

# 18 Aug 2019: Comprehensive News Analysis

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## A. GS 1 Related

*Nothing here for today!!!*

**Category:INTERNATIONAL RELATIONS****1. India and Bhutan Signs 10 MoUs****Context:**

- Prime Minister Narendra Modi and his Bhutanese counterpart Lotay Tshering signed 10 MoUs to infuse new energy in their ties.

**Details:**

- The two countries signed 10 Memoranda of Understanding (MoUs) in the fields of space research, aviation, IT, power and education.
- The leaders also discussed steps to further expand the bilateral partnership across several sectors.

**Mangdechhu Project:**

- In his second visit to Bhutan, the Indian Prime Minister inaugurated the Mangdechhu hydroelectric power plant.
- He also launched stamps to commemorate five decades of India-Bhutan hydropower cooperation.

**RuPay Card:**

- The RuPay Card was launched in Bhutan by making a transaction at Simtokha Dzong, built in 1629 by Shabdrung Namgyal, which functions as a monastic and administrative centre.
- This will further enhance our relationship in digital payments, and trade and tourism.

**SATCOM Network:**

- The two leaders jointly inaugurated the Ground Earth Station and SATCOM network, developed with assistance from ISRO for utilization of South Asia Satellite in Bhutan.
- The network was being used for broadcast applications on a 24x7 basis as well as for meeting the social and administrative requirements of Bhutan as planned.
- The network includes remote VSAT terminals put up at 110 locations across Bhutan and receiver terminals at 50 locations besides five portable terminals.
- In a major gesture of regional diplomacy, the Indian government in 2014 offered the services of a dedicated communications satellite to its smaller neighbors Afghanistan, Bangladesh, Bhutan, the Maldives, Nepal and Sri Lanka.
- The Indian Space Research Organization (ISRO) launched the multi-use communications satellite in May 2017.
- The earth station that will help drive various social services of the South Asia Satellite (SAS or GSAT-9) has been built and set up by the Bengaluru based Alpha Design Technologies Ltd.
- The SAS is meant to promote tele-education, tele-medicine, television broadcasting, weather forecasting, disaster monitoring and mapping of natural resources, besides aiding with banking services and governance among the South Asian countries. It also aims to strengthen cooperation among the people of the seven countries.

**Other Initiatives:**

- A shared spiritual heritage and strong people-to-people relationship are key factors in India-Bhutan relations.
- India's approach is supportive on increasing the currency swap limit for Bhutan under the SAARC currency swap framework.
- An additional \$100 million will be available to Bhutan under a standby swap arrangement to meet the foreign exchange requirement.
- The two leaders also unveiled an e-plaque on the interconnection between India's National Knowledge Network and Bhutan's Druk Research and Education Network.
- India's cooperation in Bhutan's five-year plans will continue.
- The collaboration and relationship between Royal Bhutan University and IITs of India and some other top educational institutions are in line with today's requirements for education and technology.
- There was a traditional Chipdrel procession and welcome ceremony at the Tashichhodzong Palace for the Indian Prime Minister before an audience with the King of Bhutan. The ceremony symbolises the purification of path along which the guests are led

### **Conclusion:**

- India and Bhutan may vary in size but their beliefs, values and motivation are common.
- Bhutan and India are close not because we have open borders, but because we have opened our hearts to each other.

## **2. Sudanese Protesters to Sign Transition Deal With Army**

### **Context:**

- Sudan's pro-democracy movement is set to formally sign a deal with the ruling military council, paving the way for a transition to civilian-led government.

### **Background:**

- Sudan has been in the midst of a political crisis since long-serving ruler Omar al-Bashir was overthrown in April.
- The military and pro-democracy movement have been locked in a tussle for power that has led to mass protests and killings.
- After weeks of tense negotiations, both sides reached a preliminary agreement earlier this month following international pressure, amid growing concerns the political crisis could ignite civil war.
- Most African and Western countries have backed the protesters. But Egypt, Saudi Arabia and the United Arab Emirates are seen to be allies of the junta.

### **Details:**

- The military and protesters have reached several agreements fleshing out the details of a power-sharing arrangement, with each side trying to overcome suspicion and build a working relationship.
- The deal will establish a joint military and civilian council to rule for a little over three years until elections can be held.
- Power-sharing will last for 39 months and elections to be held at the end of that period.
- It will also establish a Cabinet appointed by the activists and a legislative body.

**Category:ENVIRONMENT****1. New Species of Freshwater Fish Found****Context:**

Scientists of the Zoological Survey of India have discovered two new species of freshwater fish from the north-eastern and northern parts of the country.

**Glyptothorax gopii:**

- It is a new species of catfish was found in Mizoram's Kaladan river.
- Glyptothorax gopii (measuring 63 mm standard length without caudal fin) is dark brown on its dorsal surface, and its ventral surface is of a yellowish-light brown.
- It has been named to celebrate the contribution of taxonomist K.C. Gopi.
- It has an axe-shaped anterior nuchal plate (bone below dorsal fin), which makes it distinct from other species of the genus Glyptothorax.
- The elliptical thoracic adhesive apparatus and plicae (folds of tissue) present on the ventral surfaces of the pectoral-fin spine help the fish cling to rocks.

**Garra simalbaraensis:**

- It was found in Himachal Pradesh's Simbalbara river.
- Garra simalbaraensis (measuring 69 mm standard length without caudal fin) has a yellowish-grey color fading ventrally.
- It takes its name from the Simbalbara river.
- It has a prominent unilobed and rounded proboscis with tubercles that help the fish in maneuverability.

**Other Details:**

- Both fish are hill stream fauna and are equipped with special morphological features to suit rapid water flow.
- Experts suggest that the origin or evolution of the fishes in the Himalayas and north-eastern parts of India must have been the consequence or after-effects of orogenic events (geological movement) at various stages in the Himalayas' uplift.
- Detailed surveys can provide valuable information about the evolutionary trends and many rare groups of fishes can be discovered.

**2. SC Forms Panel to Study Environment Impact of Char Dham Highway****Context:**

- The Supreme Court has cleared the decks for the Char Dham highway project by modifying an NGT order to constitute a fresh committee to look into environmental concerns.

**Background:**

- NGO Citizen for Green Doon had petitioned the apex court, after the National Green Tribunal gave its conditional approval to the connectivity project in view of larger public interest.
- The NGT had constituted a committee headed by a former Uttarakhand High Court Judge to monitor the project.

### Functions of the Committee:

- The Supreme Court ordered the Ministry of Environment and Forest to form the high-powered committee (HPC).
- In addition to this, the court added representatives from Physical Research Laboratory under the government's Department of Space, Dehradun-based Wildlife Institute of India, MoEF (from Dehradun regional office) and Defence Ministry to the HPC.
- The top court asked the committee to submit its recommendations within four months.
- The HPC shall hold quarterly meetings thereafter to ensure compliance and may suggest any further measure after each review meeting.
- The HPC will give directions to conduct an Environmental Impact Assessment by the Ministry of Road Transport and Highways (MoRTH).
- The HPC should consider whether revision of the full Chardham project should at all take place with a view to minimize the adverse impact on the environment and social life, it said.
- It will identify the sites where quarrying has started recommend measures required to stabilise the area and for safe disposal of muck.
- It will also assess the environmental degradation loss of forest lands, trees, green cover, water resources etc. on the wildlife and will direct mitigation measures.
- In Bhagirathi Eco-Sensitive Zone (Gangotri to Uttarkashi), the HPC will make special provisions in its report keeping in mind the guidelines given under the notification of the Bhagirathi ESZ to avoid violations and any environmental damage.
- The HPC will also suggest the areas in which afforestation should be taken and the kind of saplings to be planted.

### Char Dham Highway:

- Char Dham Highway is a proposed two-lane express National Highway in the state of Uttarakhand.
- The project will connect four holy places, Badrinath, Kedarnath, Gangotri and Yamunotri, in the hills of Uttarakhand through 900-km all-weather roads.

## 3. Yamuna Flood Waters Fills Pilot Project Reservoir

### Context:

Yamuna flood waters filled about 15 acres of a 25-acre reservoir, which is being built as a pilot project to store water from the river along the floodplain, said officials.

### Details:

- Water overflowing from the Yamuna during monsoons will be stored in the 25-acre reservoir between Palla and Wazirabad.
- The reservoir, which will have 1.5-2 m depth, is being constructed on a 40-acre piece of land.
- Water will flow into the shallow reservoir through the inlets at the river when the water level in the river is above 207.5 metres at Sungherpur.
- This is the first time that the reservoir was filled with water from Yamuna.

**Benefits:**

- It will help to recharge the groundwater, which is depleting in the city.

**Way Ahead:**

- Inlets from the river to the reservoir are yet to be constructed, but since the water level was high, it flowed over a piece of land between the reservoir and Yamuna.
- The Irrigation and Flood Control Department is also in the process of installing around 12 piezometers to measure the water table before and after percolation. This will be used to assess the success of the project.

**Category:SCIENCE AND TECHNOLOGY****1. Brain-Computer Interface Enhanced For Active Rehabilitation of Stroke Patients****Context:**

IIT Palakkad researchers have found a way to improve the functioning of the brain-computer interface when used by stroke patients.

**Background:**

- Stroke patients who suffer from paralysis of limbs now have a different route to follow as far as rehabilitation therapy and eventual recovery of use of their limbs are concerned.
- The use of cybernetics to carry out rehabilitation therapies for stroke patients is a fast-developing field of research.

**Trained Neural Network:**

- The researchers have used a trained neural network, with inputs from neuroscience, to develop a new channel-selection method that makes the process more efficient and effective.
- A brain-computer interface will provide a two-way communication between a person's brain and an external device, such as an electroencephalograph.
- This is effected by electrodes placed on the person's head close to specific brain regions.
- Communication certainly improves as the number of channels, electrodes attached to the brain region is increased.

**Uses in Therapy:**

- At present, stroke patients undergo a passive rehabilitation therapy, the patient plays a passive role while the physiotherapist actively helps by moving the patient's paralysed limb.
- Development of the motor imagery brain-computer interface can help develop an active rehabilitation therapy where the patient can move his limb according to his own movement intention (motor imagery).
- Stroke recovery significantly enhances with such an active rehabilitation based on motor imagery because it assists in building new neuronal interconnections that take over the functionality of affected brain regions (brain plasticity).

**Challenges:**



- Increasing the channels makes computation more complex, increases preparation time and is inconvenient for the person.
- It would be preferable if there was a way to filter out and retain only the most useful and informative channels.
- Other significant challenges include the variability of brain signal features between different individuals and the variation of signal features of an individual person over a period of time.

## D. GS 4 Related

*Nothing here for today!!!*

## E. Editorials

**Category:POLITY**

### 1. A Crisis of Legitimacy

#### Context:

- The **Supreme Court** is hearing a writ petition challenging the appointment of **S. Golay** alias Prem Singh Tamang as **Chief Minister of Sikkim**.

#### Background:

- The present Chief Minister **did not contest the Assembly election** held this year, as he is barred from electoral contests after being **convicted for corruption in 2016**.
- He completed his **prison term** only in August 2018.
- He could not have been appointed to the office, as he is under an **existing disqualification**.

#### A Corrupt History?

- During his tenure as Minister for **Animal Husbandry** in 1996, he was held guilty under the **Prevention of Corruption Act** of **misappropriating ₹9.50 lakh**, in the purchase of milch cows for distribution.
- After his **conviction was upheld by the Sikkim High Court**, he served a **one-year sentence in prison**.

#### Consequences of the Conviction:

- A person convicted under the Prevention of Corruption Act is **not eligible to contest an election for six years from the date of release**.
- This is under Section 8(1) (m) of the **Representation of the People Act, 1951**.
- As Mr. Golay's sentence came to an end in August 2018, he is barred from contesting polls until 2024.

#### Earlier Verdicts:

- The Supreme Court in **R. Kapoor vs. State Of Tamil Nadu (2001)** unseated **Jayalithaa** after she was controversially appointed to the office by the Governor.
- Jayalithaa's **nomination papers** in four constituencies had been **rejected**.
- **Returning officers** had **cited her disqualification** arising from conviction for corruption.
- Going by the precedent, Mr. Golay could not have been appointed Chief Minister.
- Golay on the other hand, chose not to contest the election.
- Both of them were **elected leaders of their respective legislature parties, which won the elections.**

#### Principle behind the Court's Ruling:

- Jayalithaa's lawyers had argued that qualification to be a legislator was not a prescribed eligibility **norm for appointment** as Chief Minister.
- The **Governor** was bound to appoint the person elected by the **party that enjoyed majority in the House.**
- For at least **six months**, a non-member could continue until the question of being eligible to contest an election arises.
- The Supreme Court had rejected this argument.
- That non-legislator must be one who, when he is appointed, is **not debarred** from obtaining membership of the legislature.
- He must be one who is **qualified to stand for the legislature** and is not disqualified to do so.

#### A LoopHole in the Statute Book?

- Golay's party has come up with an **unusual argument** in support of his appointment as Chief Minister.
- It has claimed that the **RP (Amendment) Act, 2002**, under which the clause related to disqualification for conviction under the Prevention of Corruption Act was introduced, had been 'repealed' by the **Repealing and Amending Act, 2015.**
- It seems unlikely that this argument will be accepted.
- Even though the Repealing and Amending Act mentions the 2002 Amendment Act as one of the laws that are being repealed, it is quite obvious that it was only being **done to get rid of redundant laws** from the statute book.
- The relevant clause in the repealing Act is clear that provisions that were incorporated through the amendment and have become part of the parent law will continue to be in force.
- The '**savings' clause** says: "The repeal by this Act of any enactment shall not affect any Act in which such enactment has been applied, incorporated or referred to."
- In other words, the clause relating to disqualification for a corruption conviction is now part of the RPA, 1951, and the 2002 amending law was repealed only because it was no longer

#### Role of Election Commission:

- The Sikkim Chief Minister has approached the **Election Commission of India (ECI)** for a **waiver of the remaining period** of his disqualification.
- **Section 11 of the RPA** says the ECI is empowered to remove any disqualification or reduce its duration for "reasons to be recorded".

#### Conclusion:

- Corruption among the elected representatives strikes at the very root of democratic ethos. Judiciary and other non-partisan institutions of the country need to tackle the menace.

**Category:SCIENCE AND TECHNOLOGY**



## 1. AI Is Learning From Humans

### Context:

The creation of **Artificial Intelligence (AI)** is a **labour-intensive process** involving machine learning.

### Artificial Intelligence:

- Artificial intelligence is the **simulation of human intelligence processes by machines**, especially computer systems.
- These processes include **learning, reasoning and self-correction**.

### The Human teachers:

- In India, China, Nepal, the Philippines, East Africa and the United States, tens of thousands of office workers are punching a clock while they teach the machines.
- Tens of thousands more workers, independent contractors usually working in their homes, also annotate data through crowdsourcing services like Amazon Mechanical Turk, which lets anyone distribute **digital tasks** to independent workers in the United States and other countries.
- The workers **earn money for each label**.
- The **market for data labelling** passed **\$500 million in 2018** and it will reach \$1.2 billion by 2023, according to the research firm Cognilytica.

### The Learning Process:

- Before an A.I. system can learn, someone has to **label the data supplied to it**.
- The work is vital to the creation of artificial intelligence like **self-driving cars, surveillance systems and automated health care**.
- : In **Bhubaneswar**, employees of a firm called **iMerit** sit staring at a video recorded in a hospital on the other side of the world.
- The video showed the inside of someone's colon.
- The employee looks for polyps, small growths in the large intestine that could lead to cancer.
- She was not trained as a doctor, but she was helping to teach an artificial intelligence system that could eventually do the work of a doctor.

### Training the Human:

- The employees were trained to annotate all kinds of **digital images**, pinpointing everything from stop signs and pedestrians in street scenes to factories and oil tankers in **satellite photos**.
- In such firms, employees are doing the **endlessly repetitive work** needed to teach A.I. systems.
- Employees must learn unusual skills for their work on labelling.

### What do they teach?

- Telling a good **cough** from a bad cough.
- **Language**
- Identification of **street scenes**.
- Sorting product listings for **online retail sites**.
- Screening posts **on social media**.

- Analysing **three-dimensional images** captured by **Light Detection and Ranging (LIDAR)** devices that measure distances using pulses of light.
- Identification of **plant diseases and pests**.

### Growing Concerns:

- Tech companies face growing concerns from **privacy** activists over the large amounts of **personal data** they are storing and sharing with outside businesses.
- One day artificial intelligence could hollow out the **job market**.
- The work which involve analysing **violence** and other horrid data may cause traumatic stress disorder.

### Way Ahead:

- I. researchers hope they can build systems that can learn from **smaller amounts of data**.
- **Transition to A.I.** must consider the cost of unemployment that it demands.

## Category: **ECONOMY**

### 1. Trouble in the Auto Industry

#### Context:

- In July, the sale of vehicles across categories in the country **slumped 18.71%** to about 18.25 lakh units, down from about 22.45 lakh units, a year ago in the same month.

#### Details:

- This data, by the **Society of Indian Automobile Manufacturers (SIAM)**, gives out wholesale figures, i.e. the number of vehicles despatched to dealers by vehicle manufacturers.
- This has been the **steepest fall in nearly 19 years**.
- The **passenger vehicle segment**, which comprises cars, utility vehicles and vans, has been one of the worst performing segments, registering its **highest drop (31%)** in sales since December 2000.
- Barring a low single digit uptick in October 2018, segment sales have been falling for the past year.
- The industry failed to arrest the downturn, **despite deep discounts and new model launches**.

#### Auto Industry in India:

- The industry's **turnover is close to half of the manufacturing GDP**.
- It accounts for about **11% of the entire GST revenues** of the country.
- The sector is one of the largest employers in the country, employing about **37 million people, directly and indirectly**.

#### The Glorious Past:

- The industry started off 2018-19 on a good note with vehicles sales across categories **growing 18%** to nearly 70 lakh units in the first quarter (April-June 2018).
- In July 2017, vehicle sales spiked due to the benefits extended by the rollout of the **Goods and Services Tax (GST)**.

#### Reasons for the Slow Down:

- Demand failed to pick up in August and September, after the **floods** in Kerala and heavy **rainfall** in several other States.
- In the ensuing months, **consumer sentiment** remained subdued as the total cost of vehicle ownership went up largely due to an **increase in fuel prices**, higher **interest rates** and a hike in **vehicle insurance costs**.
- In such an environment, the **festive season too failed** to boost demand, leading to a huge **inventory pile-up** with dealers.
- Further, the **IL&FS crisis** late last year led to a **severe liquidity crunch**, almost drying up credit for dealers and customers.
- Nearly half the vehicles sold in rural markets are financed **by non-banking financial companies (NBFCs)**.
- Being stuck with higher inventory due to a lacklustre festive season, dealers too needed more working capital.
- There is also a possibility that some customers are waiting to buy the latest **Bharat Stage (BS)-VI** emission standard compliant vehicles or are waiting for more incentives from vehicle makers who will be looking to sell off their BS-IV compliant stocks before **the April 1, 2020 deadline**.
- Too much focus on **electric vehicles (EVs)** by the government may also be encouraging buyers to postpone the purchase of petrol and diesel vehicles.
- Over FY19-21, vehicle prices are estimated to jump 13-30% due to safety, insurance and **emission-related compliance costs**.
- Growing competition from the **pre-owned cars market** is also pulling down sales of new vehicles.

#### Consequences:

- The industry has been forced to undertake **production cuts**.
- The prolonged demand slowdown has triggered production as well as **job cuts** in the sector. According to the latest figures that are available, original equipment manufacturers (OEMs) have removed about **15,000 temporary workers** in the past two to three months.
- A lack of working capital amid tepid demand has led to **closure of nearly 300 dealerships** across the country.
- This has led to over **two lakh people losing their jobs**, according to the Federation of Automobile Dealers Associations (FADA).
- Separately, the Automotive Component Manufacturers Association of India (ACMA) warned in July that **10 lakh jobs were at risk** and urgent action was needed to bring the industry back on track.

#### Way Ahead:

- The government should come out with a **revival package** ahead of the festive season to yield benefits.
- The industry's demands include a **reduction in GST to 18% from the current rate of 28%**, which will help in an immediate price reduction.
- Besides, it has sought measures to **handle the NBFC crisis to infuse liquidity** into the system, and clarity on policy for **electric vehicles** and introduction of **vehicle scrappage policy**, which will also boost demand for new vehicles.

## F. Tidbits

### 1. Publicity Rath

- Bihar Chief Minister flagged off a vehicle to be used for creating awareness about the State government's water resources schemes and steps to save and conserve water.
- The vehicle, which is being called a 'Publicity Rath', will create awareness on the Jal-Jeevan-Hariyali (water-life-greenery) campaign via the audio-visual medium.
- The Publicity Rath will also make people aware of the fact that groundwater is the only source of water in the event of less rainfall and people will have to go for rainwater harvesting to conserve water.

## 2. Tech-Based Unit to Improve the Quality of Education

- In Rajasthan, a virtual field support center, launched as a tech-based unit at Shiksha Sankul, is set to promote the use of technology for extending the academic and administrative support to over 1,000 education officers.
- The initiative will help impart education to children as per their needs and inclination.
- It would strengthen the education system and create new opportunities for improving the quality, making new experiments and promoting leadership among the stakeholders.
- The center has been launched in collaboration with the Piramal Foundation for Education Leadership.
- The data will also be utilized for devising strategies to meet new challenges in the academic and administrative fields.
- The center would provide assistance to education officers in the implementation of various programs and campaigns through telephone calls.

## 3. NGT Orders Investigation on Illegal Construction in the Aravallis

- The National Green Tribunal (NGT) has directed the Haryana Chief Secretary to furnish an action-taken report within one month.
- The directions came when the green panel was hearing a plea which alleged that 5,000 trees were felled for the illegal construction of a police training centre in the Aravallis.
- A report submitted by Haryana Principal Chief Conservator of Forest confirms that the construction was in violation of law for which necessary action under the provisions of Forest [Conservation] Act, 1980.
- The Forest Department has not granted any permission to the IRB [Indian Reserve Battalion] for felling of trees.

## 4. Reverse Tenders for Polavaram

- The Andhra Pradesh government issued a notification inviting reverse tenders for the construction of the Polavaram power house and head works estimated to cost ₹4,988 crore.
- The government had recently cancelled the contract awarded to the Navayuga Engineering Company Limited (NECL), and had since resolved to go for reverse tendering.
- A reverse auction is a type of auction in which the traditional roles of buyer and seller are reversed.
- There is one buyer and many potential sellers.
- In an ordinary auction (also known as a 'forward auction'), buyers compete to obtain goods or services by offering increasingly higher prices.
- In contrast, in a reverse auction, the sellers compete to obtain business from the buyer and prices will typically decrease as the sellers underbid each other.

- The invitation of reverse tenders follows the expert committee's report that irregularities in the project implementation caused a loss of nearly ₹3,200 crore to the exchequer as the Engineering, Procurement and Construction (EPC) clause was blatantly violated.
- The move disregards the advice of the Polavaram Project Authority (PPA), to abandon the idea of pre-closure and re-tendering, or keep it in abeyance till the Central government takes a considered view of the matter.

## 5. Berlin Wall Race

- Around 500 runners, started the 8th edition of the Berlin Wall Race, ahead of the 30th anniversary of the Wall's demise this November.
- The race is a tribute to those who died trying to cross the Wall, which the East German communist regime hastily erected in 1961 and stood for 28 years.
- Each year, one Wall victim features on start numbers and finisher medals, while a ceremony is held at the spot where they died.
- Very little of the original wall remains as most of it was hurriedly torn down when East Germany collapsed in late 1989.
- What was once a heavily-fortified border strip that encircled West Berlin and patrolled by guards under shoot-to-kill orders, was in 2006 turned into the 'Mauerweg' or Berlin Wall path.
- The longest single section is the East Side Gallery, where the former symbol of oppression is now covered in art.

## 6. Key Panel to Review Defence Procurement Policy

- The defence minister has approved setting up of a committee under the chairmanship of director general (acquisition) to review the Defence Procurement Procedure, 2016 (DPP) and Defence Procurement Manual (DPM), 2009.
- Officials said the panel will recommend measures to remove procedural bottlenecks and hasten defence acquisition.
- The committee will revise and align the procedures with the aim of ensuring seamless flow from asset acquisition to life cycle support.
- Apart director general (acquisition), the panel will have 11 members, not below the rank of joint secretary or equivalent of Major General in the Army.
- The terms of reference of the committee include simplifying policy and procedures to facilitate greater participation of Indian industry and develop robust defence industrial base in the country, and explore ways hasten defence acquisition.
- It has also been tasked to examine, wherever applicable, and suggest ways to incorporate new concepts such as life cycle costing, life cycle support, performance based logistics, lease contracting, codification and standardisation for acquisition of military hardware.
- The committee has been given six months to submit its recommendations.
- The government has been maintaining that military modernisation is a major focus area.
- However, acquisition processes of a large number of military platforms and weapons are not moving forward due to procedural delays.
- A key mandate of the committee is to recommend measures to promote government's policy to promote domestic defence industry and encourage Indian start-ups as well as research and development.



## G. Prelims Facts

### 1. Navroz

- Parsi New Year or Navroz is popularly referred as Pateti.
- It is celebrated across the world on August 17.
- It is also known as "Jamshedi Navroz" after the legendary King of Persia Jamshed who started the Parsi calendar.
- Parsis follow the religion of Zoroastrianism, one of the oldest known monotheistic religions.
- It was founded by the Prophet Zarathustra in ancient Iran approximately 3,500 years ago.
- In India, the Parsi community is predominant in Mumbai and Gujarat.
- There are an estimated 2.6 million Zoroastrians worldwide with the Parsis in India being the largest single group.
- In Iran and other parts of the Middle East, Zoroastrians celebrated the Persian New Year using the Fasli (Bastnai) calendar, which fixed the first day of the year on the Spring Equinox, usually on March 21, called Nowruz.

### 2. World Honey Bee Day

- World Honey Bee Day is celebrated on the third Saturday in August.
- It is an awareness day celebrated by beekeepers, beekeeping clubs and associations, and honey bee enthusiasts.
- The purpose of the day is to recognize their contribution to humans' everyday lives as a means of protecting this critical species.
- On the other hand, the UN designated 20 May as World Bee Day, to raise awareness of the importance of pollinators, the threats they face and their contribution to sustainable development,

### 3. Smart Dragon-1

- A Chinese government space agency successfully launched its first rocket, Smart Dragon-1, meant for commercial use.
- The rocket, which weighs 23 tons, was developed by a unit of China Aerospace Science and Technology Corp (CASC).
- Smart Dragon-1, whose research and development budget came from social capital rather than state funding, is a demonstration of China's drive to commercialize the rockets sector
- It successfully delivered three satellites into orbit after a launch in Jiuquan, Gansu.
- China envisions constellations of commercial satellites that can offer services ranging from high-speed internet for aircraft to tracking coal shipments.
- Reliable, low-cost and frequent rocket launches will be key for that.
- Last month, Beijing-based iSpace became the first private firm to deliver a satellite into orbit on its rocket.

### 4. Juno Spacecraft

- Juno is a NASA space probe orbiting the planet Jupiter.
- Jupiter, a gas giant planet covered in thick red, brown, yellow and white clouds, boasts a diameter of about 1,43,000 km.
- Interior models based on Juno data indicated Jupiter has a large “diluted” core representing about 5% to 15% of the planet’s mass comprised of rocky and icy material unexpectedly mixed with light elements like hydrogen and helium.
- Juno measures Jupiter’s gravity field to an extraordinary precision.
- Computer models indicated that a head-on collision with a protoplanet, a planet in its formative stages, of roughly 10 Earth masses would have broken apart Jupiter’s dense core and mixed light and heavy elements.
- The violent collision, hypothesized by astronomers to explain data collected by NASA’s Juno spacecraft, may have occurred just several million years after the birth of the sun roughly 4.5 billion years ago following the dispersal of the primordial disk of dust and gas that gave rise to the solar system.

## 5. Athi Varadar Festival

- The idol of Athi Varadar was set to return to its underwater chamber inside the Ananta Saras tank at the Sri Devarajaswami temple in Kanchipuram.
- The idol, made of fig wood, was brought out of the tank after 40 years and placed in the Vasantha Mandapam for devotees to have darshan.
- Once immersed, it will remain inside the tank for another 40 years.
- The chamber inside the tank has a brick floor and granite walls, and the idol will be kept in sayana kolam (reclining posture), facing east.
- The priests applied 60 kg of sandhanadhi thailam, containing various herbs, on the idol. This was done to prevent fungus attacks.

## 6. Pradhan Mantri Laghu Vyapari Maan-Dhan scheme

- A pension scheme for small traders is likely to have a soft launch on August 19 evening.
- According to the Union Labour and Employment Ministry’s 100-day plan, the Pradhan Mantri Laghu Vyapari Maan-Dhan scheme would target enrolling 25 lakh subscribers in 2019-2020 and 2 crore by 2023-2024.
- Apart from an online portal that would be launched, people would be able to apply for the scheme through the common service centers already in place for other schemes.
- It has been modelled on the pension scheme for unorganized sector workers.
- Traders aged between 18 and 40 who have an annual turnover of less than ₹1.5 crore are eligible.
- The subscribers will have to contribute a monthly amount, which will vary depending on the age at which they enter the scheme that will be matched by the government.
- Upon turning 60, the subscribers will get ₹3,000 as monthly pension.

## 7. Underground Museum on India’s Naval History

- President Ram Nath Kovind will inaugurate an underground bunker Museum on India’s Naval History, in Mumbai’s sea-facing Raj Bhavan.
- It is spread across 15,000 square feet.

- Governor Ch. Vidyasagar Rao had discovered the bunker last year, along with two identical cannons, atop the foothills of Raj Bhavan, which is situated at the tip of South
- The bunker dates back to the pre-World War I era and is believed to have been an asset of the battery stationed near the coast to defend Bombay Castle from naval attacks.
- The restored bunker houses virtual reality booths, which will help visitors time travel to the 19th century, when the underground tunnel was used strategically to fire cannons at approaching enemy ships, officials said.
- The bunker resembles a fort and is made up of 13 rooms, which can be accessed by passing through a 20-foot-tall gate.
- The rooms bear names such as Shell Store, Gun Shell, Cartridge Store, Shell Lift, Pump, Central Artillery Store, and Workshop.
- The underground passage has a proper drainage system and inlets for fresh air and light.
- As part of the restoration process, a structural audit of the bunker was conducted and structural strengthening was carried out later.

## 8. Red Shift

- General relativity, unlike Newtonian theory of gravity, predicts that when light passes close to a strong gravitational field it will undergo a shift towards longer wavelengths (red light).
- This gravitational red shift was observed when the star SO2 passed close to Sagittarius A, the massive black hole at the center of the Milky Way.
- This is a reinforcement of the general theory of relativity

## H. UPSC Prelims Practise Questions

Q1. Which of the following states in India share international border with Bhutan?

1. Assam
2. Arunachal Pradesh
3. West Bengal

Which of the given statement/s is/are correct?

- a) 1 and 2 only
- b) 1 and 3 only
- c) 2 and 3 only
- d) 1, 2 and 3 only

**Answer: d**

**Explanation:**

The India-Bhutan border is 699 km long across the Indian states of Assam, Arunachal Pradesh, West Bengal, and Sikkim.

Q2. Consider the following statements about the visible spectrum of light.

1. The Red colour has the highest wavelength.

2. The Violet colour has the highest frequency.

Which of the given statement/s is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**Answer: c**

**Explanation:**

Both the statements are correct.

**Q3. With reference to the festival of Navroz, consider the following statements:**

- 1. It is a festival followed by the Jain community.
- 2. It is celebrated on the birthday of the first Thirtankara.

Which of the given statement/s is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**Answer: d**

**Explanation:**

Navroz is the New Year's celebration of Parsi community who follow Zoroastrianism.

**Q4. The four holy places, Badrinath, Kedarnath, Gangotri and Yamunotri, known as Char Dham are situated in which state of India?**

- a) Himachal Pradesh
- b) Haryana
- c) Uttarakhand
- d) Uttar Pradesh

**Answer: c**

**Explanation:**

The Char Dham holy places are located in Uttarakhand.

1. Artificial Intelligence (A.I) is a huge leap forward in the world of technology. What are the prospects for India's leadership in the sector of A.I? (250 words, 15 marks)
2. Indian martial arts like Gatka, Lathi Khela and Kalari Payattu need to be revived with a perspective of fitness as well as preservation of our tradition. Discuss. (250 words, 15 marks)

