs has maintained that Delhi would consult "all stakeholders" in ensuring energy security.
- The Iranian official said that Iran remained an open market for Indian requirements like petroleum, , urea and LNG and Iran understood India's energy requirements.
- Senior Iranian diplomat also spoke about the impact of U.S. withdrawal from the Iran nuclear deal, also known as Joint Comprehensive Plan of Action (JCPOA), and argued that unilateralism by the U.S. was imposing a heavy cost on the world.

- He cautioned that a conflict in the Gulf region would “drive up” the price of crude oil and impact growing powers like India and China.

U.S. proposes tariffs on \$200 billion more in Chinese imports

News: The Trump administration is readying tariffs on another \$200 billion in Chinese imports, ranging from burglar alarms to mackerel, escalating a trade war between the world’s two biggest economies.

Beyond News:

- The Office of the U.S. Trade Representative proposed 10% tariffs on a list of 6,031 Chinese product lines.
- S. imposed 25% tariffs on \$34 billion in Chinese products, and Beijing responded by hitting the same amount of U.S. imports.
- The administration said the new levies are a response to China’s decision to retaliate against the first round of U.S. tariffs.
- President Donald Trump has threatened to tax as much as \$550 billion in Chinese products an amount that exceeds America’s total imports from China last year.
- The United States complains that China uses predatory practices in a push to challenge American technological dominance. Chinese tactics, the administration says, include outright cybertheft and forcing U.S. companies to hand over technology in exchange for access to the Chinese market.
- The initial U.S. tariff list focused on Chinese industrial products in an attempt to limit the impact on American consumers. By expanding the list, the administration is beginning to hit products that U.S. households buy, including such things as electric lamps and fish sticks.

General Studies-03

60% of Indian computers vulnerable

News: India must go the Japanese way if it wishes to prevent cyber attacks on the country’s massive IT infrastructure, says Avast Antivirus chief technical officer and executive vice-president.

Beyond News

- Over 60% of the personal computers in India were vulnerable to cyber crimes. As many as 18% of routers, 17% phones, 14% printers, 25% network associated storages, 4% security cameras and 2% media boxes too were vulnerable to threats in India.



- In comparison, only 9% of personal computers, 3% phones, 25% of routers, 16% of printers and 23% of security cameras in Japan were under threat.
- The situation was not rosy in Hong Kong either, where about 45% of personal computers were vulnerable to cyber attacks. The percentage for China, the U.S. and Singapore were 39%, 38% and 33% respectively.
- Already most countries are taking precautionary steps specially when it comes to hardware devices. But government-enabled regulations can prevent cyber crimes with the growth of Internet of Things (IoT).
- Incidentally, Artificial Intelligence (AI) will play a key role in IoT safety. In future, AI will identify malicious and legitimate behavior.

A.P. tops in ‘Ease of Doing Business’

News: Andhra Pradesh has topped the third edition of the government’s ‘Ease of Doing Business’ index for States with a final score of 98.42%. This is the second time in a row that A.P. achieved the first rank.

Beyond News

- AP., which was given second rank in 2015, outperformed other States and Union territories by maintaining its leadership position through implementation of 99.73% reforms.
- Telangana and Jharkhand trailed behind A.P. though they scored 100% in reform evidence score.
- AP. got 99.73% score in reform evidence and 86.50% in feedback score. While Telangana stood second in the final score, Haryana bagged the third position. A.P. and Telangana jointly occupied the top slot in fiscal 2015-16.

Western Ghats bags fourth best tourist spot in Lonely Planet’s best Asia destinations list

News: Older than the Himalayas and well known for its rich and unique **flora and fauna**, the Western Ghats has figured in Lonely Planet’s top five “2018 Best in Asia” list, a collection of 10 of the best destinations to visit in the continent for the year.

Beyond News

- One of the Hottest Biodiversity Hotspots and UNESCO World Heritage site, the Western Ghats has come fourth in the list of the Lonely Planet, considered a Bible by travellers worldwide.
- Neelakurinji (*Strobilanthes kunthiana*), which has started blooming after 12 years in the famed hill station of Munnar has found mention in report.
- Western Ghats offer an atmospheric mirror to Shimla and Darjeeling, with added jungle appeal.

- Traversing Tamil Nadu, Kerala, Karnataka, Goa and Maharashtra, these rugged hills are UNESCO listed as one of the top spots for biodiversity in the world, protecting everything from wild elephants and tigers to the neelakurinji flower, which blooms only once every 12 years and will be painting the hills in purple livery from August to October 2018.



- Western Ghats supports the life of 7,402 species of flowering plants, 1814 species of non-flowering plants, 139 mammal species, 508 bird species, 179 amphibian species, 6000 insects species and 290 freshwater fish species.

JULY 12

General Studies-01

Climate change threatens Nilgiri tahr

News: The antics of the **sure-footed Nilgiri tahr** are a treat to watch, but these endangered wild mountain goats found only in high altitudes in India's Western Ghats could be losing their footing with increasing climate change.



Findings

- Even under moderate scenarios of future climate change, tahrs could lose approximately 60% of their habitats from the 2030s on, predict scientists in their study.
- Scientists tried to predict how climate change can affect tahr habitat in the Ghats by mapping tahr distribution (using existing information and field surveys) and then using climatic factors of these locations to see where tahrs would be able to survive, given current and future climate change scenarios.
- They found that tahr strongholds such as Chinnar, Eravikulam and Parambikulam in Kerala will still be stable habitats under different climate change scenarios.
- However, other regions, including parts of Tamil Nadu's Kalakkad Mundanthurai Tiger Reserve and the wildlife sanctuaries of Peppara, Neyyar, Schenduruny and Srivilliputhur, could experience severe habitat loss in future; in total, approx. 60% of tahr habitat could be lost across the Ghats from 2030s onwards.

- There are only around 2,500 tahrns left in the wild and their population small and isolated, making them vulnerable to local extinction shows a decreasing trend, as per the International Union for Conservation of Nature.
- The study has to be seen in the context of this identified vulnerability; the impacts of climate change may further increase the chances of local extinction.
- The study's findings demand a comprehensive species management plan.
- According to the report, only the Eravikulam and Mukurthi National Parks stress on tahr-centered conservation activities in their management plans.

General Studies-02

Supreme Court decries pathetic state of Taj Mahal

News: The Supreme Court condemned the apathy shown by the authorities to the cause of protecting the Taj Mahal, saying the preservation of the monument may be a "hopeless cause."

Beyond News

- The Green Bench of Justices was miffed to find out that the authority in charge of the Taj Trapezium Zone was still entertaining applications from industrialists to expand their factories into the protected zone despite a long-standing moratorium from the Supreme Court.
- Justice compared the Taj to the Eiffel Tower of Paris, saying the 16th century marble mausoleum built by Mughal emperor Shah Jahan for his departed wife, Mumtaz Mahal, was far more beautiful.
- The court said that while Eiffel saw 80 million visitors, Taj had five million, and yet it was crumbling.
- In May, the Archaeological Survey of India (ASI) said unwashed socks worn by visitors and rampant algae seem to turn the Taj Mahal from its natural white to yellow, brown and green.
- The ASI, charged with the maintenance of the monument, said numerous footfalls everyday had taken a toll on the Taj. It was not possible to distribute socks to all the visitors. Many go wearing their own socks.
- The discussion in the court ranged from the commitment or the lack of it on the part of the authorities to protect the monument to getting disposable socks from abroad.
- Petitioner told the court that the upkeep of the UNESCO World Heritage site was in shambles. River Yamuna, which used to flow nearby, has dried up. Encroachments and industries have cropped up in the neighbourhood of the white marble mausoleum. CCTVs hardly work. The government merely viewed the Taj as a money-making venture.



- Justice had wondered whether the Taj Mahal in its present discoloured form would end being the “eighth wonder of the world.”

SC raps Centre over groundwater level

News: The Supreme Court came down heavily on the Centre, the Delhi government and for not taking any steps to tackle the “serious problem” of groundwater depletion in the Capital.

Beyond News

- The court perused a NITI Aayog report which said that many authorities were passing the buck and shying away from their responsibility.
- It asked the Centre for immediate, intermediary and long-term measures to check the depletion of city’s groundwater.
- The apex court expressed grave concern over “over-exploitation” of groundwater in most parts of Delhi and asked the authorities to avert a crisis, saying the situation was “semi-critical”.
- It had then perused a report filed by the Central Ground Water Board (CGWB) on the status of groundwater level in Delhi from May 2000 till May 2017 and said it indicated an “extremely sad state of affairs” and the situation was serious.
- The groundwater issue had cropped up when the court was hearing a matter relating to the sealing of unauthorised constructions in Delhi.

General Studies-03

Telecom Commission approves net neutrality, new telecom policy

News: In a move that will ensure open and free Internet in India, the government has approved the principle of net neutrality.

Beyond News: This means that telecom and Internet service providers must treat all data on the Internet equally, and not discriminate or charge differently by user, content, site, platform, or application.

- They cannot engage in practices such as blocking, slowing down or granting preferential speeds to any content.
- The Telecom Commission (TC) which is the highest decision-making body in the Department of Telecom, approved the recommendation made by the Telecom Regulatory Authority of India (TRAI) on the subject eight months ago.
- A separate committee has been set up under the Department of Telecom (DoT) to examine what these critical services will be. These may include autonomous vehicles, digital healthcare services or disaster management.
- The regulator, in November 2017, batted in favour of net neutrality – which has been one of the most hotly debated topics in India for over 4 years now.

- India's decision to uphold Net neutrality assumes greater significance given that in the U.S., the rules on Net neutrality were repealed. The decision, which came into effect in June, paves the way for service providers to block or slow down access to particular content for users.
- To implement Net neutrality, the regulator had recommended that the terms of licence agreements that govern the provision of Internet services in India be amended "to incorporate the principles of non-discriminatory treatment of content along with the appropriate exclusions and exceptions."

It has further recommended establishing a multi-stakeholder not-for-profit body for the monitoring and enforcement of these principles.

China eyes Indian pharma as U.S. trade turns cloudy

News: China is preparing to give swift regulatory approvals to India-manufactured drugs, the head of an Indian export promotion group said, as Beijing looks for new commercial partners ahead of what could be a protracted trade war with the United States.

Beyond News

- Indian firms are looking to fill gaps in Chinese demand for generic drugs, software, sugar and some varieties of rice, trade officials in New Delhi said.
- India dominates the world's generic drugs market, exporting \$17.3 billion of drugs in the 2017/18 (April-March) year, including to the U.S. and the EU. But only 1% of that went to China, the world's second-largest market for pharmaceuticals, industry data shows.
- Swift regulatory approvals in China would allow Indian companies to boost revenue at a time when pricing scrutiny and regulatory troubles have hurt U.S. sales.
- Some of India's largest drugmakers, Sun Pharmaceutical and Lupin as well as Aurobindo Pharma, have been trying for years to expand in the massive Chinese market, which is second only to the U.S.
- In May, China exempted import tariffs on 28 drugs, including all cancer drugs, a move that would help India reduce its trade imbalance with China, the Chinese ambassador to India said.
- China has been touting greater access to cancer drugs and pushing to lower prices in a bid to soothe a major social issue in the country, where traditionally many patients with serious illness have had to pay out of their pocket for cutting-edge drugs or have had to buy medicines through unapproved grey market channels.
- The issue was highlighted in a recent film that went viral in China which echoed the U.S. Dallas Buyers Club about a Chinese cancer patient who had helped others getting unapproved cancer drugs at lower prices shipped in from India.

1st Nepal India broad gauge railway likely in Dec

News: Nepal plans to operate its first ever broad-gauge passenger railway service from Janakpur town to Indian border town Jayanagar in Bihar starting December, a senior Nepalese rail official has said.

Beyond News

- This is a 69 km section of Nepal-India cross border railway line from Jayanagar to Nepal's southeastern region.
- The other five cross-border railway lines between the two neighbours are either being constructed or on the drawing board, Xinhua news agency reported.
- There was a narrow gauge Janakpur-Jaynagar line in the past, but that service came to a halt around five years ago after renovation and upgrading work began.

JULY 13

General Studies-02

India, Indonesia discuss Indo-Pacific cooperation

News: Taking forward the India-Indonesia shared vision on maritime cooperation in Indo-Pacific, an Indian team visited Sabang in Indonesia to discuss steps for mutual collaboration. At the same time, in a first, Indian ship INS Sumitraberthed at Sabang Port close to the Malacca Strait for operational turnaround.

Beyond News

- The hosting of the India-Indonesia investment forum in Aceh and the visit of the Indian delegation and INS *Sumitra* port call at Sabang, were important follow-up outcomes flowing from the understanding reached during the recently concluded visit of Prime Minister Narendra Modi to Indonesia.
- Modi and Indonesian President Joko Widodo announced the shared vision on maritime cooperation in the Indo-Pacific during Mr. Modi's visit there in May.
- **Indonesia has recently agreed to give India access to its port for operational turnaround which will increase the Navy's footprint in the region.**
- INS *Sumitra* sailed from Port Blair to Sabang, where it will take provisions and fuel before going for further deployment in the Indian Ocean.
- The India delegation was led by Indian Ambassador to Indonesia and included officials and business delegates from the Andaman and Nicobar islands.



General Studies-03

HC intervention sought to protect 39,000 waterbodies in State

News: With a view to protecting all 39,202 waterbodies in the State, as mentioned in the government's policy note for the year 2017-18, a public interest litigation petition has been filed in the Madras High Court seeking a direction to the State government to implement the Tamil Nadu Protection of Tanks and Eviction of Encroachment Act of 2007 in letter and spirit.

Beyond News

- Change India, a non-governmental organisation, represented by its director, filed the case alleging that the failure of the State machinery to survey the extent of all water bodies, remove the encroachments, document the details and desilt them on a regular basis had made the existence of the enactment, for more than a decade, completely otiose.
- When the matter came up for admission before a Division Bench of Justices, the judges wanted to know whether the petitioner organisation had restored any of the waterbodies in the State.
- As per Section 3 of the Act, the government had to undertake a survey, based on revenue records, of water bodies in every district and prepare proper charts and registers.
- Further, Section 7 of the enactment required eviction of encroachers on water bodies and restoring them to their original size.
- Maintaining that the government in its policy note for 2017-18 had stated that there were 39,202 waterbodies in the State and of them 14,098 were under the control of the PWD, an analysis of the RTI replies revealed survey of those waterbodies had been completed only in six out of 21 sub-divisions. Further, encroachments had not been removed in 11 sub-divisions.



Water absorption trenches to protect forest land

News: In order to minimise man-animal conflicts and to put an end to encroachment on forest land, the Forest Department has dug water absorption trenches to a length of 160 km along the border of forests in the Vijayawada, Mylavaram and Nuzvid ranges of Krishna district in Andhra Pradesh.

Beyond News

- The trenches have indirectly helped recharge an estimated 13 lakh cubic metres of groundwater since early 2017.
- Nearly 100 km of trenches were dug in 2017 alone.



- The Forest Department has taken up the project under the banner of ‘Vana Sanjeevani’.
- The trenches have been planned along the forest that borders with revenue and private land. Primarily, they have come up along the border of the Kondapalli Reserve Forest.
- The trench is three metres wide and three metres deep, which the wildlife cannot cross to enter human habitat.
- Trees on the forest area border are being spared as the tree itself serves as the border. The trench will become a robust evidence in deciding the border of the respective forest, apart from preventing encroachments.
- The Nuzvid, Vijayawada and Mylavaram forest ranges have been witnessing hunting of deer and blackbuck during summer, when wild animals come out in search of water .
- The experiment of the water absorption trenches is yielding results in multiple ways recharge of groundwater and conservation of wildlife. About 13 lakh cubic metres of groundwater has been recharged owing to the trenches, as per our study.

Partial solar eclipse visible in Australia, New Zealand

News: The year’s second solar eclipse occurred on July 13, 2018. The partial eclipse was seen only in parts of Australia and New Zealand as it took place almost entirely over open waters of Antarctica.

Beyond News

- Solar eclipse is a natural phenomenon that occurs when the moon comes in between the sun and the earth.
- A partial eclipse occurs when the three celestial bodies are not exactly on the same plane.
- It is not advisable to look at the sun during the solar eclipse with naked eyes since the sunlight is not totally cut during the time. Only eclipse glasses that have a certification with “ISO 12312-2 international standard” are safe for use, according to NASA.
- Other options are number 14 welder’s glass, or making a pinhole projector that allows a user to project the image of the sun on paper or cardboard.
- The total lunar eclipse would last for one hour and 43 minutes while partial eclipses, which would precede and follow the total eclipse, would last more than an hour.



Temple ‘prasadam’ to be offered first to FSSAI, then God

News: When it comes to temple prasadam, faith in God has traditionally been a good enough guarantor of food safety. But soon, the sacred offerings made to the deities, such as laddus, murukku, vadai, and adhirasam, will get third party validation of their safety and quality in the form of certification by the Food Safety and Standards Authority of India (FSSAI).

Beyond News: The 47 major temples in Tamil Nadu plan to sell prasadam in food grade containers that will have ‘best before’ dates.

- Already, the Sri Dandayudhapani Temple in Palani has gone in for licensing of its Panchamirtham. This famous prasadam now comes packed in containers, along with

labelling that enumerates the ingredients, weight, price, FSSAI licence number, and other details stipulated by the **Food Safety Department (FSD)**.

- The HR and CE Department has directed temples that sell prasadam over the counter to go in for licensing from the FSD, which will test samples to provide a 'best before' date. There would also be regular inspections from the FSD to ensure quality and quantity in the prasadam being sold.
- Among the major temples in the State, the Palani temple was the first to go in for FSSAI certification. Prasadam in temples are usually made by contractors who get the tender for a year, from July to June.
- The FSD also ensures the quality of food at major temple festivals.

JULY 14

General Studies-02

Proposed DNA bank will not store data permanently: official

News: India's proposed **DNA databank**, to be used during investigation into crimes or to find missing persons, will not permanently store details of people.

Beyond News

- The DNA details will be removed, subject to "judicial orders," said a senior official in the Department of Biotechnology.
- The rules will come after Parliament approves the DNA Technology (Use and Application) Regulation Bill, 2018, the latest version of the DNA 'profiling' Bill framed by the Department of Biotechnology in 2015.
- The aim of that draft legislation was to establish an institutional mechanism to collect and deploy DNA technologies to identify persons based on samples collected from crime scenes or to identify missing persons.
- The Cabinet cleared the Bill on July 3. The Bill envisages a DNA Profiling Board and a DNA Data Bank.
- To help in investigations, there would be a central databank as well as regional ones, and these would store DNA profiles under various heads, such as a 'crime scene index' or 'suspects index' or 'offenders index.'
- The 11-member Board, according to the proposed legislation, is supposed to be the regulatory authority that will grant accreditation to DNA laboratories.
- The Board, in consultation with members of the judiciary, will frame rules on how long the DNA details of an entrant on a crime index would be maintained.

Different rules on the storage of DNA details.

- **In France**, for instance, the profiles of convicted persons are kept for 40 years after conviction. Upon their 80th birthday, suspects' profiles are removed by a motion of the

prosecutor or the individual on the grounds that their storage no longer serves its original purpose. Crime scene stains are deleted forty years after they have been analysed.

- **In the United Kingdom**, the profiles of convicted persons and suspects are retained indefinitely, and crime scene stains are kept until they have been identified.

Survey launched to rank States on rural cleanliness

News: The Centre has launched the **Swachh Survekshan Grameen, 2018**, a nationwide survey of rural India to rank the cleanest and dirtiest States and districts on the basis of qualitative and quantitative evaluation.

Beyond News

- A random selection of 6, 980 villages across 698 districts will surveyed during the month of August, following which the Swachh Survekshan Grameen awards are expected to be announced in time for Mahatma Gandhi's birth anniversary on October 2.
- This is the first comprehensive survey for rural India, which has been launched after three successful editions of a similar survey in urban India, Parameswaran Iyer, Secretary to the Ministry of Drinking Water and Sanitation said at the launch event.
- The rankings will be based on three basic parameters: direct observation of public places by independent surveyors, service-level progress using data from the Swachh Bharat Mission's information system and citizens' feedback.
- The feedback will be solicited through village meetings, online feedback and direct interviews, as well as discussions with key influencers such as local officials, elected representatives and anganwadi workers.

No plan to contain China, says India

News: India reaffirmed that its Indo-Pacific strategy was not aimed at China's containment.

Beyond News

- During the second India-China Maritime Affairs Dialogue held in Beijing, the Indian delegation led by Joint Secretary (Disarmament and International Security Affairs) in the Ministry of External Affairs, cited Prime Minister Narendra Modi's remarks at the Shangri-la dialogue in Singapore in June.
- The statement highlighted that stepped up "maritime cooperation" was "a platform to strengthen political and strategic mutual trust between the two countries."
- It added exchanges in the maritime domain were "an important area of India-China bilateral relations".
- In the past, India has been concerned about China's forays in the Indian Ocean, including Sri Lanka and the Maldives.



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India going ahead with purchase of S-400 air defence systems from Russia: Nirmala Sitharaman

News: India is going ahead with the purchase of S-400 air defence systems from Russia despite American concerns, and has told the U.S. that it is for them to address concerns over its recent Russia sanctions, Defence Minister said .

Beyond News

- This has been conveyed to a delegation of the U.S. Congress, headed by Chairman of the U.S. House Armed Service Committee Mac Thornberry, which was in New Delhi in May. Asked if the law did not apply to India, Defence Minister said “Of course it does not.”
- The S. has passed the CAATSA (Countering America’s Adversaries Through Sanctions Act) that proposes to impose sanctions on nations that have significant defence relations with Russia.
- While the U.S. Administration has said waivers will be incorporated in it to protect friends and allies, it is yet to be done. This has generated significant concern in India which is heavily dependent on Russia for military hardware.
- On the S-400 deal, Defence Minister said negotiations have reached a “conclusive stage” with Russia. Last month, India and Russia had concluded commercial negotiations for the purchase of five S-400 systems worth over ₹39,000 crore. The deal is expected to be announced later this year.
- On the foundational agreement, Communications, Compatibility, Security Agreement (COMCASA) which will enable Indian military to obtain encrypted communication systems from the U.S., Defence Minister indicated that no agreement has been reached yet.
- After years of reluctance, India had agreed to move ahead on COMCASA and in the last few months both sides made progress in addressing New Delhi’s concerns in the draft.

General Studies-03

Here comes the potato carry bag that dissolves in water

News: A bag made of potatoes could replace plastic as the biodegradable and recyclable alternative for carry bags in the temple town of Tirupati, which is taking slow yet firm steps towards getting rid of plastic carry bags.

Beyond News: Tirupati has fixed October 2 Gandhi Jayanti, and the day on which the Swachh Bharat Mission was launched as the cut-off date for the sale and possession of plastic carry bags.



- Various alternatives are being contemplated. Although the raw materials for making the bag haven't been revealed, the most likely ingredients are said to be potato and tapioca starch, vegetable oil extracts and other organic waste.
- The bags making rounds in the city are produced by EnviGreen, a Bengaluru-based company. They are distributed by social organisations roped-in by the Municipal Corporation of Tirupati (MCT) to disseminate information on biodegradable carry bags to citizens.
- The potato-based bag not only claims to be 100% plastic-free, it is also said to dissolve in hot water and burn like paper. As compared with regular plastic, which takes thousands of years to decompose, the potato-based bag bio-degrades in a few months. It is said to be as strong, or stronger than, a plastic carry bag.
- Commercially, the bag costs ₹300 per kg for traders, with varying sizes and thickness (in microns).
- Social activists expect the bag to strike it rich as the government gets serious with cracking the whip on plastic pollution.

India's ICZM Project wins World Bank's internal award

News: India's Integrated Coastal Zone Management (ICZM) project has won the World Bank's internal award for exceptional performance in achieving many development goals, a top Environment Ministry official said.

Beyond News: The ICZM project is among the eight projects awarded, selected out of 42 final nominations received from the World Bank Task Teams in the South Asian Countries.

- Union Environment secretary lauded the achievement and termed it as "a great success story".

Radio telescope captures clear view of black hole

News: South Africa formally unveiled a super radio telescope, a first phase of what will be the world's largest telescope in a project to try to unravel the secrets of the universe.

Beyond News

- **The 64-dish MeerKAT telescope** in the remote and arid Karoo region of South Africa will be integrated into a multi-nation Square Kilometre Array (SKA).
- A panorama captured by the MeerKAT telescope showed "the clearest view yet" of the black hole at the centre of the Milky Way Galaxy, according to the South African Radio Astronomy Observatory.
- When fully operational, the SKA telescope will be 50 times more powerful than any other telescope in the world.
- The telescope will be the largest of its own kind in the world — with image resolution



quality exceeding the Hubble Space Telescope by a factor of 50 times.

- Expected to be fully up and running by 2030, the SKA will comprise a forest of 3,000 dishes over an area of a square kilometre.

JULY 15 & 16

General Studies-02

India to help repatriate Rohingya

News: Promising to help repatriate Rohingya to Myanmar, Home Minister Rajnath Singh told Bangladesh Prime Minister Sheikh Hasina that India would provide relief supplies for the refugees in Bangladesh and build homes for them in Rakhine state of Myanmar.

Beyond News

- Home Minister said India was prepared to “step up” assistance to approximately 7,50,000 Rohingya refugees who had fled the violence in Myanmar, and provide food, medical or relief supplies needed.
- India has offered to supply and construct prefabricated homes in Rakhine for the returning refugees.
- Singh is in Dhaka to co-chair the sixth round of India-Bangladesh talks on Home affairs .
- He inaugurated the “Bangladesh-India Friendship Building” at the Bangladesh Police Academy in Rajshahi.
- Singh had mentioned “some countries in the region” that were not cooperating in fighting terror groups based in South Asia, a reference to Pakistan.
- Later, Mr. Singh and his Bangladesh counterpart, inaugurated the largest Indian visa centre in the world at about 18,500 sq.ft in Jamuna Future Park in Dhaka. It replaces four visa centres in the capital and will serve visa seekers with 48 counters. The Indian High commission issued 1.4 million visas last year.



Indian shipping companies headed for troubled waters

News: A proposed move by the Centre to abolish the Right of First Refusal (ROFR) clause for transportation of Indian cargo by Indian-flagged vessels the only benefit available to Indian shipping companies is threatening the existence of the domestic shipping industry.

Beyond News

- Anticipating a bleak future, Indian shipping companies which have a combined fleet of 1,372 ships with a total capacity of 12.35 million Gross Tonnage (GT) are mulling over

de-registering their vessels from India and flag them in tax havens of Panama and Bahama to survive and compete with foreign lines.

- Having recently relaxed norms benefiting foreign shipping lines, the government is now preparing ground to do away with the ROFR clause which ensures Indian-registered ships carry Indian bulk dry/liquid cargo of Indian public and private sector companies at the lowest rate quoted by a foreign shipping line by matching the price.
- Thus, while it does not add any extra cost to the importer or exporter, it provides assured business to the national fleet at a rate quoted by a foreign line.
- Currently, 92% of India's export import trade is carried by foreign flag ships. And the 8% that is assured to Indian ships is likely to go if the ROFR is scrapped.
- This benefit is provided since foreign flag vessels do not pay any tax in India while Indian companies are costlier since they have to pay multiple taxes.
- In 2017 alone, Indian shipping companies have invested around Rs. 4,700 crore in assets in anticipation of business. All this investment is at stake, said ship owners.
- Recently, the Union Shipping Ministry issued orders that permitted foreign flag vessels to transport export import-laden containers, agri products, horticulture, fisheries, animal husbandry commodities and fertilizers between two or more Indian ports without obtaining a license from the Directorate General of Shipping.
- All this means is that an Indian flag vessel, if available, has lost the opportunity of doing this business.
- Indian shipping companies said the move was being contemplated without any consultative process.

General Studies-03

Ministry panel okays cut in power plant capacity

News: The Expert Appraisal Committee (EAC) of the Union Ministry of Environment and Forests has approved the reduction in the capacity of the 2x800 MW Ennore SEZ Thermal Power Plant being implemented by BHEL for Tangedco to 2x660 MW.

Ennore thermal power station expansion project

- Tamil Nadu Generation and Distribution Corporation (Tangedco) is undertaking the expansion of the existing Ennore Thermal Power Station (ETPS) in Tamil Nadu, India. The project involves the construction of a 660MW coal-fired power unit on 36ha of land at an existing facility.

Beyond News

- The committee also directed the project proponent to raise a green belt in 92 acres of land that would



now become free following the reduction in the size of the two units.

- The recommendations came at the 18th meeting of the EAC on thermal power projects.
- The project proposed at Vayalur village was awarded to BHEL by Tangedco in September 2014 as it was the lowest bidder but a consortium went to court seeking the contract to be awarded to it.
- According to the minutes of the meeting, the reduction in the unit size involves reduction in both consumption of resources and pollution levels from the proposed plant.
- While the land requirement for the 2×800 MW plants was 500 acres, the reduced capacity requires only 408 acres.
- The requirements for water and coal also decline considerably, while the project cost is estimated to come down by Rs. 1,354.11 crore. However, the power generated also is set to decline by 2084.88 MUs.
- The committee noted that all the raw materials and resources requirement and emissions will proportionately reduce when compared with the requirement of 2×800 MW. However, 800 MW is ultra super critical unit whereas 660 MW is supercritical.
- The committee also directed the company to raise a greenbelt in addition to the green belt stipulated earlier on the 92 acres that would be available following the reduction in the size of the units.

Tejas price comes under scrutiny

News: The Defence Ministry has appointed a committee to look into the costing of products and military platforms manufactured by defense public sector undertakings (DPSU), Defence Minister has said.

Beyond News

- The first project to be reviewed is the indigenous light **combat aircraft, Tejas**, being manufactured by Hindustan Aeronautics Ltd. (HAL). This development comes after the cost quoted by the HAL turned out to be higher than those of many imported fighters.
- Also several platforms manufactured under licence in India have been found to be more expensive than the imported platforms.
- The committee will review all military hardware and systems being manufactured by the DPSUs. The report is expected to be submitted within 60 days, Defence Minister said.
- The IAF has committed to inducting 123 Tejas jets in various configurations. Of these, 40 have already been ordered and negotiations are under way for 83 Mk-1A variants featuring specific advancements.
- However, the HAL has quoted over Rs. 463 crore for each aircraft, while the advanced twin-engine Sukhoi-30 assembled in India costs just over Rs. 400 crore. This price is also a steep rise in comparison to the LCA Mk1 variant for which the HAL quoted Rs. 100 crore.



- There have been other instances where licence-manufactured products of the HAL have been costlier than those imported. The Su-30 fighters imported from Russia and the advanced jet trainer Hawk from the U.K. are cheaper than those manufactured by HAL.

In Manipur, incursions on the border

News: Border disputes in the northeast are usually associated with China's claim on Arunachal Pradesh and alleged intrusion by Chinese soldiers.

Beyond News

- The 1,643-km border with Myanmar along Arunachal Pradesh, Nagaland, Manipur and Mizoram often has more to do with smuggling of drugs, gold and wildlife body parts, as well as raids by the northeastern extremist groups from their hideouts beyond the boundary. The spotlight is on this frontier for alleged incursions by Myanmar soldiers.
- Villagers along Manipur's border say incursions are nothing new. For instance, Myanmar nationals have been occupying Govajang village near the trade town of Moreh in Tengenoupal district.
- But the aggression has increased over the past six months.
- The action has been in the newly created Tengenoupal district, though the other three border districts Chandel, Kamjong and Ukhrul have issues too.
- The External Affairs Ministry has said India has not shifted pillars demarcating the border with Myanmar and the boundary is settled and there is no confusion over its alignment. Manipur Chief Minister has said his government has formed a high-power committee to investigate the incursions; it will seek a fresh survey if any discrepancy is found.

'Monitoring reports of formalin in fish'

News: Goa Chief Minister said he had to make an intervention in the ongoing controversy surrounding the use of formalin in fish, because people had stopped eating fish in Goa.

Beyond News

- Goa Food and Drugs Administration officials had claimed that formaldehyde was used to preserve fish, after a raid on fish consignments coming from other States last week.
- The controversy took a major turn after Agriculture Minister tweeted that the fish was fit for consumption, following which the FDA in a statement said that Formalin was "within permissible limits".
- Fish markets in the coastal tourist State have been in crisis over the last few days, with consumers staying away from them unsure of the quality of fish.

NASA's Cassini Grand Finale coverage lands Emmy nomination

News: NASA's coverage of the Cassini mission's final crash into Saturn, including news, web, education, television and social media efforts, has been nominated for an Emmy in the Outstanding Original Interactive Program category.

- In 2017, after nearly 20 years in space and 13 years revealing the wonders of Saturn, Cassini began a whole new mission its Grand Finale, which ended with a spectacular plunge into the planet .

NASA's Juno data points to new volcano on Jupiter moon Io

News: Using data collected by NASA's Juno spacecraft, scientists have got clues to a previously undiscovered volcano on the Jupiter moon Io.

- With its **Jovian InfraRed Auroral Mapper (JIRAM)** instrument, the Juno spacecraft found a new heat source close to the south pole of Io, NASA researchers said.



JULY 17

General Studies-01

Flying into trouble: Harrier birds decline as grasslands disappear.

News: Harrier birds, a migratory raptor species that regularly visits vast swathes of India, are declining. This may foretell lurking dangers to the country's grasslands.

Beyond News:

- Every winter, several species of harrier birds travel thousands of kilometres to escape frigid Central Asia for the grasslands of the subcontinent. Researchers collated published data, unpublished accounts and their own field research on roosting harriers to analyse trends in their population since the mid-1980s.
- At least five species of harriers were recorded in India over the years; India has one of the largest roosting sites in the world for Pallid Harriers and Montagu's Harriers. In the mid-1990s, an estimated 1,000 birds roosted here. By 2016, the number was down to less than 100 birds. In Hessarghatta on the outskirts of Bengaluru, Western Marsh Harriers declined significantly, leaving the area nearly deserted.
- The importance of area protection can be seen in the number of birds.

While there is a median count of 125 harriers in protected areas, it's less than half that number 48 in unprotected areas. The study notes that the population of the species in Central Asia has not seen any drastic changes.

Core issues:



- The gravest concern is the loss of grasslands, either to urbanisation or to agriculture. In February-March, peak season for the arrival of the birds, farmlands are burnt or over-grazed. Of the 15 roosting sites surveyed, eight no longer exist as grasslands, and only five are protected.
- Excessive use of pesticides in farms in and around the roosting sites could also be a reason for the lowered population counts. In crops such as cotton, the use of pesticides kills grasshoppers, the harriers' primary prey, and could lead to mortality of the birds themselves as they are on the top of the food chain. Globally, of the 16 harrier species, only two are listed as endangered by the International Union for Conservation of Nature, even though most of them are declining.

General Studies-02

Army to resume M777 trials.

News: The Army will resume the trials of the U.S.-made M777 Ultra-Light Howitzer (ULH) in Pokhran firing range. The trials were suspended last September after barrel of a gun burst during firing.

Beyond News: Firing will resume this month and continue in August. Local ammunition will be used and tentatively 100-150 rounds will be fired.



- In November 2016, India signed a deal with the U.S. government under the Foreign Military Sales (FMS) programme for 145 M777 guns at a cost of \$737 million. Following this, two guns were delivered for calibration and making range tables with local ammunition when the barrel burst occurred. The trials have been suspended since.
- As the deal was through the FMS, the trials will be conducted by the U.S. government and India will be an observer. Following the trials, the Army will take formal custody of the guns.
- An Army team was in the U.S. in June to take stock of the investigation. A preliminary investigation after the incident had found faulty ammunition supplied by the Ordnance Factory Board (OFB) to be the cause of the accident.
- The M777 is a 155 mm, 39-calibre towed artillery gun made of titanium and aluminium alloys and weigh just four tonnes, making it transportable under slung by helicopters.

- Of the 145 guns, 25 will be imported while the remaining 120 will be assembled in the country in partnership with Mahindra group. Deliveries are slated to commence in March 2019.

SC asks Parliament to bring in special law against lynching.

News: The Supreme Court condemned recent incidents of lynching and mob violence against Dalits and minority community members as “horrendous acts of mobocracy”, and asked Parliament to pass law establishing lynching as a separate offence with punishment.

Beyond News:

- A three-judge Bench held that it was the obligation of the State to protect citizens and ensure that the “pluralistic social fabric” of the country holds against mob violence.
 - The court said the growing numbness of the ordinary Indian to the frequent incidents of lynchings happening right before his eyes in a society based on rule of law is shocking.
 - The government should see the judgment as a “clarion call” in a time of exigency and work towards strengthening the social order.
- It was also the obligation of the Centre and the States to ensure that “nobody takes the law into his hands nor become a law into himself”, the court said.
- It directed several preventive, remedial and punitive measures to deal with lynching and mob violence.
 - The court ordered the Centre and the States to implement the measures and file compliance reports within the next four weeks.
 - In the last hearing of the case, the court had classified lynchings as sheer “mob violence”. It had said compensation for victims should not be determined solely on the basis of their religion, caste, etc, but on the basis of the extent of injury caused as “anyone can be a victim” of such a crime.
 - Chief Justice Misra said the States could not give even the “remotest chance” to let lynchings happen.
 - The lynchings were “targeted violence” against particular religion, caste, and thus, in violation of the constitutional guarantees under Article 15 of the Constitution. Article 15 protected from discrimination on the basis of religion, caste, sex, gender.
 - Chief Justice Misra had even asked the Centre to frame a scheme under Article 256 to give directions to the States to prevent/control the instances and maintain law and order, but Additional Solicitor General P.S. Narasimha disagreed, saying such a scheme was unnecessary.

Inspect all childcare homes run by Missionaries of Charity: Maneka tells States.

News : Women and Child Development Minister Maneka Gandhi has ordered all the States to get the childcare homes run by the Mother Teresa-founded Missionaries of

Charity (MoC) inspected immediately following the surfacing of cases of alleged illegal adoptions carried out by them.

Beyond News: Minister also directed the States to ensure that all the childcare institutions (CCIs) are registered and linked to the country's apex adoption body within a month.

- According to the Juvenile Justice (Care and Protection of Children) Act, 2015, the registration of CCIs and their linking with the Central Adoption Resource Authority (CARA) is mandatory, but some orphanages had challenged the validity of the clause, an official in the Women and Child Development Ministry said. A shelter home run by the MoC in Ranchi was allegedly involved in “selling” three children and “giving away” another one.
- Approximately 2,300 CCIs have been linked to the CARA since December 2017, while about 4,000 more are still pending for linkage.
- Minister has expressed displeasure over the fact that the children in the 2,300 institutions linked to the CARA are yet to be brought under an adoption system. According to the National Commission for Protection of Child Rights (NCPCR), 2,32,937 children are currently under the care of the CCIs both registered and unregistered — in the country.

General Studies-03

BrahMos missile flight-tested successfully.

News: India on Monday successfully flight-tested supersonic cruise missile BrahMos off the Odisha coast, proving it one of the best all-weather weapon systems.

Beyond News

- The missile was fired from a test range at Chandipur on sea in Balasore district.
- The life extension test achieved all parameters, said the Defence Research and Development Organisation (DRDO).
- With this, India has achieved another milestone in the defence sector.
- BrahMos Aerospace is a joint venture between India's DRDO and the Federal State Unitary Enterprise NPO Mashinostroyeniya of Russia.

Upgraded Vikas engine will soon boost ISRO's rockets.



News: All three satellite launch vehicles of the Indian Space Research Organisation (ISRO) are set to add muscle to their spacecraft lifting power in upcoming missions this year.

Beyond News

- The space agency has improved the thrust of the Vikas engine that powers all of them. The agency said the high-thrust engine qualified on Sunday after a ground test lasting 195 seconds (over three minutes).
- The main beneficiary of the high-thrust Vikas engine is said to be the heavy-lifting GSLV-Mark III launcher, which ISRO expects will now put 4,000-kg satellites to space. This would be the third Mk-III and the first working one to be designated MkIII Mission-1 or M1.
- The first MkIII of June 2017 started with a 3,200-kg satellite and the second one is being readied for lifting a 3,500-kg spacecraft.
- The Vikas engine will improve the payload capability of PSLV, GSLV and GSLVMk-III launch vehicles, ISRO said. The improvement effort, the second such since December 2001, was conducted at ISRO Propulsion Complex in Mahendragiri, Tamil Nadu.
- The Vikas engine is used in the second stage of the light lifting PSLV; the second stage and the four add-on stages of the medium-lift GSLV; and the twin-engine core liquid stage of Mk-III.
- ISRO will phase out Vikas by replacing it first in Mk-III with a cleaner and safer semi-cryogenic engine. The semi-cryo engine is ready for trial; its stage has just been approved.

JULY 18

General Studies-01

A struggle to stay cool as earth warms

News: India is among the nine most populous countries where people are at risk from lack of access to cooling as global warming continues to threaten health and climate, according to a study of a UN-led initiative.

Findings

- Policy makers should immediately measure gaps in access to cooling in their respective countries, as an evidence base for more proactive and integrated policy-making.

Soaring high

The Vikas engine is aimed at improving the payload capability of PSLV, GSLV and GSLV Mk-III launch vehicles



• Vikas is a family of liquid fuelled rocket engines

- **Utility:** The engine is the workhorse liquid rocket engine powering the second stage of India's PSLV; second stage and the four strap-on stages of GSLV; and twin engine core liquid stage (L110) of GSLV Mk-III

- **Performance:**
Thrust 800 kN,
Specific impulse: 290 seconds

- **Dimension**
Length 3.70 m (12.1 feet)

- **Liquid-fuel engine:**
Propellant: N₂O₄

- **Cycle:** Gas generator

- The study is the first ever report to quantify the growing risks and assess the opportunities of the global cooling challenge.
- There are over 1.1 billion people globally who face immediate risks from lack of access to cooling.
- Cooling underpins the ability of millions to escape poverty, to keep our children healthy, vaccines stable, food nutritious, and our economies productive.
- Access to cooling is now a fundamental issue of equity, and as temperatures hit record levels, this could also mean the difference between life or death for some.

Nine countries across Asia, Africa and Latin America, which have the biggest population, are facing significant cooling risks, the study said. The countries are India, Bangladesh, Brazil, Pakistan, Nigeria, Indonesia, China, Mozambique and Sudan.

General Studies-02

WCD ministry set to move cabinet to make child marriages invalid

News: The **Women and Child Development (WCD) Ministry** is set to move the cabinet to make all child marriages invalid, a senior ministry official said.

Beyond News

- The proposal of the ministry, if approved, would amend the law that allows child marriages to continue, despite an October 2017 Supreme Court ruling that “sexual intercourse with a minor wife amounts to rape, as under no circumstance can a child below 18 years give consent, express or implied, for sexual intercourse”.
- Currently, child marriages are valid in India, but can be annulled if a case is filed in a district court by either of the two contracting parties within two years of becoming an adult, or through a guardian in case of minors.
- The ministry seeks to amend section 3 of the Prohibition of Child Marriage Act, under which a child marriage is only voidable at the option of the contracting parties.
- The legal age for marriage in India is 18 for a woman and 21 for a man.
- According to a study based on Census 2011, there are 2.3 crore child brides in the country.
- The National Family Health Survey (NFHS) 2015-16 also showed that 26.8 per cent women were married off before they turned 18.
- The World Health Organisation, in a report dealing with the issue of child brides, found that though 11 per cent of the births worldwide are among adolescents, they account for 23 per cent of the overall burden of diseases. Therefore, a child bride is more than doubly prone to health problems than a grown up woman, the apex court had said last year, expressing dismay over the alarming number of child brides in the country.

India still lags behind in routine immunization programme: WHO-UNICEF report

News: In 2017, an estimated 19.9 million infants worldwide were not reached with routine services such as three doses of diphtheria-tetanus-pertussis (DTP vaccine).

IN A NUTSHELL

- ✓ Global measles mortality has declined by 84%
- ✓ More children are being immunized worldwide than ever before.
- ✓ Uptake of new and underused vaccines is increasing.
- ✓ An additional 1.5 million deaths could be avoided, however if global immunization coverage improves.

Beyond News

- Around 60 per cent of these children live in 10 countries — Afghanistan, Angola, the Democratic Republic of the Congo, Ethiopia, India, Indonesia, Iraq, Nigeria, Pakistan and South Africa.
- This according to the most recent World Health Organisation and UNICEF immunization estimates released this week.
- The report further noted that global vaccination coverage the proportion of the world's children who receive recommended vaccines has remained the same over the past few years. It added that since 2015, the percentage of children who received their full course of three dose diphtheria-tetanus-pertussis (DTP3) routine immunizations is sustained at 85 per cent (116.2 million infants).
- Although global immunization coverage with DTP3 remains at 85 per cent, it is important to highlight that an additional 4.6 million infants have been vaccinated globally in 2017 compared to 2010, due to global population growth.
- The report highlighted that more concerted efforts needed to reach universal immunization coverage.
- As per the figures released an estimated 20 million additional children need to be vaccinated with DTP3; 45 million additional children need to be vaccinated with a second dose of measles vaccine and 76 million more children need to be vaccinated with 3 doses of pneumococcal conjugate vaccine.
- Meanwhile, newly available vaccines are being added as part of the life-saving vaccination package such as those to protect against meningitis, malaria and even Ebola.
- Human papillomavirus (HPV) is the most common viral infection of the reproductive tract, and can cause cervical cancer, other types of cancer, and genital warts in both men and women. In 2017, the HPV vaccine was introduced in 80 countries.

General Studies-03

IMF cuts India growth forecast for 2018 by a notch to 7.3%

News: The **International Monetary Fund (IMF)** projected a growth rate of 7.3% in 2018 and 7.5% in 2019 for India as against 6.7% in 2017, making it the fastest growing country among major economies.

Beyond News

- ❖ However, the latest growth rate projection for India is slightly less 1 percentage point in 2018 and 0.3 percentage points in 2019 than its April projections.
- ❖ India's growth rate is expected to rise from 6.7% in 2017 to 7.3% in 2018 and 7.5% in 2019, as drags from the currency exchange initiative and the introduction of the Goods and Services Tax fade, said the IMF's latest World Economic Outlook (WEO) update.
- ❖ The projection is 0.1 and 0.3 percentage points lower for 2018 and 2019, respectively, than in the April WEO, reflecting negative effects of higher oil prices on domestic demand and faster than-anticipated monetary policy tightening due to higher expected inflation.
- ❖ Despite this slight downgrade in its projections, India continues to outperform China, IMF's WEO update figures reflect. Growth in China is projected to moderate from 6.9% in 2017 to 6.6% in 2018 and 6.4% in 2019, as regulatory tightening of the financial sector takes hold and external demand softens, the report said.
- ❖ The IMF said global growth is projected to reach 3.9% in 2018 and 2019, in line with the forecast of the April 2018 WEO.



Dolphin population declines

News: The population of the endangered Gangetic river dolphin has declined at the **Vikramshila Gangetic Dolphin Sanctuary (VGDS)**, India's only sanctuary for its national aquatic animal.

Beyond News

- A survey found that the number of dolphins in the sanctuary had declined to 154 from 207 in 2015.
- 2015 onwards they see a declining trend of dolphin population. They are still analysing the exact reasons but the movement of big cargo vessels in the river and dredging activities have impacted the number of dolphins.
- Last year, dolphin experts had warned that due to their effective blindness, and dependence on echolocation, the Gangetic dolphins would suffer from the noise pollution created by large ship propellers, and by dredging.

Plants may soon create own fertilizer from thin air: study

News: The researchers engineered a bacteria that uses photosynthesis to create oxygen during the day, and at night, uses nitrogen to create chlorophyll for photosynthesis.

Beyond News

- ❖ The research, could eliminate the use of some human-made fertilizer, which has a high environmental cost.
- ❖ This discovery could have a revolutionary effect on agriculture and the health of the planet.
- ❖ Washington University's Pakrasi lab based its research on the fact that, although there are no plants that can fix nitrogen from the air, there is a subset of cyanobacteria that is able to do so.
- ❖ The bacteria used in this research, *Cyanothece*, is able to fix nitrogen because it has a circadian rhythm.
- ❖ *Cyanothece* photosynthesise during the day, converting sunlight to the chemical energy they use as fuel, and fix nitrogen at night, after removing most of the oxygen created during photosynthesis through respiration, researchers said.
- ❖ The research team took the genes from *Cyanothece*, responsible for this day-night mechanism, and put them into another type of cyanobacteria, *Synechocystis*, to coax it into fixing nitrogen from the air too

JULY 19

General Studies-01

India's excess water woes

News: India accounts for one-fifth of global deaths due to floods, according to government data that lends perspective to a new World Bank study that says climate change will lower the standards of living of nearly half of the country's population by 2050.

Beyond News

- As many as 1,07,487 people died due to heavy rains and floods across India over 64 years between 1953 and 2017, according to Central Water Commission data presented to the Rajya Sabha on March 19. Damage to crops, houses and public utilities was reported to be Rs 3,65,860 crore or as much as three % of the country's current GDP the data shows.
- The main reasons of floods have been assessed as high intensity rainfall in short duration, poor or inadequate drainage capacity, unplanned reservoir regulation and failure of flood control structures.

- With heavy rains sweeping western India, many cities such as Mangaluru, Mumbai and Junagarh have flooded during the 2018 monsoon season. Over 30 people died in floods that inundated 58 villages.
- Temperatures have been rising across the [South Asia] region, and are projected to continue increasing for the next several decades under all plausible climate scenarios.
- These changes will result in more frequent flooding, greater water demand and increased heat-related medical issues.
- India is one of the world's most vulnerable regions to climate change. It has increased the frequency of downpours as well as the gaps between rainy days during the monsoon, as IndiaSpend reported earlier.
- As India's climate warms, extreme weather, such as intense rain and floods, is predicted to worsen.
- Over 1,600 people die every year due to floods, affecting nearly 32 million people. More than 92,000 cattle are lost every year, seven million hectares of land is affected, and damage is over Rs 5,600 crore.
- States that are flood-prone include West Bengal, Orissa, Andhra Pradesh, Kerala, Assam, Bihar, Gujarat, Uttar Pradesh, Haryana and Punjab.
- There are 226 flood forecasting stations across 20 States, two Union territories and 19 river basins to monitor floods in the country.
- The government plans to expand the network to 325 stations by March 2020.

General Studies-02

Sabarimala temple bar unreasonable: SC

News: Tagging a woman's right to enter the famous Sabarimala temple with her menstrual cycle is unreasonable, the Supreme Court's Constitution Bench observed .

Beyond News

- The Bench, asked whether the exclusion of women aged between 10 and 50 from entering a temple because they are considered 'impure' amounts to the practice of untouchability, a social evil abolished by law.
- The CJI said there is no concept of "private mandirs (temples)."
- Once a temple is opened, everybody can go and offer prayers. Nobody can be excluded. The Chief Justice noted that the Sabarimala temple drew funds from the Consolidated Fund, had people coming from all over the world and thus, qualified to be called a "public place of worship."
- A batch of petitions has challenged the prohibition on women of a certain age group from entering the Sabarimala temple.



Faster visas for minorities from three nations

News: The Home Ministry has further liberalised the process for granting long-term visas (LTVs) to minorities from Pakistan, Afghanistan and Bangladesh.

Beyond News: The move comes days after one of its officials was arrested by the Rajasthan Anti-Corruption Bureau for allegedly extorting money from Pakistani Hindu migrants for their visa extension, visa transfer and grant of citizenship.



Fast-tracking approvals

The process of granting long-term visas to minorities from Pakistan, Afghanistan and Bangladesh:

- The Ministry of Home Affairs (MHA) has reduced the time limit for security clearance of visa applicants from Pakistan from 45 days to just 21
- After an application comes to the central system, it is forwarded to three agencies for verification- State government, the Intelligence Bureau and the MHA
- The State government through the local police has to run a background check on the applicants who are seeking a long-term visas
- If the State doesn't reply within 21 days, the application will be deemed to be cleared
- In future if there is a security implication, the onus will be on the State government

- ❖ The Home Ministry has reduced the time limit for security clearance of applicants from 45 days to 21 days.
- ❖ After an application reaches the central system, it's forwarded to three agencies for verification the State government, the Intelligence Bureau and the Home Ministry.
- ❖ Once the replies from all agencies are fed in the system, the application is automatically processed.
- ❖ A Home Ministry official said that since 2011, nearly 30,000 Pakistanis had been granted LTVs and, currently, 1,500 such applications were pending. The LTVs are precursors to citizenship, based on the report given by the State governments.
- ❖ The Citizenship Amendment Bill, 2015 that proposes citizenship to Hindus, Jains, Sikhs, Parsis, Christians and Buddhists from Pakistan, Afghanistan and Bangladesh who came to India before 2014 has hit a hurdle.
- ❖ There have been no exact numbers of minority refugees from these countries but officials put the figure at around 2 lakh Hindu and Sikh refugees from Bangladesh, Pakistan and Afghanistan living in India.
- ❖ There are 400 Pakistani Hindu refugee settlements in cities such as Jodhpur, Jaisalmer, Bikaner and Jaipur.
- ❖ Hindu refugees from Bangladesh mostly live in West Bengal and the northeastern States.

Interpretation facility for all official languages in Rajya Sabha

News: Rajya Sabha Chairman M. Venkaiah Naidu spoke in 10 languages while informing the House that the simultaneous interpretation service had now been made available in any of the 22 languages listed in the Eighth Schedule of the Constitution.

Beyond News

- Naidu spoke briefly in Bangla, Gujarati, Kannada, Malayalam, Marathi, Nepali, Oriya, Punjabi, Tamil and Telugu. On his initiative, the Rajya Sabha Secretariat had now made available interpretation facility for five more languages: Dogri, Kashmiri, Konkani, Sindhi and Santhali.

- The Rajya Sabha already had interpreters for 12 languages, while interpreters from the Lok Sabha were made available for five other languages.

‘NSTFDC funds help create job opportunities for tribal youth’

News: Unemployed youth in the tribal areas are now getting new employment avenues as the Andhra Pradesh State Government has begun tapping funds under **National Scheduled Tribes Finance and Development Corporation (NSTFDC)**, which has been revived recently.

Beyond News:

- ❖ Apart from this, the tribal people are being provided with land for cultivation after setting up a corpus fund of ₹25 crore.
- ❖ As part of the skill development programme, unemployed tribal youth are being given training on which ₹50 crore is being spent.
- ❖ So far, the government has spent close to ₹250 crore and laid roads in 2,000 km in tribal habitations.

General Studies-03

ISRO ropes in three partners to assemble 27 satellites

News: The Indian Space Research Organisation (ISRO) has roped in three partners to help it assemble 27 satellites at a quick pace over the next three years.

Beyond News

- In Bengaluru, its nodal satellites division URSC (U.R. Rao Satellite Centre) signed separate three-year contracts with Alpha Design Technologies P Ltd and its six consortium members; with defence public enterprise Bharat Electronics Ltd; and with Tata Advanced Systems Ltd, Hyderabad.
- Each partner will work with the URSC to produce three small to medium satellites each year, or a total of 27 spacecraft by July 2021, it is learnt. About 50 members from each partner will separately work with URSC engineers to complete the project.
- URSC estimates a requirement of around 71 satellites till 2021. It means adding 12 satellites a year or one every month. In 2017, it made a record 12 spacecraft but is unable to cope with a growing demand from new applications. Around 35 Indian spacecraft are active in space and will need to be replaced as they expire over time.
- It is learnt that URSC unit, ISRO Satellite Integration and Test Establishment or ISITE, will provide three separate work stations for the three partners.
- A spokesperson for TASL said it would participate in the full AIT of satellites of the class of 1,000 kg to 4,000 kg.
- URSC, which has so far produced over 100 spacecraft, opened up AIT to industry in August last year and 13 private and public sector companies had responded.

- The space agency launches three types of satellites – for communication, Earth observation and navigation. It has earlier said it needs to put double the number of its current satellites in space in order to fully meet national needs. They range from telephony. Internet and broadcasting services to security and simple socio-economic activities.

‘World first’ melanoma blood test

News: Australian researchers said on Wednesday they have developed a blood test for melanoma in its early stages, calling it a “world first” breakthrough that could save many lives.

Beyond News

- The scientists said the test could help doctors detect skin cancer before it spreads through a person’s body.
- Patients who have their melanoma detected in its early stage have a five-year survival rate between 90% and 99%.
- The research included a trial involving 105 patients with melanoma and 104 healthy people.
- The procedure detected early stage melanoma in 79% of cases.
- Melanoma is currently detected using a visual scan by a doctor, with areas of concern cut out surgically and biopsied.

JULY 20

General Studies-01

India to expand polar research to Arctic as well

News: Three decades after its first mission to Antarctica, the government is refocusing priorities to the other pole the Arctic because of opportunities and challenges posed by climate change.

Beyond News

- This month, it has renamed the National Centre for Antarctic and Ocean Research (NCAOR) since 1998, charged with conducting expeditions to India’s base stations to the continent as the National Centre for Polar and Ocean Research.



- It's also in talks with Canada and Russia, key countries with presence in the Arctic circle, to establish new observation systems, according to a source. Now, India only has one Arctic observation station near Norway.
- Along with the Arctic, India's earth sciences community also views the Himalayas as a "third pole" because of the large quantities of snow and ice it holds, and proposes to increase research spends towards understanding the impact of climate change in the Himalayas.
- It has already established a high-altitude research station in the Himalayas, called HIMANSH, at Spiti, Himachal Pradesh.
- While annual missions to maintain India's three bases in Antarctica will continue, the new priorities mean that there will be more expeditions and research focus on the other poles, the source.
- Sea ice at the Arctic has been melting rapidly the fastest in this century. That means several spots, rich in hydrocarbon reserves, will be more accessible through the year via alternative shipping routes.
- India is already an observer at the Arctic Council a forum of countries that decides on managing the region's resources and popular livelihood and, in 2015, set up an underground observatory, called IndARC, at the Kongsfjorden fjord, half way between Norway and the North Pole.
- A big worry for India is the impact of melting sea ice on the monsoon. Over the years scientists across the world are reporting that the rapid ice-melt in the Arctic is leading to large quantities of fresh water into the seas around the poles.
- This impedes the release of heat from the water and directs warm water into the seas around India, the theory goes, and eventually weakens the movement of the monsoon breeze into India.

General Studies-02

Fugitive offenders Bill passed

News: The Lok Sabha passed the Fugitive Economic Offenders Bill, which will now replace the Ordinance by the same name promulgated by the President in April.

Beyond News

- The Bill empowers special courts to direct the Central government to confiscate all the assets belonging to a fugitive economic offender, including those assets that are proceeds of the crime and that do not belong to the offender.
- The legislation gains importance against the background of high-profile cases where individuals such as Vijay Mallya and Nirav Modi escaped the country.
- The ₹ 100 crore limit was placed so that big offenders could be tackled quickly. Offenders below that limit will continue to be tackled by the existing various laws and courts.

TN government sets up 24-hour helpline for inter-caste couples

News: The **Tamil Nadu** government has informed the Madras High Court that a 24-hour helpline has been set up to investigate issues faced by inter-caste couples and offer them necessary assistance and protection.

Beyond News

- A special cell has been formed in all districts and cities in the state, comprising district-level officers such as superintendent of police and deputy commissioner of police at the city level, to receive complaints of harassment and threat to inter-caste couples, the counter affidavit said.
- There is an online complaint registration facility in both the Crime and Criminal Tracking Network and Systems and mobile app for citizens wherein complaints can be given online by aggrieved persons.
- The complaints can be sent to the jurisdictional police station online. This prevents the necessity of the inter-caste couples or even their relatives to physically go to the police station and give a complaint at the very first instance.
- Details regarding the setting up of special cells with 24-hour helpline numbers in all the districts will be uploaded in the official, police and government websites forthwith.
- This is being done in strict compliance with the directions of the court and to ensure the complete eradication of 'honour killing' in the state and to create awareness about the steps taken by the government on the matter, the counter affidavit said.

General Studies-03

RBI to issue new lavender colour smaller ₹100 note

News: The Reserve Bank of India will issue new ₹ 100 notes, which would be smaller in size than the present ones.

Beyond News

- The new denomination has Motif of Rani ki Vav on the reverse, depicting the country's cultural heritage, the central bank said.
- The base colour of the note is Lavender. The note has other designs, geometric patterns aligning with the overall colour scheme, both at the obverse and reverse. Dimension of the banknote will be 66 mm × 142 mm.
- The existing notes are of the dimension of 73×157.
- The existing ₹ 100 notes will continue to be legal tender.



No effective steps have been taken to clean Ganga; involve the common man as well: NGT

News: Expressing displeasure of the steps taken to clean river Ganga, the National Green Tribunal (NGT) asked the Uttarakhand government to take “effective measures” and take into account the views of the general public.

Beyond News

- ❖ A bench said that information provided “on paper” was different from the “ground reality.”
- ❖ Taking note of the compliance report submitted by the state government, the green panel said, Though the compliance affidavit may claim that all steps have been taken, the object of the directions in letter and spirit and effect on the ground is not adequate. It is not possible to accept that the Ganges is pollution free.
- ❖ The state government in the compliance report had said that directions had been issued to ban the use of plastic, sewage disposal, demarcation of the flood plains and prohibition of mechanised mining on the river bed.
- ❖ Noting that “rigorous monitoring” is required, the green bench further directed district Ganga committees to furnish reports every fortnight, which is to be examined by the executive committee constituted by the NGT.
- ❖ The executive committee has also been asked to secure reports of the tested water every month.
- ❖ The Tribunal also asked authorities to conduct a survey among the “common man” and take feedback pertaining to the rejuvenation of the river.

Wildlife scientists satellite-collar a dhole

News: In a first, wildlife scientists have collared a dhole, the Indian wild dog, with a satellite transmitter to study the habits of the endangered species.

Beyond News:

- With less than 2,500 individuals surviving in the wild globally, the dhole is already extinct in about 10 Asian countries.
- It took a team of scientists from the Wildlife Institute of India (WII) over 10 days to track down a pack of 14 dholes in Bishanpura meadow in the Mukki range of the Kanha National Park.
- The team tranquilised an adult female, tested its health and fixed a tracking collar around its neck as the rest of pack cautiously observed from a distance.
- They don't know a lot of aspects of their ecology, which makes conserving dholes far more difficult than tigers.
- Conservation ecologists believe the renewed efforts can help protect dholes.



New NASA mini satellite to peer into Milky Way's halo

News: A tiny NASA satellite has been deployed from the International Space Station (ISS) that will help scientists search for the universe's missing matter by studying X-rays from the 'halo' of hot gas surrounding our Milky Way galaxy.

Beyond News

- ❖ To look for this missing matter, a NASA-sponsored CubeSat mission called HaloSat was deployed from the ISS.
- ❖ The cosmic microwave background (CMB) is the oldest light in the universe, radiation from when it was 400,000 years old.
- ❖ Calculations based on CMB observations indicate the universe contains 5% normal matter protons, neutrons and other subatomic particles, 25% dark matter – a substance that remains unknown – and 70% dark energy, a negative pressure accelerating the expansion of the universe.
- ❖ As the universe expanded and cooled, normal matter coalesced into gas, dust, planets, stars and galaxies. However, when astronomers tally the estimated masses of these objects, they account for only about half of what cosmologists say should be present.
- ❖ HaloSat will study gas in the Milky Way's halo that runs about 2 million degrees Celsius. At such high temperatures, oxygen sheds most of its eight electrons and produces the X-rays HaloSat will measure.
- ❖ HaloSat will look at the whole sky, 100 square degrees at a time, which will help determine if the diffuse galactic halo is shaped more like a fried egg or a sphere.
- ❖ The halo's shape will determine its mass, which will help scientists understand if the universe's missing matter is in galactic halos or elsewhere. HaloSat will collect most of its data over 45 minutes on the nighttime half of its 90-minute orbit around Earth.
- ❖ On the daytime side, the satellite will recharge using its solar panels and transmit data to NASA's Wallops Flight Facility in Virginia, which relays the data to the mission's operations control centre at Blue Canyon Technologies in Colorado.

JULY 21

General Studies-02

India to host U.S. for 2+2 talks

News: India will host the inaugural round of the two-plus-two dialogue with the United States on September 6.

Beyond News

- The ministerial-level meeting will **cover bilateral, regional and global issues**, the Ministry of External Affairs said in a statement.

- The dialogue will be led by External Affairs Minister Sushma Swaraj and Defence Minister Nirmala Sitharaman from the Indian side and the Secretary of State Mike R. Pompeo and Secretary of Defence James Mattis from the U.S.
- This new dialogue format is in pursuit of agreement reached between India and the U.S. during Prime Minister Narendra Modi's visit to Washington D.C. on June 25-26 2017.
- The 2+2 meeting will cover a broad range of bilateral, regional and global issues of shared interest, with a view to strengthening strategic and security ties between the two countries.
- The announcement of the meeting which was postponed twice before comes in the midst of growing concern that anti-Iran sanctions from the U.S. might impact the energy scenario of India.
- This will also be the first round of high-level interaction between the two sides following the elections in Pakistan that will conclude in the last week of July.

Trust vote sets the tone for 2019 poll

News: The BJP-led NDA government on Friday defeated the no-confidence motion moved against it by the Opposition and initiated by the Telugu Desam Party (TDP) after a 12-hour debate that sketched the contours of the 2019 electoral face-offs.

Beyond News

- The final figures, subject to correction, stood at 325 with the government and 126 against, with no abstentions.
- The figures indicate that even without the Shiv Sena, the BJP got support from non-NDA parties.



New cell to resolve child custody disputes

News: The government told Parliament that a mediation cell would be set up under the apex child rights body, the National Commission for Protection of Child Rights (NCPCR), to resolve child custody disputes arising from cases of transnational marital discord.

Beyond News

- The Ministry has in-principle decided to establish a Mediation Cell under the NCPCR chairperson to resolve the cases of children who were taken away by one of the spouses without the permission of the other due to marital discord from other countries to India or vice versa and preparing a parental plan taking into account the best interest of the child
- The U.S. has been exerting pressure on India to sign the multilateral treaty.
- According to its Child Abduction Report 2018, with 104 cases of inter-country parental abduction, India was second only to Mexico which had 241 cases.

General Studies-03

Jupiter and its 79 moons

News: Scientists have discovered twelve new moons orbiting Jupiter, bringing the total number of natural satellites circling around the king of planets to a whopping 79.

Findings

- The findings include 11 “normal” outer moons, and one that scientists call an “oddball.”
- Researchers, first spotted the moons last year while they were looking for a possible massive planet far beyond Pluto.
- Nine of the new moons are part of a distant outer swarm of moons that orbit it in the retrograde, or opposite direction of Jupiter’s spin rotation.
- These distant retrograde moons are grouped into at least three distinct orbital groupings and are thought to be the remnants of three once-larger parent bodies that broke apart during collisions with asteroids, comets, or other moons.
- The newly discovered retrograde moons take about two years to orbit Jupiter.
- Two of the new discoveries are part of a closer, inner group of moons that orbit in the prograde, or same direction as the planet’s rotation.
- This new “oddball” moon is more distant and more inclined than the prograde group of moons and takes about one and a half years to orbit Jupiter.
- So, unlike the closer-in prograde group of moons, this new oddball prograde moon has an orbit that crosses the outer retrograde moons.
- The team think this small “oddball” prograde moon could be the last-remaining remnant of a once-larger prograde-orbiting moon that formed some of the retrograde moon groupings during past head-on collisions.
- The name Valetudo has been proposed for it, after the Roman god Jupiter’s great-granddaughter, the goddess of health and hygiene.



Cryptocurrencies will boost illegal transactions: RBI to SC

News: The Reserve Bank of India (RBI) said dealing in cryptocurrency will encourage illegal transactions. The RBI has already issued a circular prohibiting use of these virtual currencies.

Beyond News

- Cryptocurrencies are “a stateless digital currency” in which encryption techniques are used for trading and these ‘currencies’ operate independently of a Central bank like the RBI, “rendering it immune from government interference”.
- A Bench, was informed by senior advocate, appearing for the RBI, that a committee has been set up by the Centre to deal with issues relating to cryptocurrencies.

NGT orders unique ID for waterbodies

News: The **National Green Tribunal** (NGT) directed the Haryana government to provide unique identification numbers to 123 waterbodies in Gurugram and Faridabad within three months.

Beyond News

- The green panel directed the Gurugram Metropolitan Development Authority to undertake the process of identification and restoration of waterbodies that are under the State government's possession.
- The directions came while the NGT was hearing a plea by Lieutenant Colonel, who sought directions for identification and restoration of waterbodies in the area.

NASA launches tools to increase commercial use of satellite data

News: NASA has launched an online toolkit to make it easier for users to find, analyse and utilise the most relevant satellite data for their research, business projects or conservation efforts.

Beyond News:

- The “**Remote Sensing Toolkit**” provides a simple system that quickly identifies relevant sources based on user input, NASA said in a statement .
- The toolkit is designed to help users search for data, as well as ready-to-use tools and code to build new tools.
- This new tool makes finding and using NASA satellite data easier than ever before, and we hope it sparks innovation among the entrepreneurial community and leads to further commercialisation of NASA technology and benefits people across the world.

JULY 22 & 23

General Studies-02

China offers fresh grant of \$295 mn to Sri Lanka

News: Chinese President Xi Jinping has offered **Sri Lanka** a fresh grant of two billion yuan (\$295 million), as Beijing tries to expand its influence in the island-nation.

Beyond News:

- President Maithripala Sirisena of Sri Lanka, a partner in China's Belt and Road project, made the announcement at a ceremony to mark the start of construction of a Chinese-funded kidney hospital in his home constituency of Polonnaruwa.
- The grant offer comes at a time when a Chinese firm is facing heavy criticism for allegedly financing the last election campaign of former President Mahinda Rajapaksa.

- **Sri Lanka** Present government allowed Chinese projects to resume after a few changes in some of them.

Bihar govt. to grant quota in promotions to SC,ST

News: The **Bihar** government has decided to grant reservation in promotions to Scheduled Castes and Scheduled Tribes personnel.

Beyond News

- The decision was taken in compliance with the order passed by the Supreme Court on a special writ petition. A notification stated that such promotions would, however, be granted only in accordance with the further orders of the apex court.
- The Bihar government notification said the decision was taken on the recommendation of the seven-member committee of higher officials of the State government.
- The committee was constituted following an advice received from the Union Personnel and Training Department. The State government has also given detailed guidelines.

Women and Child Development Ministry to move proposal to amend POCSO Act

News: The **Women and Child Development (WCD) Ministry** is set to move a proposal before the Cabinet this week for enhanced punishment in cases of sexual assault of male

Beyond News: The Law Ministry has cleared the proposal to amend the Protection of Children from Sexual Offences (POCSO) Act, 2012, for enhancing punishment in cases of sexual assault against young boys, officials said.

- ❖ Amendments to the POCSO Act for enhanced punishment for sexual assaults of young boys have been approved by the Law Ministry. It will be sent to the Cabinet in two-three days, without elaborating on the details of the proposal.
- ❖ Ministry was working on the proposal to amend the Act to award death penalty to those convicted of raping children below 12 years.
- ❖ The move is being seen as an effort to bring in a gender-neutral law while dealing with cases of sexual assaults.

General Studies-03

NASA to launch probe into sun's scorching atmosphere

News: NASA is preparing to send a probe closer to the sun, enduring wicked heat while zooming through the solar corona to study this outermost part of the stellar atmosphere that gives rise to the solar wind.

Beyond News

- It is set to fly into the sun's corona within 3.8 million miles from the solar surface, seven times closer than any other spacecraft.
- The previous closest pass to the sun was by a probe called Helios 2, which in 1976 came within 43 million km.
- The distance of the earth from the sun is approximately 149.6 million km.

Importance of study

- The corona gives rise to **the solar wind**, a continuous flow of charged particles that permeates the solar system.
- Unpredictable solar winds cause disturbances in our planet's magnetic field and can play havoc with communications technology on the earth. NASA hopes the findings will enable scientists to forecast changes in the earth's space environment.
- The project, with a \$1.5 billion price tag, is the first major mission under NASA's Living With a Star programme.
- The probe is set to use seven Venus flybys over nearly seven years to steadily reduce its orbit around the sun, using instruments designed to image the solar wind and study electric and magnetic fields, coronal plasma and energetic particles. NASA aims to collect data about the inner workings of the highly magnetized corona.
- The probe, named after American solar astrophysicist Eugene Newman Parker, will have to survive difficult heat and radiation conditions.
- It has been outfitted with a heat shield designed to keep its instruments at a tolerable 29 degrees Celsius even as the spacecraft faces temperatures reaching nearly 21,370 degrees Celsius at its closest pass.

Army to get artillery guns from September

News: From September, the Army will be inducting two types of artillery guns into its arsenal. These will be the first induction of heavy artillery since the Swedish Bofors guns imported in the 1980s.

Beyond News: The Army will start taking delivery of the **K9 Vajra-T tracked self-propelled artillery guns** from South Korea in September and the first regiment of 18 guns is expected to be ready by the third quarter of 2019.

- At the same time, it will also receive four M777 ultra-light howitzers from the U.S.
- The Indian engineering conglomerate Larsen & Toubro (L&T) and Hanwa Techwin of South Korea signed a contract to manufacture the K9 Vajra-T guns. The K9 was shortlisted by the Army after extensive trials and the deal is worth about ₹4,500 crore for 100 guns.
- K9 Vajra-T is a 155-mm, 52-calibre self-propelled artillery gun with a maximum range of 40 km, customised from the original K9 Thunder gun. The fire control system has been customised for desert conditions to the requirements of the Army.
- The first 10 guns will be imported from South Korea and the rest manufactured by L&T in India.

- The M777 induction process is progressing on schedule after a brief delay. The Army will shortly resume user trials after which it will take formal delivery.
- In November 2016, India signed a deal for 145 M777 ULHs with the U.S. under the Foreign Military Sales programme at a cost of \$737 million. The M777 is a 155-mm, 39-calibre towed artillery gun and weighs just four tonnes, making it transportable under slung from helicopters.

Is quarrying near ESZ aggravating conflict around Bandipur?

News: The spike in man-animal conflict around **Bandipur, which is inimical to wildlife conservation**, is suspected to be a fallout of illegal quarrying close to Eco-Sensitive Zone (ESZ) around the national park.

Bandipur- inimical to wildlife conservation

- **Bandipur National Park** established in 1974 as a tiger reserve under Project Tiger, is a national park located in the south Indian state of Karnataka, which is the state with the highest tiger population in India.
- It is one of the premier Tiger Reserves in the country along with the adjoining Nagarhole national park.
- It was once a private hunting reserve for the Maharaja of the Kingdom of Mysore but has now been upgraded to Bandipur Tiger Reserve.
- Bandipur is known for its wildlife and has many types of biomes, but dry deciduous forest is dominant.



Beyond News

- There are more than 150 villages around Bandipur, but the Omkara and Hediya ranges are among the worst-affected by conflicts as both elephants and tigers tend to stray into human habitats there, resulting in casualties.
- While it is common for animals to stray out of their natural habitat looking for fodder and water, the people of Hasgoli village and Raghavapura village in Begur hobli in Gundlupet taluk have introduced a new angle to it.
- They have alleged that the district administration has issued permission for quarrying and the movement of heavy-duty trucks and blasting were forcing animals out of the forests.
- The villagers also fear that fragments of rocks land on the adjoining fields and damage the standing crop while the deafening sound created by the blasts disorient the animals, who run helter-skelter and end up too close to the villages.
- Though there is no granite quarrying, jelly quarrying takes place close to the ESZ and exacerbates the conflict situation. The site may be off the ESZ limits, both legally and technically, but it is still too close to the wildlife habitat.

JULY 24

General Studies-01

Deep corals not a refuge for fish fleeing from pollution

News: Deep coral reefs in a “twilight zone” in the oceans differ sharply from those near the surface, dimming hopes that they can be a refuge for marine life **fleeing threats such as climate change and pollution.**

Findings

- A U.S.-led team of divers who studied little-known reefs in the West Atlantic and Pacific Oceans between 100 to 500 ft deep where sunlight fades, found most species of corals and fish were unlike those closer to the surface.
- Less than five percent of fish and corals were found in both shallow and deep waters against the scientists’ previous estimate of 60 to 75 %, based on historical records.
- The potential for deep reefs to act in a refuge capacity is far less than we have previously hoped.
- And, like shallow reefs, the deep reefs also faced threats including climate change, storms and pollution. Divers found, for instance, plastic fishing nets entangled on deep corals off the Philippines and deep corals harmed by warm waters off the Bahamas.
- Scientists were trying to place temperature sensors in the twilight zone to see how far deep reefs were exposed to rising ocean temperatures, which are most extreme at the surface.



General Studies-02

India extends \$200 million credit lines to Rwanda; Modi holds talks with Kagame

News: India extended \$200 million lines of credit to Rwanda as Prime Minister Narendra Modi held wide-ranging talks with President Paul Kagame and **discussed measures to boost the bilateral strategic ties by strengthening cooperation in trade and agriculture sectors.**

Beyond News:

- After the one-on-one talks with President Kagame, Mr. Modi, the first Indian Prime Minister to visit the East African country, announced that India will soon open its mission in Rwanda.
- The two countries signed agreements on leather and allied areas and agricultural research.

- India also extended two lines of credit one of \$100 million for development of industrial parks and Kigali special economic zone (SEZ) in Rwanda and another one for \$100 million for agriculture.
- Besides one-to-one meeting, the two leaders also participated in delegation level talks to strengthen partnership in trade and investment, capacity building, development partnership and people to people ties.
- His two-day state visit to Rwanda one of Africa's fastest growing economies assumes significance as it could boost India's strategic ties with this country.

NCTE amendment Bill passed

News: The Lok Sabha passed the National Council for Teacher Education (Amendment) Bill to grant retrospective recognition to Central/State institutions that are conducting teacher education courses without NCTE approval.

- This has been done as a one-time measure to ensure that the future of students studying in these institutions is not jeopardised.

Kerala trumps high-profile peers to top Public Affairs Index 2018

News: As Kerala trumped high-profile peers such as Tamil Nadu, Karnataka and Telangana to emerge on top of the Public Affairs Index 2018, celebrations in one place have been matched by excuses in others.

Beyond News

- Kerala, has emerged first overall among 30 States in the country, with a top ranking in four of the 10 parameters for big States. These include essential infrastructure, support to human development, women and child development and child-friendly approach. The ranking has not come without riders as the State has some ground to cover in areas such as protection of the environment and maintenance of law and order.
- The parameters chosen for the study have given an edge for Kerala, a State that has won acclaim for its high human development indices. PAI 2018 comprises 10 broad themes, 30 focus subjects and 100 indicators as well as a special chapter on the children of India.
- While the theme on essential infrastructure includes power, water, roads and communication and housing, that on support to human development covers education and health.

General Studies-03

World's fastest man-made spinning object developed



News: Scientists have developed the fastest man-made rotor in the world, which they believe will help them study quantum mechanics.

Beyond News

- At more than 60 billion revolutions per minute, this machine is more than 100,000 times faster than a high-speed dental drill.
- This study has many applications, including material science. We can study the extreme conditions different materials can survive in.
- The team synthesised a tiny dumbbell from silica and levitated it in high vacuum using a laser. The laser can work in a straight line or in a circle – when it is linear, the dumbbell vibrates, and when it is circular, the dumbbell spins.
- A spinning dumbbell functions as a rotor, and a vibrating dumbbell functions like an instrument for measuring tiny forces and torques, known as a torsion balance.
- These devices were used to discover things like the gravitational constant and density of Earth, but Li hopes that as they become more advanced, they will be able to study things like quantum mechanics and the properties of vacuum.
- Quantum mechanics is a fundamental theory in physics which describes nature at the smallest scales of energy levels of atoms and subatomic particles.

Shatam lake set to fade into oblivion?

News: Shah Hatim Talab, popularly known as Shatam Cheruvu or Shatam Lake in Telangana, will be the next in line to disappear from the cityscape.

Beyond News:

- ❖ Cut off from inlet channels, covered heavily in algal bloom, and having lost a third of its spread to large-scale dumping of construction waste, this apology of a lake does not need more reasons to choke and die.
- ❖ The death is being gratuitously solemnised by the GHMC which is actively on the job of consolidating the debris surrounding the lake, in the name of removing it.
- ❖ As per information shared by the GHMC, a little more than 70,000 kg or 70 tonnes of construction & demolition waste has been removed from the lake.
- ❖ The C&D management wing of GHMC has been entrusted with getting the waste removed from the city lakes, and carrying them to various sites earmarked for its dumping, including those where the C&D waste processing units are to be set up.
- ❖ Emanating unbearable stench of sewage and pollution, the lake has also sacrificed a portion of its spread to the growth of water hyacinth. Labourers working at the lake site for removal of water hyacinth obstructing the surplus weirs vouch for the fact that a vehicle had been deployed on Friday and Saturday to level the debris.

Karnataka sees 300% jump in FDI inflows, T.N. rebounds

News: Karnataka registered the biggest increase in Foreign Direct Investment (FDI) last year, as inflows from overseas jumped 300% in the 12 months ended March 2018.

Beyond News

- ❖ Tamil Nadu too saw a rebound reversing a slowdown in the preceding period, while Gujarat, Maharashtra and Andhra Pradesh all saw a drop in FDI inflows, data from the Reserve Bank of India (RBI) presented in Parliament show.
- ❖ While Karnataka received \$8.58 billion in 2017/18, a sharp increase from the \$2.13 billion in the previous fiscal, Tamil Nadu netted \$3.47 billion, a 56% increase from the \$2.22 billion in the prior period, as the State appeared to buck concerns about the investment climate.
- ❖ Other major States Maharashtra, Gujarat and Andhra Pradesh saw a dip in FDI inflows.
- ❖ Overall, sector-wise data show that computer software and hardware gained from a 68% jump in FDI last year to \$6.15 billion.

Interestingly, the services sector, which comprises finance, banking, insurance and outsourcing among others, remained the top recipient of FDI despite seeing a 23% decline in inflows at \$6.71 billion.

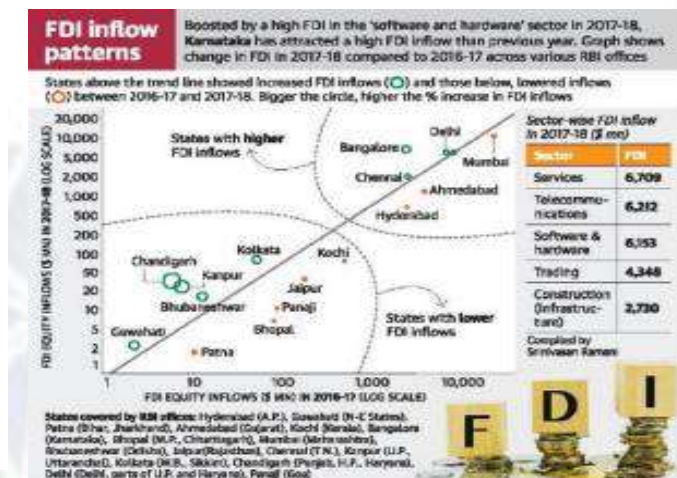
India drops three ranks in AT Kearney FDI Confidence Index

News: India in 2018 has fallen out of the top 10 destinations for FDI in terms of its attractiveness, according to an AT Kearney report, which says this could be due to teething troubles in the implementation of the goods and services tax and the government's demonetisation decision in 2016.

Beyond News:

India ranks 11 in the 2018 AT Kearney FDI Confidence Index, down from 8 in 2017 and 9 in 2016.

- That said, the report highlighted several of the reforms such as removing the Foreign Investment Promotion Board and liberalising FDI limits in key sectors that have maintained India's high rankings in terms of FDI attractiveness.
- Notable reforms include the elimination of the Foreign Investment Promotion Board, a government agency responsible for reviewing all potential foreign investment, and the liberalisation of foreign investment



thresholds for the retail, aviation, and biomedical industries.

- The report, released added that potential investors are likely to be cautious as they are monitoring political risks such as China abolishing presidential term limits and the upcoming general election in India.

JULY 25

General Studies-02

SC pulls up Centre for its delay in appointing a Lokpal

News: The Supreme Court said the government's stand on completing the appointment of the Lokpal, an ombudsman to protect the common man from corruption in public service and power centres, is "wholly unsatisfactory".

Beyond News

- The court was reacting to an affidavit filed by the government, aiming to specify the exact timeframe by which it would appoint the Lokpal. Instead, the government, represented by Attorney-General, said it is a "complicated" process.
- The eight-page affidavit said the Selection Committee, led by Prime Minister, met on July 19 on the choice of a Search Committee for Lokpal. This Search Committee would prepare a panel of names for Lokpal.
- On July 19, the Selection Committee discussed that the Search Committee would comprise seven persons, including the Chairperson. These persons have to be from expertise as diverse as anti-corruption policy, public administration, insurance, banking, law and management.
- Besides, 50% of them should be drawn from the SC/ST category, the OBCs, minorities and women. The Selection panel decided to discuss this further the next time they meet at a convenient time.



Lok Sabha clears amendment Bill

News: The Lok Sabha passed the **Prevention of Corruption (Amendment) Bill, 2018**, that seeks to punish bribe-givers and bribe-takers.

Beyond News: The Bill provides for a jail term of three to seven years, besides a fine, to those convicted of taking bribes and those giving bribes to public officials.

- It extends the ambit of public servants who would be protected by sanction from prosecution.
- In a departure from the earlier anti-corruption law, the current law makes a distinction between “collusive bribe givers” and those who are “coerced.” In such cases, the Bill seeks to protect those who report the matter within seven days.
- The Rajya Sabha passed the Bill last week.



General Studies-03

Shape-changing robot can help find people trapped in debris

News: Scientists have developed a robot that can change its shape to crawl through tight spaces and climb over rough terrain, an advance that may help search and rescue teams locate people trapped under debris.

Beyond News

- The **Rising Sprawl-Tuned Autonomous Robot (RSTAR)** utilises adjustable sprawling wheel legs attached to a body that can move independently and reposition itself to run on flat surfaces, climb over large obstacles and up closely-spaced walls, and crawl through a tunnel, pipe or narrow gaps.
- The RSTAR is ideal for search and rescue operations in unstructured environments, such as collapsed buildings or flooded areas, where it must adapt and overcome a variety of successive obstacles to reach its target.
- Researchers designed RSTAR to function simply and reliably, change shape and overcome common obstacles without any external mechanical intervention.
- Its speed and relatively low energy consumption make the robot ideal for a broad range of applications that may require longer work time.
- The robot uses its round wheels to travel more than three feet per second on hard flat surfaces and switches to spoke wheels to traverse extremely soft or granular surfaces, like thick mud or sand, without getting stuck.
- It also climbs vertically and crawls horizontally by pressing its wheels to walls without touching the floor.
- The team is working on a larger STAR robot version that will climb over larger obstacles, including stairs, and carry more than four pounds of sensors and supplies.
- A smaller STAR or RSTAR will piggyback on the larger robot to use in hard-to-reach areas and sneak in between narrow cracks and passages.

Karnataka pips T.N. to become top State in renewable energy

News: With 27% of its power generation coming from renewable energy, Karnataka has emerged the leading State for renewable energy in India this year, pipping Tamil Nadu.

Beyond News

- ❖ According to a new report by the Institute for Energy Economics and Financial Analysis (IEEFA), the State reached 12.3 gigawatts (GW) of total installed capacity as of March 2018, having added 5 GW in 2017-18 alone.
- ❖ Currently, it has 5 GW of solar capacity and 4.7 GW of wind capacity. The remainder of its renewable portfolio (2.6 GW) includes small hydro, biomass, plus heat and power cogeneration,” the report said.
- ❖ The Pavagada industrial solar park said to be the second largest solar development currently under construction in the world has been credited with reversing the State’s fortunes in renewable energy, along with “positive renewable energy policies” such as open access, the introduction of a hybrid wind-solar development policy and “significant steps to reverse Karnataka’s historic reliance on energy imports.”
- ❖ However, the report mentions certain “threats” to solar energy in the State, including lack of transmission network infrastructure and policies such as repealing the zero wheeling charge order.

State’s forest policy talks tough on encroachments

News: Tamil Nadu Chief Minister released the State’s forest policy. Forest Minister received the first copy of the document, which **aims to conserve the biodiversity and protect the ecology and environment of the State.**

Beyond News

- The policy says that the norms stipulated by the Forest (Conservation) Act, 1980, would be strictly enforced to preserve the existing forest cover for ecological security.
- The policy also looks to increase forest and tree cover to at least 30% by 2025 and enhance participation of women in village forest committees (VFCs).
- Accordingly, encroachments inside the reserved forests will be removed and no encroachment on forest land will be regularised.
- The State government has decided to provide adequate facilities including weapons, communication facility and vehicles for the forest protection staff to enable them to discharge their duties effectively.
- Special forces engaged in anti-poaching operations will be well trained and armed.
- These staff will also be made aware of the existing laws and procedures and the prosecution side will be strengthened to ensure offenders are brought to book. Towards this, the government will seek cooperation from national and international agencies.

- The State will look for the willing participation of the local people living near open forest land (with crown density of less than 40%) in re-afforestation and protection initiatives through the village committees.
- The State government will progressively increase the budget allotment for the Forest Department every year to fulfil the goals of the policy.

Plastic waste poses threat to deer

News: When the State government has set the target of eradicating non-biodegradable plastic by December 31, indiscriminate dumping of plastic waste near **Gangaikondan Spotted Deer Sanctuary** near is posing a serious threat to the wild animals.

Beyond News

- Since the reserve forest covering 441.16 hectares between Gangaikondan and Thazhainoothu in Tamil Nadu is the southernmost habitat of spotted deer in the country, Forest department decided to convert it into a full-fledged deer park so as to protect the animals, which are facing a threat from poachers and being hit by vehicles on Tirunelveli Madurai national highway when they move out in search of food and water.
- The absence of predators here has resulted in an increase in the population of spotted deer to over 500, but now food and water for the animals have become scarce.
- As a result, the spotted deer, after scaling the compound wall on the western side of the habitat and the wire fence on the other three sides, are now migrating to the surrounding areas, even up to Abhishekapatti, where they face threat from poachers and street dogs.
- Since the fence is damaged at a few spots on the southern and eastern sides, the animals come out of the enclosure and stray up to Manonmaniam Sundaranar University at Abhishekapatti.
- Similarly, after coming out of the sanctuary, they move towards Thathanoothu intersection, where plastic waste is being dumped.

JULY 26

General Studies-01

Another blast from the past: Over 500 unused war rockets found in Shivamogga district

News: Over 500 unused war rockets, said to belong to the **time of Tipu Sultan**, were found during a field excavation, conducted by Department of Archeology, Museums and Heritage, in Nagara village in Hosanagar taluk in Karnataka.

Beyond News: In 2002, 102 unused war rockets dumped in an open well on land owned by Nagaraja Rao in Nagara were found.

- The archaeologists then opined that the **rockets belong to the 18th century**.
- The department conducted a field excavation at the same site.
- The mound formed from accumulation of the silt, which was removed from the open well in 2002, was excavated by workers from the department during which the unused rockets were found.
- Nagara, then called Bidanooru, was an important administrative centre of Mysore State and Tipu Sultan had even established a mint and an armoury here. Tipu Sultan had used rockets in the wars against the British East India Company.
- Based on these facts, the historians have come to the conclusion that the unused war rockets belong to the time of Tipu Sultan. Like the earlier rockets, those found also are iron-cased with black powder, a mixture of sulfur, charcoal and potassium nitrate filled inside.
- Each unused rocket is of 7 to 10 inches in length and 1 to 3 metre in diameter and they have become corroded.

General Studies-02

Lok Sabha passes Anti-Trafficking Bill

News: The Lok Sabha passed the **Trafficking of Persons (Prevention, Protection and Rehabilitation) Bill, 2018**.

Beyond News

- The Bill lays down a stringent punishment of 10 years to life imprisonment for aggravated forms of trafficking, which include buying or selling of persons for the purpose of bonded labour, bearing a child, as well as those where chemical substances or hormones are administered, and a survivor acquires life-threatening illnesses such as AIDS.
- The Bill proposes establishing a National Anti-Trafficking Bureau (NATB) for coordinating, monitoring and surveillance of trafficking cases.
- It also provides for a Relief and Rehabilitation Committee and Rehabilitation Fund with an initial allocation of ₹ 10 crore.
- It prescribes forfeiture of property used or likely to be used for the commission of an offence.
- Trafficking is a borderless crime but jurisdiction issues come in the way of investigation. This Bill provides for the NATB to effectively address this aspect.

Pakistan ready to improve ties with India: Imran Khan

News: Pakistan is ready to improve its ties with India, Pakistan Tehreek-e-Insaf (PTI) chief Imran Khan said.

Beyond News

- His government would like leaders of the two sides to resolve all disputes, including the "core issue" of Kashmir, through talks, the former cricketer-turned-politician said and

asserted that the blame game between the two neighbours, detrimental to the subcontinent, should stop.

- The PTI has emerged as the single largest party in the National Assembly elections, amid claims by rival political parties “blatant” rigging in the counting.
- Khan said good **India-Pakistan** relations will be beneficial for the entire region and suggested to increase trade ties between the two neighbours.
- India-Pakistan ties nose-dived in recent years with no bilateral talks taking place.
- Khan also said he was very disappointed with the Indian media which had projected him like a “Bollywood villain” in recent weeks. On ties with the U.S., Pakistan wants a balanced relations with America which should be mutually beneficial, not one-sided.

India to help Bangladesh in warship design

News: Garden Reach Ship Builders (GRSE) of Kolkata, a defence public sector undertaking, has signed a Memorandum of Understanding (MoU) with Khulna Shipyard Limited (KSY) of Bangladesh to **help the country in design and construction of warships**, Parliament was informed. The MoU was signed on May 8 this year.

Beyond News

- KSY, an independent commercial enterprise under the Ministry of Defence, Government of Bangladesh, and operated by the Bangladesh Navy, had earlier expressed keenness to develop its skills and know-how for design and construction of ships at its facility at Khulna and other subsidiary locations.
- Incidentally, Bangladesh has procured two conventional diesel-electric submarines from China.
- When Navy chief visited Bangladesh last month, both sides explored new avenues for cooperation. The two countries also instituted the Indian Navy-Bangladesh Navy Coordinated Patrol (CORPAT), which will be an annual feature.
- Of late, assistance in capacity-building and supply of military hardware have emerged as major tools of India’s defence diplomacy in the region.

West Bengal Assembly passes resolution to rename State as ‘Bangla’

News: The West Bengal Assembly **passed a resolution to rename the State as ‘Bangla’ in three languages Bengali, English and Hindi.**

Beyond News

- ❖ The move is aimed at climbing the alphabetical sequence of State names in which West Bengal appears last in the list now.
- ❖ The State will have to wait for the nod from the Union Home Ministry for the final approval of the resolution.
- ❖ Earlier, the Centre had rejected the State government’s proposals of having three names Bangla (in Bengali), Bengal (in English) and Bangal (in Hindi).

- ❖ The Mamata Banerjee government's proposal to rename West Bengal as Paschim Bango in 2011 was turned down by the Centre.

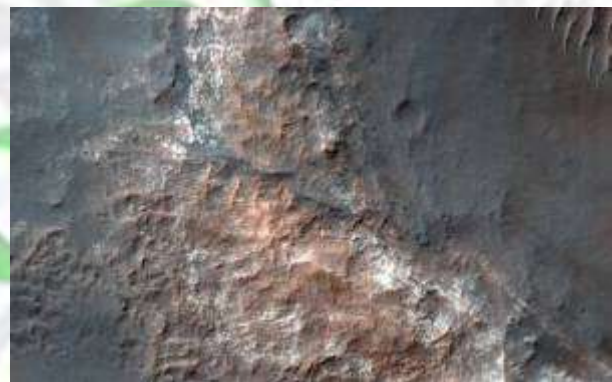
General Studies-03

Underground lake detected on Mars

News: Using a radar instrument on an orbiting spacecraft, scientists have spotted what they said appears to be a sizeable salt-laden lake under ice on the southern polar plain of Mars, a body of water they called a possible habitat for microbial life.

Beyond News

- The reservoir they detected roughly 20 km in diameter, shaped like a rounded triangle and located about 1.5 km beneath the ice surface represents the first stable body of liquid water ever found on Mars.
- Water is considered a fundamental ingredient for life.
- The researchers said it could take years to verify whether something is actually living in this body of water that resembles a subglacial lake on Earth, perhaps with a future mission drilling through the ice to sample the water below.
- The detection was made using data collected between May 2012 and December 2015 by an instrument aboard the European Space Agency's Mars Express spacecraft that transmits radar pulses, which penetrate the Martian surface and ice caps.
- The location's radar profile resembled that of subglacial lakes found beneath Earth's Antarctic and Greenland ice sheets.
- Mars long ago was warmer and wetter, possessing significant bodies of water, as evidenced by dry lake beds and river valleys on its surface. There had been some signs of liquid water currently on Mars, including disputed evidence of water activity on Martian slopes, but not stable bodies of water.
- Water in the Martian lake was below the normal freezing point but remained liquid thanks in large part to high levels of salts. Researchers estimated the water temperature at somewhere between 14 degrees Fahrenheit (minus 10 degrees Celsius) and minus 94 degrees Fahrenheit (minus 70 degrees Celsius).



Red planet and 'blood moon' pair up to dazzle sky-gazers

News: The longest "blood moon" eclipse this century will coincide with Mars' closest approach in 15 years to offer sky-gazers a thrilling astronomical double bill on Friday (July 27), astronomers say.



Beyond News

- ❖ For about half the world, the moon will be partly or fully in Earth's shadow from 1714 to 2328 GMT – six hours and 14 minutes in all.
- ❖ The period of complete eclipse known as “totality”, when the moon appears darkest will last from 1930 to 2113 GMT.
- ❖ At the same time, Mars will hover near the moon in the night sky, easily visible to the naked eye.
- ❖ Our neighbouring planet will appear unusually large and bright, a mere 57.7 million kilometres from Earth on its elliptical orbit around the sun.
- ❖ Amateur astronomers in southern Africa, Australia, India and Madagascar will be best-placed to enjoy the spectacle, though it will also be partly visible in Europe and South America.
- ❖ A total lunar eclipse happens when Earth takes position in a straight line between the moon and sun, blotting out the direct sunlight that normally makes our satellite glow whitish-yellow.
- ❖ The moon travels to a similar position every month, but the tilt of its orbit means it normally passes above or below the Earth's shadow so most months we have a full moon without an eclipse.
- ❖ When the three celestial bodies are perfectly lined up, however, the Earth's atmosphere scatters blue light from the sun while refracting or bending red light onto the moon, usually giving it a rosy blush.
- ❖ This is what gives the phenomenon the name “blood moon”, though Mark Bailey of the Armagh Observatory in Northern Ireland said the colour can vary greatly.
- ❖ The long duration of this eclipse is partly due to the fact that the moon will make a near-central passage through Earth's umbra — the darkest, most central part of the shadow.



JULY 27

General Studies-02

Narendra Modi meets South African President, discusses ways to boost bilateral ties

News: Prime Minister Narendra Modi met South African President Cyril Ramaphosa and the two leaders **discussed ways to expand the bilateral ties in a number of sectors, including trade and investment, IT and defense.**

Beyond News: Following the delegation-level talks, three MoUs were signed on cooperation in exploration and use of outer space for peaceful purposes, setting up of

Gandhi-Mandela Centre of specialisation for artisan skills and agricultural research and education.

- ❖ Modi, who arrived in Johannesburg, met Mr. Ramaphosa on the sidelines of the two-day BRICS summit whose theme this year is 'BRICS in Africa'.
- ❖ India and South Africa are celebrating 21 years of strategic partnership.
- ❖ Later, Foreign Secretary said both the nations expressed satisfaction at the growth in trade and investment, besides improvement in the people-to-people relation.
- ❖ Gokhale said Prime Minister Modi entirely agreed with the South African leader on this, and noted a "very positive" trend on investments and trade.
- ❖ Modi on Thursday also held bilateral talks with Russian President Vladimir Putin on the sidelines of the Summit and said the friendship between India and Russia is deep-rooted.
- ❖ The two leaders had a comprehensive discussion on bilateral issues of mutual interest, especially in trade, investment, energy, defence and tourism, Ministry of External Affairs Spokesperson said.
- ❖ BRICS is a grouping of five major emerging economies: Brazil, Russia, India, China and South Africa. Originally the first four were grouped as "BRIC", before the induction of South Africa in 2010.
- ❖ India's relations with South Africa date back several centuries. India was at the forefront of the international community in its support to the anti-apartheid movement.
- ❖ The South African Indian-origin community numbers around 1.5 million and constitutes about three per cent of South Africa's total population.

NGT constitutes monitoring panel for Yamuna rejuvenation

News: The **National Green Tribunal (NGT)** constituted a monitoring committee to oversee the Yamuna rejuvenation project. The committee has been directed to submit the first action plan by September.

Beyond News

- A Bench directed the committee, comprising former Delhi Chief Secretary Shailaja Chandra and retired NGT expert member Bikram Singh Sajwan, to submit a report by December.
- The green panel also directed the Haryana and Uttar Pradesh governments to assist the committee on the project.
- The Delhi Development Authority and the Delhi Jal Board have also been asked to hold a meeting on July 30 to identify land where sewage treatment plant for a drain under phase-II can be installed.
- While phase-I of the project deals with cleaning of the Najafgarh drain, phase-II deals with all other drains in the Capital.
- The green panel come down heavily on the DJB for not making any substantial progress on cleaning of the river despite a lapse of three years since the initial orders were passed.

General Studies-03

Translocated trees in Bengaluru spring back to life

News: The translocation of 135 trees from Bannerghatta Road earlier this year to make way for the Gottigere-Nagawara metro line was one of the biggest undertakings by the Bangalore Metro Rail Corporation (BMRCL).

Beyond News

- However, the transport corporation, which often comes under attack for axing trees, has an update that will make citizens happy: it claims that more than 95% of the trees that were transplanted have sprung back to life.
 - The trees are getting acclimatised to their new homes on the campus of the Indian Institute of Management, Bangalore, Arekere lake, and public parks in Shantiniketan and Bande that are maintained by the Bruhat Bengaluru Mahanagara Palike (BBMP).
 - Arborator S. Prabhakaran and his 20-member team were behind the endeavour. They have been taking care of the trees since then. Of the 135 trees translocated, 130 trees have revived. The result after six months of constant treatment and maintenance has been beyond our expectations, as we had promised BMRCL a survival rate of 80%.
 - The translocation process took six months and included specialised treatment and maintenance of the trees. A majority of the trees are indigenous ornamental trees, such as Tabebuia Rosea, Mahogany and Peltophorum.
 - The BMRCL had spent around Rs. 12,000 per tree for translocation and maintenance.
 - According to Chief Public Relations Officer of BMRCL, this is 'probably the first time in Bengaluru that translocation of trees has achieved such a successful outcome. It has been done with utmost care by the professionals.
 - 50 more trees will be translocated
-
- The BMRCL is has identified 50 trees on Bannerghatta Road for translocation. The agency has started work on shifting the trees, which are located on the median. They will be shifted to BBMP parks in and around Puttenahalli.



New Alzheimer's drug shows early promise

News: The long quest for a medication that works to treat Alzheimer's reached a potentially promising milestone. For the first time in a large clinical trial, a drug was able to both reduce the plaques in the brains of patients and slow the progression of dementia.

Beyond News: More extensive trials will be needed to know if the drug is truly effective. Other drugs have shown early promise only to disappoint in larger studies.

- But if the results, presented at the Alzheimer’s Association International Conference in Chicago, are borne out, the drug may be the first to successfully attack both the brain changes and the symptoms of Alzheimer’s.
- Aside from a couple of medications that can slow memory decline for a few months, there is no effective treatment for Alzheimer’s, which affects about 44 million people worldwide, including 5.5 million Americans. It is estimated that those numbers will triple by 2050.
- The trial involved 856 patients from the U.S., Europe and Japan with early symptoms of cognitive decline. They were diagnosed with mild cognitive impairment or mild Alzheimer’s dementia, and all had significant accumulations of the amyloid protein that clumps into plaques in people with the disease, said chief medical officer of Eisai, a Japan-based company that developed the drug, known as BAN2401, along with Biogen, based in Cambridge, Massachusetts.
- In the data presented, the highest of the five doses of the new drug an injection every two weeks of 10 mg per kg of a patient’s weight reduced amyloid levels and slowed cognitive decline when compared with patients who received placebo.

JULY 28

General Studies-01

Blind belief makes tribals flee hamlet in Chikkamagaluru

News: Around 25 families of **Havugolla, a tribe**, vacated their dwellings near Bale village in N.R. Pura taluk in Karnataka believing that deaths would occur in their families during the total lunar eclipse.

Beyond News

- ❖ According to members of the community, they left on the “advice of deities” they worship.
- ❖ Two youngsters from the community died on July 7 and July 21, respectively, triggering fear. The families believe they died suddenly with no serious prior health problems.
- ❖ Following this, some tribals visited temples at Balehonnur, Karkeshwara, Mangaluru and other places.
- ❖ The families have dispersed to many other towns and villages, some even in Kerala.
- ❖ The Havugolla families, known for capturing snakes, keep moving from one place to another. When they came to Bale village about 15 years ago, they put up their tents on a vacant plot, which happened to be a forest land. As the years passed, the younger

generation gave up capturing snakes and became agricultural labourers and small-time traders.

General Studies-02

Protect critical personal data of citizens: draft Bill

News: The draft personal data protection Bill 2018, submitted by the Justice B.N. Srikrishna-headed expert panel, has **proposed that critical personal data of Indian citizens be processed in centres located within the country.**

Beyond News

- The draft law, which comes after a year-long consultation process, however, has left it to the Central government to notify categories of personal data that will be considered as critical.
- Other personal data may be transferred outside the territory of India with some riders. However, at least one copy of the data will need to be stored in India. The draft Bill, which India hopes will become a model framework for protection of personal data for the world, will apply to processing of personal data within India, including the State.
- For data processors not present in India, the Act will apply to those carrying on business in India or other activities such as profiling which could cause privacy harms to data principals in India.
- The draft also provides for penalties for data processor as well as compensation to data principal to be imposed for violations of the data protection law. It has suggested a penalty of ₹15 crore or 4% of the total worldwide turnover of any data collection/processing entity, for violating provisions. Failure to take prompt action on a data security breach can attract up to ₹5 crore or 2% of turnover as a penalty.
- Personal data, the draft law states, may be processed on the basis of the consent of the data principal, given no later than at the commencement of the processing. It added that processing of sensitive personal data should be on the basis of “explicit consent.”
- The law, the committee in its recommendations said, will not have retrospective application and will come into force in a structured and phased manner. Processing that is ongoing after the coming into force of the law would be covered.
- Justice stated that this report is the first step towards data protection and as technology changes, it may become necessary to fine-tune the law.
- The draft Bill, which has recommended that a Data Protection Authority be set up to prevent misuse of personal information, also provides for setting up an Appellate Tribunal.
- On right to be forgotten, the draft states that data principal will have the right to restrict or prevent continuing disclosure of personal data by a data processor.

‘Indian firms flouting norms to import Chinese goods ’

News: Companies in India are **side-stepping the anti-dumping measures imposed by the government by deliberately misclassifying items imported from China**, according to a report tabled by the Parliamentary Standing Committee on Commerce.

Beyond News

- The report also notes that the government has been reluctant to review the effectiveness of its anti-dumping measures.
- The anti-dumping framework also suffers with lax implementation, the report on the impact of Chinese goods on the Indian economy said. The unscrupulous elements are able to import the Chinese goods by circumventing the goods put under the anti-dumping framework through misclassification of products.
- This mis-declaration while importing the goods which otherwise have been put under anti-dumping measures nullify the whole effort to protect the domestic industry from unfair trade practices.
- The Standing Committee named the steel industry as one of the major offenders in this regard, saying that there have been complaints from the domestic steel industry that Chinese non-alloy steel is being imported by being declared as alloy steel.
- The committee noted that though nearly 75-80% of Chinese steel imports are covered under the anti-dumping duty, the import of such steel products have increased 8%.
- The committee recommended that the Ministry of Steel, in consultation with the Directorate General Of Anti-Dumping And Allied Duties (now the Directorate General of Trade Remedies), look into the rationalisation of anti-dumping duties and make them realistic to “ward off any adverse consequences of dumping of Chinese steel goods in the country.”

General Studies-03

Scientists confirm Einstein’s supermassive black hole theory

News: A team of international scientists observing a star in the Milky Way have for the first time confirmed Einstein’s predictions of what happens to the motion of a star passing close to a supermassive black hole.

Beyond News

- Einstein’s 100-year-old general theory of relativity predicted that light from stars would be stretched to longer wavelengths by the extreme gravitational field of a black hole, and the star would appear redder, an effect known as gravitational red shift.
- A team of scientists at the European Southern Observatory started monitoring the



central area of the Milky Way using its Very Large Telescope to observe the motion of stars near the supermassive black hole 26 years ago. The black hole is 26,000 light years away from Earth and has a mass 4 million times that of the Sun. The scientists selected one star, S2, to follow. With an orbit of 16 years, they knew it would return close to the black hole in 2018.

- Over 20 years, the accuracy of their instruments has improved and so in May 2018, they were able to take extremely precise measurements in conjunction with scientists from around the world.
- This showed the star's orbital velocity increasing to more than 25 million kph (15.5 million mph) as it approached the black hole. The star's wavelength stretched as it sought to escape the gravitational pull of the supermassive black hole, shifting its appearance from blue to red.
- The scientists now hope to observe other theories of black hole physics.
- This is the first step on a long road that the team has done over many years and which we hope to continue in the next years..

JULY 29 & 30

General Studies-01

Floating islands of promise in Hauz Khas lake

News: Dozens of floating islands have popped up across the Hauz Khas lake In New Delhi over the last few months. These 2x2-metre green patches on the lake are floating on discarded plastic bottles.

Why its important? The Hauz Khas lake, a 14th-century waterbody that was dug up to serve as a tank during Alauddin Khilji's reign, had been dying a slow death over the years. The project started after MoU with the Delhi Development Authority in August last year and the first island was floated into the lake in October last.

Beyond News

- In a bid to rejuvenate the lake, environmental engineer and programme manager, both associated with Evolve Engineering, have taken up the initiative to clean it up by floating artificial wetlands into the waterbody.
- Environmental engineer and his team, including eight labourers, can be seen preparing the ground for cleaning an inlet that connects the lake to the water being released by a sewage treatment plant in south Delhi.
- The project, so far, has been a crowdfunded one with volunteers, including some schools, signing up to "adopt" these floating islands.



- The MoU with the DDA states that “90% removal of pollutants within two months of operation” needs to be done.
- The process of cleaning the lake has not been easy, say both the members spearheading the project.

General Studies-02

India plans to buy missile shield from U.S.

News: India is in talks with the S. to procure an advanced air defence system to defend the National Capital Region (NCR) from aerial attacks.

Beyond News

- ❖ The process for procuring the National Advanced Surface-to-Air Missile System-II (NASAMS-II), estimated at \$1 billion, has been initiated.
- ❖ This system will help in preventing 9/11-type attacks [when terrorists flew hijacked planes into New York’s World Trade Center] on Delhi. It is in the Acceptance of Necessity (AoN) stage now.
- ❖ India is deploying a multi-tiered air defence network to fully secure its airspace from incoming fighter aircraft, missiles and unmanned aerial vehicles (UAV).
- ❖ The official said this system would complement other systems such as the medium and long-range surface-to-air missile (SAM) systems under procurement. India is also in an advanced stage of talks with Russia for the procurement of very long range S-400 air defence systems.
- ❖ Apart from these imports, India is also developing an indigenous Ballistic Missile Defence (BMD) system.
- ❖ Phase-I of the BMD is expected to be deployed soon.
- ❖ The NASAMS was developed by Raytheon in partnership with KONGSBERG Defence and Aerospace of Norway. The Raytheon says it is a “highly adaptable mid-range solution” for any operational air defence requirement and provides a tailorable, state-of-the-art defence system that can maximise the ability to quickly identify, engage and destroy current and evolving enemy aircraft, UAV or emerging cruise missile threats.
- ❖ NASAMS-II is an upgraded version of the NASAMS and features new 3D mobile surveillance radars and 12 missile launchers for quicker reaction.
- ❖ India is going ahead with the procurement of the S-400 systems despite differing views of the U.S. over the sanctions against Russia and the Countering America’s Adversaries Through Sanctions Act.



Over 40 lakh people left out of draft National Register of Citizens in Assam

News: More than 40 lakh of the 3.29 crore applicants have been left out of the draft National Register of Citizens (NRC)

Beyond News

- The draft NRC was released in Guwahati by Registrar General of India, and NRC State Coordinator.
- As many as 3,29,91,384 people had applied and the applications of 2,89,83,677 were accepted.
- The remaining 40,007,707 applicants, whose names didn't figure in the list will be given "ample opportunity" through a process of claims and objections till September 28, and their citizenship status will not be questioned till the final, error-free draft is prepared on an unspecified date.
- Those not on the list include 2.48 lakh Doubtful-voters (D-voters) and their siblings and descendants.
- The names of applicants left out in the list would not be revealed to protect their privacy.

General Studies-03

Doctors from Mangaluru's KMC identify rare bloodgroup 'P null' phenotype

News: A team of doctors, from the Blood Bank of Kasturba Medical College (KMC) here, has identified a rare blood group called "pp" or "P null" phenotype.

Beyond News

- A press release said that ABO and Rh D are the commonly typed blood group systems.
- However, there are more than 200 minor blood group antigens known besides A, B and Rh.
- A blood type is considered rare if fewer than one in 1,000 people have it. A person is said to have rare blood group when he lacks the high frequency antigen or multiple common antigens.
- The Blood Bank received samples from a patient who required urgent blood transfusion. The doctors were unable to find a compatible blood unit even after cross-matching it with more than 80 units.
- Extensive immunohaematology work-up was performed by the team and further for confirmation, samples were referred to the International Blood Group Reference Laboratory (IBGRL), Bristol, U.K., for serological test.
- With the help of the reference laboratory, it was confirmed that the patient's cells had the rare "pp" phenotype.

- Pro-Vice Chancellor, MAHE, said that it was for the first time that the “P blood group null phenotype has been detected in India”.
- The patient has the very rare ‘P null’ blood group and anti-PP1Pk antibody in his blood that has the potential to cause acute intravascular haemolytic reaction to incompatible blood transfusion.
- Rare donor registry will be of great help in managing such cases. This antibody is also known to cause recurrent abortions in women. Finding compatible unit for such case is a near impossible task without a well-established rare donor panel.

Mission to improve birds’ habitat in Kolleru

News: As part of the improvement of the 270-acre migratory birds’ habitat in the **Kolleru Bird Sanctuary**, 120 iron poles have been installed for breeding and nesting in the absence of tree cover.

Kolleru Bird Sanctuary

- **Kolleru Bird Sanctuary** is a sanctuary in Andhra Pradesh, India. It covers 673 square kilometers. It was established in November 1999, under the *Wildlife Protection Act of 1972*.
- The sanctuary protects part of the Kolleru Lake wetland, which gained Ramsar Convention for International importance in 2002.
- The main flora of the sanctuary is *Phragmites karka*, a weed that grows up to 10 feet in height and that offers shelter for some species of birds.

Beyond News

- The efforts to grow various species of plants did not yield result due to the toxic droppings of the birds. The Wildlife Management Division (Eluru) procured the poles with a circle of fencing mesh on the top of it and installed them in the strategic two mounds.
- Seventy poles will be replaced for repairs while 50 are being installed for the annual breeding season (winter).
- More iron poles is need of the hour given the demand for more space for breeding of the grey pelican and the painted stork. The absence of the trees is the reason to explore the option of iron poles.
- The poles are being installed under the banner of ‘biodiversity conservation’ with the financial assistance from the Compensatory Afforestation Fund of the State government. With the arrival of nearly 9,000 to 10,000 migratory birds for annual breeding, the authorities have a challenge to ensure a safe breeding season.
- There are several instances in which the migratory birds lay eggs on the sanctuary bund, exposing to danger. A preliminary plan has been chalked out to



arrange bamboo baskets on the bund for the safety of the eggs. The experiment will be done from the next breeding season.

New forensic tool to crack wildlife crime

News: The Kerala government is preparing to introduce a new forensic technology to help enforcement agencies crack wildlife crimes and detect food adulteration.

Beyond News: The Universal Primer Technology (UPT) developed by the Centre for Cellular and Molecular Biology (CCMB), Hyderabad, is essentially a DNA barcoding method used for accurate and quick identification of species from tiny biological samples.

- The UPT is based on the concept that a genome segment can serve as a 'molecular signature'. Variations in its DNA sequence can be used to identify any animal, bird or fish from a biological sample.
- Experts say the technology would provide scientific evidence admissible in a court of law, in cases related to poaching, bush meat hunting, and illegal trade in wildlife products.
- It will also help food safety officials detect adulteration of animal meat in food products.
- The UPT requires only a tiny sample of meat, blood, hair, bone, claw or faecal matter to establish the identity of the species.
- Another advantage is that the results can be obtained fast, in a matter of two days or so.
- Though primarily deployed as a wildlife forensics tool, the UPT has the potential to be used to monitor and study the distribution and migration of animals and birds, including endangered species.
- Veterinary and wildlife experts point out that it can also come in handy for forest officials in managing man-animal conflicts by quickly identifying elusive animals haunting human settlements.

JULY 31

General Studies-02

Set procedure to vet NRC claims: Supreme Court

News: The Supreme Court directed authorities to not initiate any 'action' against 40 lakh persons left out of the draft Assam National Register of Citizens (NRC) published on July 30.

Beyond News

- The Bench of Justices ordered the government, in consultation with State NRC Coordinator Prateek Hajela, to frame a 'fair' standard operating



procedure (SOP) to deal with the claims and objections of those who did not find their names in the draft NRC.

- Attorney-General informed the court that the Ministry concerned is working out the modalities of the SOP, which would “deal with the different dimensions of the exercise of hearing the claims and objections to ensure that the process is fair.”
- Attorney-General submitted that once the modalities are worked out, the SOP would be placed before the court by mid-August.
- The AG submitted that the government is developing biometrics so that even if a declared foreigner escapes to another State, he or she would be caught there.
- The court posted the case for August 16 for further orders on timelines leading to the publication of the final NRC. The much-anticipated second and final draft of the NRC shows 2.9 crore names out of the total 3.29 crore who applied in Assam.
- The names of 40.07 lakh applicants were not included in the historic document, considered proof of Assamese identity. The first draft NRC was published in the intervening night of December 31 and January 1 and showed the names of 1.9 crore people.

LS passes Bill on rape of girls

News: The Lok Sabha passed the Criminal Law (Amendment) Bill, 2018, that provides for the death sentence for raping a girl under 12 years and enhances the minimum punishment for rape of a woman from seven to 10 years.

Beyond News: It amends the IPC, CrPC, Indian Evidence Act and Protection of Children from Sexual Offences Act. The Bill, once passed by the Rajya Sabha, will replace the Criminal Law (Amendment) Ordinance promulgated in April, 2018, after outcry over the Kathua rape case.

- ❖ The minimum punishment for the rape of a girl under 12 will be 20 years of rigorous imprisonment, the maximum being death sentence or life imprisonment. Earlier, the punishment was rigorous imprisonment ranging from 10 years to life imprisonment, Minister of State for Home Affairs Kiren Rijju told the House in his reply to the debate on the Bill. For gang-rape of a girl below 12, the punishment will be life imprisonment or death.
- ❖ The minimum punishment for rape of a girl under 16 will be 20 years of rigorous imprisonment, extendable to life imprisonment. The punishment in such cases earlier was 10 years of rigorous imprisonment. In the case of gang-rape of a girl below 16, the punishment will be life imprisonment.
- ❖ The minimum punishment under the Bill for the rape of a woman over 16 is 10 years, extendable to life (under Section 376, IPC). The minimum punishment earlier was seven years and the maximum, life imprisonment.
- ❖ The Bill also provides for investigation of rape cases within two months from the registration of an FIR.

- ❖ While there was no timeline earlier for disposal of an appeal after conviction in a lower court, this would now have to be done within six months.

General Studies-03

NASA's newest planet hunter starts operations

News: After a successful launch in this year, NASA's newest planet hunter, the Transiting Exoplanet Survey Satellite (TESS), has now started its search for planets around nearby stars.

Beyond News

- Officially beginning science operations on July 25, TESS is expected to transmit its first series of science data back to Earth in August, and thereafter periodically every 13.5 days, once per orbit, as the spacecraft makes its closest approach to Earth, NASA said in a statement.
- TESS is NASA's latest satellite to search for planets outside our solar system, known as exoplanets. The mission will spend the next two years monitoring the nearest and brightest stars for periodic dips in their light. These events, called transits, suggest that a planet may be passing in front of its star.
- TESS is expected to find thousands of planets using this method, some of which could potentially support life.

Ban on oxytocin: doctors feel pinch

News: The move, which came into effect from July 1, was intended to curb the hormone injection's misuse in cattle but the impact is being felt by pregnant women, who require the medication the most.

Beyond News

- **Known as a natural hormone, oxytocin helps in effective uterine contractions during labour and preventing post partum haemorrhage.** While there are alternatives that one can use to stop bleeding post delivery, if any, for effective contractions, doctors say, oxytocin is the only option.
- Post the government ban, chemists across the city have already returned the stock of injections to the companies.
- The government's ban involves removing chemists from the chain of supply of oxytocin and a complete ban on import of the medication as well.
- A Karnataka-based public sector company has been appointed and authorised to make and supply the drug in the country.

Leg-up for private sector participation in defence equipment manufacturing

News: In a major step towards boosting private sector participation in domestic defence manufacturing, the **Defence Acquisition Council (DAC)** approved the implementation of Strategic Partnership guidelines.

Beyond News

- ❖ SP model aims to revitalise defence industrial ecosystem and progressively build indigenous capabilities in the private sector to design, develop and manufacture complex weapon system for future needs of armed forces.
- ❖ The amplifying guidelines lay emphasis on incentivisation of transfer of niche technology and higher indigenous content.
- ❖ The SP model has four segments submarines, single engine fighter aircraft, helicopters and armoured carriers/main battle tanks which would be specifically opened up for the private sector.
- ❖ Under this policy one Indian private company would be selected in each segment which would tie-up with shortlisted global equipment manufacturers to manufacture the platforms in India under technology transfer. The ambitious policy came into effect in May last year but progress was delayed due to the lack of specific guidelines.
- ❖ The DAC also approved platform specific guidelines for procurement of Naval Utility helicopters. Similar guidelines for the other categories will be issued soon.
- ❖ The Ministry stated that all procurements under the SP model would be executed by specially constituted Empowered Project Committees to “provide focussed attention and ensure timely execution.”
- ❖ In another decision, the DAC gave approval for the acquisition of eight Fast Patrol Vessels (FPV) for the Coast Guard at an approximate cost of ₹800 crore. These would be indigenously designed and manufactured.



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