Current affairs
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I. GEOGRAPHY, BIODIVERSITY, ENVIRONMENT

1. Saraswati: Indian scientists discover supercluster of galaxies

A group of Indian astronomers have discovered a massive supercluster of galaxies, and have named it Saraswati. The supercluster is about 4 billion light years away and spreads over a "great wall" about 600 million light years across. This makes it one of the largest superclusters to be discovered and also the furthest.

The first supercluster of galaxies, the Shapley Supercluster, was discovered in 1989, and the second, the Sloan Great Wall in 2003. The Milky Way galaxy is part of the LaniakeaSupercluster, which was discovered in 2014.

"It is the first time that we have seen a supercluster that is so far away. Even the Shapley is about 8-10 times closer,"

Clumpy universe

The structure of the universe is not a homogeneous distribution of matter. It is clumpy with galaxies forming clusters and these in turn forming superclusters. There are thin "filaments" that connect galaxies, forming a cosmic web, and there are large voids in between.

The current belief is that infant galaxies form in these filaments and then drift to the intersections of the filaments where they grow. The Saraswatisupercluster could challenge this premise, because it had formed so early and building such a big structure far back might have been difficult.

When sighting a supercluster of galaxies 4 billion light years away, the observer is looking back about 4 billion years. A light year is the distance travelled by light in one year. Given the belief that the universe is 13.8 billion years old, the discovery implies that such a huge structure existed even when the universe was just about ten billion years old. This raises questions about the formation of large structures and the nature of the universe.

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Dark matter and dark energy are invoked to explain the structure of the universe. Dark matter, being massive, binds together the universe while dark energy, exciting the surrounding space, drives it apart; the balance of the two effects helps in maintaining the universe in its present form.

"Theory has always been confounded by nature. It is true that the balance between dark matter and dark energy can produce large structures, but a supercluster of this size does present an enigma,".

2. NGT declares 100m from edge of Ganga as No-development Zone

The National Green Tribunal (NGT) on has passed a slew of directions to rejuvenate the Ganga river, declaring a "No-Development Zone" 100 metres from the edge of the river between Haridwar and Unnao and prohibiting dumping of waste within 500 metres from the river.

A bench headed by NGT chairperson Swatanter Kumar also declared that an environment compensation of Rs50,000 will be imposed on anyone who dumps waste in the Ganga river.

The NGT also directed the Uttar Pradesh and Uttarakhand governments to formulate guidelines for religious activities on the ghats of Ganga or its tributaries. The tribunal also appointed a supervisory committee, headed by the secretary of the water resources ministry and comprising IIT professors and officials from UP government to oversee implementation of the directions passed in its 543- page verdict. It also asked the committee to submit reports at regular intervals.

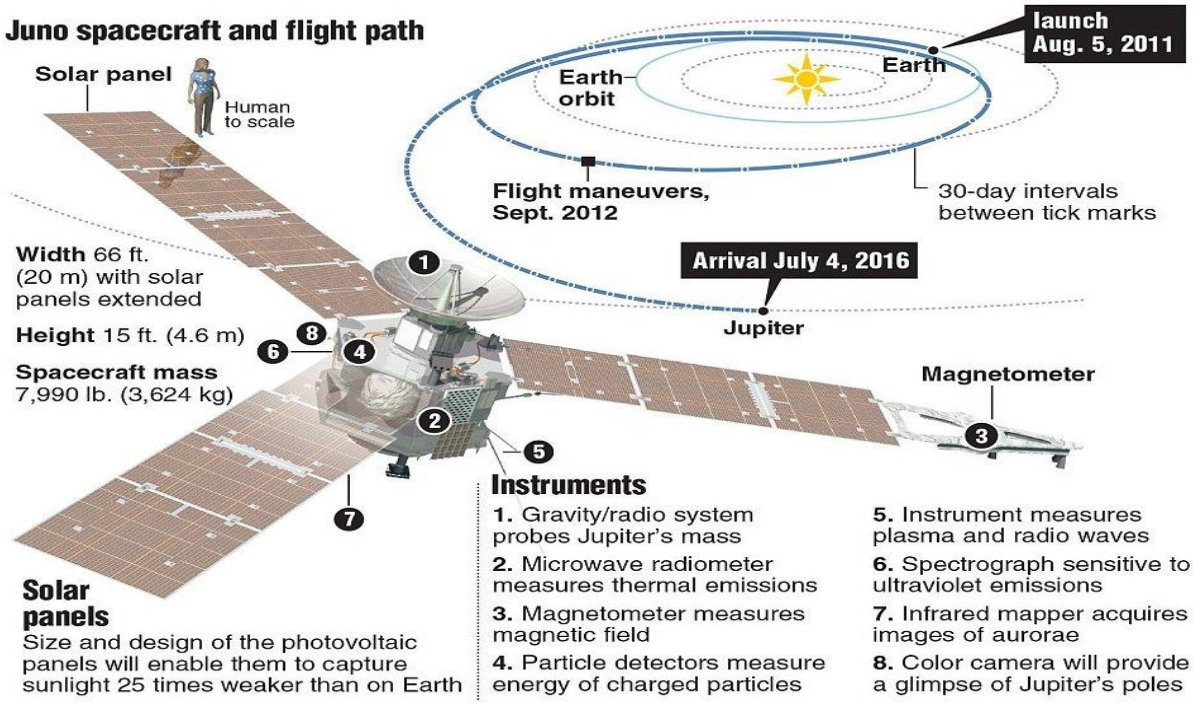
National Green Tribunal

The National Green Tribunal has been established on 2010 under the National Green Tribunal Act 2010 for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto. It is a specialized body equipped with the necessary expertise to handle environmental disputes involving multi-disciplinary issues. The Tribunal shall not be bound by the procedure laid down under the Code of Civil Procedure, 1908, but shall be guided by principles of natural justice.

The Tribunal's dedicated jurisdiction in environmental matters shall provide speedy environmental justice and help reduce the burden of litigation in the higher courts. The Tribunal is mandated to make and endeavour for disposal of applications or appeals finally within 6 months of filing of the same. Initially, the NGT is proposed to be set up at five places of sittings and will follow circuit procedure for making itself more accessible. New Delhi is the Principal Place of Sitting of the Tribunal and Bhopal, Pune, Kolkata and Chennai shall be the other 4 place of sitting of the Tribunal.

3. NASA's Juno spacecraft completes flyby over Jupiter's Great Red Spot

NASA's unmanned spacecraft Juno has successfully peered into the Jupiter's giant storm known as the Great Red Spot. It became first space probe to complete flyby of Jupiter's Great Red Spot.



Jupiter's Great Red Spot

The Great Red Spot on Jupiter is a massive storm (cyclone) measuring about 16,000 km in diameter. It is largest known storm in the solar system. It has been monitored since 1830 and has possibly existed for more than 350 years. The winds in the storm are clocked at hundreds of km an hour around its outer edges. Little is known about the forces driving it. The spot appears as a deep, red orb surrounded by layers of pale yellow, orange and white. The storm is believed to have been shrinking in recent years.

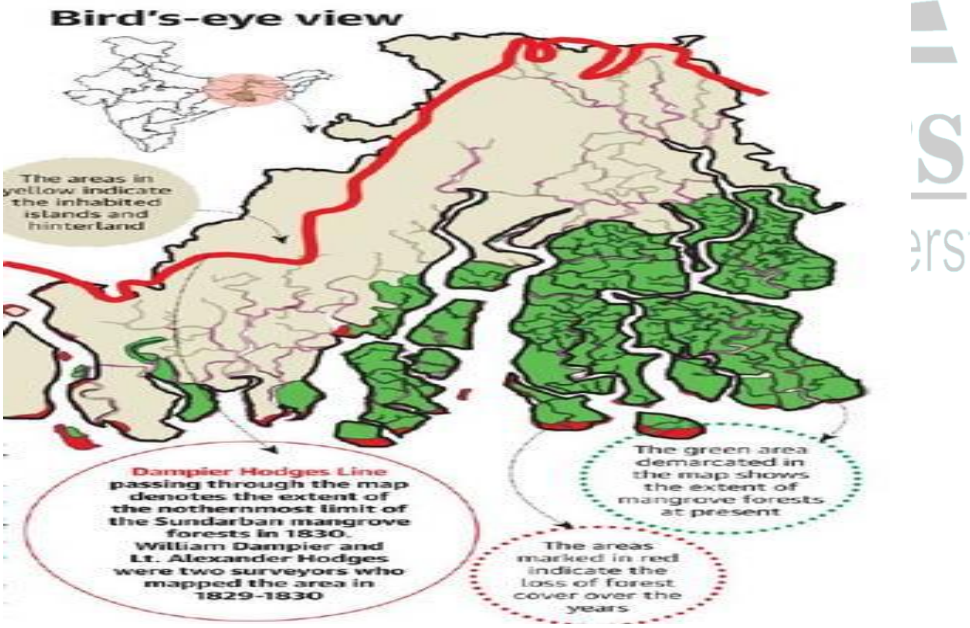
About Juno spacecraft

NASA had launched unmanned spacecraft Juno on August 5, 2011 from Cape Canaveral, Florida as part of its New Frontiers program. It has been orbiting Jupiter, solar system's largest planet from July 2016. The spacecraft has been named from Greco-Roman mythology. It is orbiting Jupiter from pole to pole, 5,000 kilometers above planet's cloud tops. It has mission life istill February 2018. Its mission is to understand the origin and evolution of Jupiter, investigate the existence of a solid planetary Jupiter's core, map Jupiter's intense magnetic field, measure the amount of water and ammonia in the deep atmosphere and observe Jupiter's aurora.

4. Sunderbans mangrove depleting alarmingly

In a development that will ring alarm bells for both environmentalists and policy makers, the mangrove forest cover in the Indian Sunderbans has been depleting alarmingly over the past few decades.

Mangrove Forest Cover Changes in Indian Sundarban (1986-2012) Using Remote Sensing and GIS, a publication by the School of Oceanographic Studies, Jadavpur University, reveals that from 1986 to 2012, 124.418 sq. km. mangrove forest cover has been lost.



The total forest cover of the Indian Sunderbans as assessed by remote sensing studies for the year 1986 was about 2,246.839 sq. km., which gradually declined by 2,201.41 sq. km. in 1996, then down to 2168.914 sq km in 2001 and to 2122.421 sq km in 2012. The loss in the mangrove forest in the Indian Sunderbans is about 5.5 %.

The continuation of this process in response to climate change and sea level rise poses a serious threat to the carbon sequestration potential and other ecosystem services of this mangrove forest in future.

the mean sea level rise at the Sagar Island Station, measured from 1985 onward till 2010, shows a rise by 2.6-4 mm a year, which can be considered a driving factor for coastal erosion, coastal flooding, and an increase in the number of tidal creeks.
a time series of the erosion of at least 18 mangrove forested islands of the Indian Sunderbans from 1986 to 2012. For instance, the loss in mangrove cover at Gosaba has been about 20%, down from 517.47 sq km in 1986 to 506.691 sq km in 2012.

Significant losses
In Dulibhasani West, the loss of mangrove cover has been about 9.7% — from 180.03 sq. km. in 1986 to 163.475 sq. km. in 2012. The mangrove forest cover of Dalhousie, another island, has depleted by 16%, from 76.606 sq. km. in 1986 to 64.241 in 2012. Bhangaduni has one of the highest erosion levels of mangrove forest land, from 40.4 sq. km. in 1986 to 24.9 sq km in 2012, taking the loss to over 37%.

Jambudwip, one of the smallest uninhabited islands at the mouth of the sea, also has reduced forest cover from 6.095 sq. km. in 1986 to 5.003 sq. km. in 2012, or about 10%.

Other islands like Sajnekhali North, Matla and Bulchery have also suffered significant mangrove loss. "This is because there is less fresh water flow and sediment supply in the western (Indian) part of the delta, so we have starvation of sediment and the rate of sea level rise is higher than sediment supply. Hence we are losing land, including mangrove forest".

The eastern (Bangladesh) side of the delta is gaining land because of the huge amount of sediment and water flow from the Brahmaputra and Meghna rivers. The loss of forest cover occurs despite significant addition of forest land as plantations.

Freshwater inflow
A critical minimal inflow of freshwater is necessary for the luxuriant growth of mangroves. "When freshwater inflow is missing, there is a change in mangrove succession, and freshwater loving species of mangroves are replaced by salt-water loving ones,". The immediate impact of salinity will be on the fishing community, where commercially sought after fish species will be replaced by fish that does not have as much market value.

The report pointed out that the Sunderbans has lost 3.71% of its mangrove and other forest cover, while losing 9,990 hectares of its landmass to erosion in one decade.

While earlier studies also expressed concerns over the fragile ecosystem of the Indian Sunderbans that, other than being home to the Royal Bengal Tiger, also harbours a population of 4.5 million people, this study presents definite proof of the loss of land and mangrove cover.

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II. POLITY AND GOVERNANCE

5. President gives assent to Maharashtra Social Boycott Bill

President has given his assent to the Maharashtra social boycott bill.

What is social boycott?

- A social boycott is an act of voluntary and intentional abstention from dealing with a person, organization, as an expression of protest, usually for social, political reasons.
- In India, it is frequent that particular Indudival or group of Indudival are boycotted by other set of majority in the name of caste, religion, rituals, and traditions.
- It was categorically stated that social boycott for reasons such as religious rituals, inter-caste marriage, lifestyle, dress or vocation are happening.

What are the highlights of the bill?

- Maharashtra is the first state in the country to formulate a law to punish social boycott.
- The objective of the bill is to of uproot social evils in the name of caste panchayats.
- Punishment for an offence includes a fine of up to Rs 5 lakh and imprisonment of up to seven years or both.
- Social boycott will be treated as a crime.
- There is a provision for victims or any member of the victim's family to file a complaint either with the police or directly to the magistrate.
- Earlier social boycott was not clearly defined in existing laws, which often saw perpetrators using loopholes to escape punishment.
- A monitoring mechanism has been provided through social boycott prohibition officers.
- Speedy trial within six months of filing of the charge sheet.

6. 5 States, 1 UT ink MoU with Centre on Government e-Marketplace

- 5 States and a Union Territory (UT) have formally adopted the Centre's Government e-Marketplace (GeM) initiative.
- They are Andhra Pradesh, Assam, Gujarat, Telangana, Arunachal Pradesh and Puducherry (UT).
- In this regard, these states/UT have signed memorandum of understanding (MoU) to join GeM initiative.
- Four more states including Uttar Pradesh, Tamil Nadu, Jharkhand and Haryana, will ink such MoU soon.

Government e-Marketplace

GeM is an Online Market platform to facilitate procurement of goods and services by various Ministries and agencies of the Government.
It aims to enhance transparency, efficiency and speed in public procurement of goods and services and eliminate corruption.

It functions under Directorate General of Supplies and Disposals (DGS&D), Union Ministry of Commerce and Industries. GeM is a completely paperless, cashless and system driven e-market place that enables procurement of common use goods and

services with minimal human interface. Presently more than 40000 products in about 150 categories and hiring of transport service are available on GeM POC portal.

7. Rajasthan: 1st to fix minimum education qualification for cooperative body poll

Rajasthan has become the country's first State to lay down the minimum educational qualifications for contesting elections to village cooperative societies and various other cooperative bodies.

Rules amended

- The State Cooperative Societies Rules, 2003, were amended for the purpose and notification was issued on Monday.
- State Cooperative Minister Ajay Singh Kilak said here on Tuesday that the new rules would benefit about 10,000 cooperative and agricultural credit societies.
- "The benefit of education will accrue to the societies with their management going to expert hands.
- The educational qualifications will range from Class V to Class VIII for election as members of governing boards of dairy societies, farming societies, consumer societies, weavers' societies, housing construction societies, urban banks, primary land development banks, credit societies, salary earners' societies and cooperative unions.

New poll calender

Elections to various posts in the societies after a certain level would be conducted through the State Cooperative Election Authority. A new poll calendar will be issued to facilitate the holding of elections under the new rules.

8. Karnataka Government constitutes committee for separate State flag

Karnataka Government has constituted a nine-member committee to study the possibility of designing a separate state flag and providing it a statutory standing. It will be headed by Principal Secretary, Department of Kannada and Culture. It shall submit report to the state Government after looking into required possibilities.

Background

The committee was constituted following representation of social activists from the state urged the government to design a separate flag for Kannada 'naadu' and accord statutory standing for it.

Constitutional and legal position of State having its own flag

There is no prohibition in the Constitution for the State to have its own flag. Even there is no separate central or state law dealing with issue. So, legally it can be said that state flag is not unauthorised. Jammu and Kashmir is only state having separate flag of its own due to special status granted by Article 370 of the Constitution. At present, the national flag code specifically authorises use of other flags subject to the regulation by the court. It does not mention anything about separate state flag. However, it clearly mentions that the manner in which the other flag is hoisted should not dishonour the national flag. It has to be always below the national flag. Thus, if states have separate flag, it should be hoisted in such a way that it does not dishonour the national flag.

9. Govt merges Ministries of Urban Development, Housing and Urban Poverty

- The government has merged the ministries of urban development, and housing and urban poverty alleviation -- involved in policy making in urban areas -- to form the Ministry of Housing and Urban Affairs.
- A notification regarding the merger was issued on July 6. With this, the government has set the ball rolling for officially merging multiple ministries with related mandates. The two ministries, headed by Union minister VenkaiahNaidu, have a long history of mergers and de-mergers.
- In 1952, they were one ministry which was known as the Ministry of Works, Housing and Supply. They were demerged in 1999, merged the next year and bifurcated again in 2004.
- Officials in the ministry say the merger would help ensure cohesiveness in formulating policies related to urban issues and cut the flab in bureaucracy.
- With this merger, the government now has 51 ministries. In 2004, the number was 42. The first government in independent India had just 17 ministries.
- A panel of secretaries in February this year had recommended the merger of the two ministries to increase efficiency in governance.
- It had recommended that the ministries of housing and urban poverty alleviation, and urban development be merged and that the pharmaceuticals and AYUSH ministries be brought under the health ministry.

10. SC asks govt to formalise Election Commissioners' appointment through Law

The Supreme Court has asked the Union government to formalise appointment of election commissioners through law.

Significance:

- The Supreme Court has observed that even though the Election commissioners have been so far appointed in a very fair manner, there exists a legitimate expectation in the Constitution of India that **Election Commissioners, who are charged with the free and fair conduct of elections be appointed through a "most transparent and just process" formalised by a law enacted by the Parliament.**
- According to the Supreme Court, at present due to lack of a parliamentary law, there is no transparency in the eligibility, criteria required for a person to be appointed as an election commissioner.
- The court has observed that even the selection procedure of the CBI Director is formalised by a written law Election Commissioners For the conduct of free and fair elections, an independent Election Commission has been provided for in Article 324.

Election Commission:

- In India, the Election Commission consists of three members. These all are appointed by the President for a term which is fixed by the President.
- However, conditions of service and tenure of office of the chief election commissioner and other election commissioner are determined by an act of parliament titled **The Chief Election Commissioner and Other Election Commissioners (Conditions of Service) Act, 1991.**

- **This act has fixed the following:** The chief election commissioner or an election commissioner shall hold office for a term of 6 years or age of 65 years, whichever is earlier.
- The chief election commissioner and other commissioners are paid a salary equal to the salary of a judge of the Supreme Court. On retirement, they are entitled to a pension payable to a judge of the Supreme Court. All business of the election commission shall, as far as possible, be transacted unanimously. If the chief election commissioner and other election commissioners differ in opinion on any matter, such matter shall be decided according to the opinion of the majority.

III. INTERNATIONAL AFFAIRS AND RELATIONS

11. India contributes additional $1 million to India-UN Development Partnership Fund

India has contributed an additional million dollars to a UN partnership fund launched to support sustainable development projects across the developing world. The India-UN Development Partnership Fund was set up last month as a partnership between India and the United Nations Office for South-South Cooperation (UNOSSC).

India had made an initial contribution of a million dollars when the fund was created and the amount was allocated for the implementation of a project benefiting seven Small Island Developing States in the South Pacific.
India yesterday enlarged its support to sustainable development through the multilateral system by making a supplemental contribution of one million dollars to the fund.

"India's approach to cooperation can be summarised as VasudhaivaKutumbakam, or the whole word is one family," . "With this approach we engage in South-South cooperation."

The India-UN Development Partnership Fund plays an important role in funding South-South cooperation for effective development, and "thereby contributes to meeting both national development goals and the commitments of Agenda 2030."

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Managed by UNOSSC, the fund will support Southern-owned and led, demand-driven, and transformational sustainable development projects across the developing world. Focusing on Least Developed Countries (LDCs) and Small Island Developing States, United Nations agencies will implement the Fund's projects in close collaboration with partnering governments.

"India is a champion of the Global South," Envoy of the Secretary-General on South-South Cooperation and Director of UNOSSC Jorge Chediek said. "India is also a champion of multilateralism. Through its example, and with the leadership of Prime Minister NarendraModi, it is becoming a leader of South-South cooperation."

12. Union Cabinet approves JIN pact between India and Bangladesh

The Union Cabinet chaired by the Prime Minister ShriNarendraModi has given its approval for the Joint Interpretative Notes (JIN) on the Agreement between India and Bangladesh for the Promotion and Protection of Investments.

Joint Interpretative Notes

The JIN would impart clarity to the interpretation of the existing Agreement between India and Bangladesh for the Promotion and Protection of Investments (BIPA). The JIN includes interpretative notes to be jointly adopted for many clauses, including, the definition of investor, definition of investment, exclusion of taxation measures, Fair and Equitable Treatment (FET), National Treatment (NT) and Most Favoured Nation (MFN) treatment, expropriation, essential security interests and Settlement of Disputes between an Investor-and a Contracting Party.

Joint Interpretative Statements in general play an important supplementary role in strengthening the investment treaty regime. With increasing Bilateral Investment Treaty (BIT) disputes, issuance of such statements is likely to have strong persuasive value before tribunals. Such pro-active approach by States can foster a more predictable and coherent reading of treaty terms by arbitration tribunals.

13. India to import crude oil from US for first time

India, the world's third-largest oil importer, has sealed a first deal to import crude oil from the US and the shipment is expected to touch Indian shores in October. The deal, by state-owned Indian Oil Corp (IOC), comes within weeks of Prime Minister NarendraModi's visit to the US when President Donald Trump talked of his country looking to export more energy products to India.

Indiahave bought 2 million barrels of crude oil from North America comprising 1.6 million barrels of US Mars crude and 400,000 barrels of Western Canadian Select. US Mars is a heavy, high-sulphur grade which will be processed at IOC's newest refinery at Paradip in Odisha.

"Given the current international oil markets where the differential between Brent (the benchmark crude or marker crude that serves as a reference price for buyers in western world) and Dubai (which serves as a benchmark for countries in the east) has narrowed. "Even after including the shipping cost, buying US crude proved to be very cost competitive to us and so we bought one very large crude carrier (VLCC) cargo through a tender from the spot (or current) market. The company will buy more crude from the US if the market conditions remain favourable for such purchases.

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The IOC move has already led to more purchases by other Indian refiners. State-owned Bharat Petroleum Corp Ltd (BPCL) too tendered to buy one million barrels of crude either for loading on August 16-September 5 or delivery on Septeber 26-October 15. But for importing crude from the US, IOC had to take special permission from the shipping ministry.

"Indian government policy provides for purchases of crude oil to be made on condition that the shipping will be done by the Indian carriers (the buyer arranging for ships to ferry the oil). "However, in case of US, this was not possible as VLCCs can't load on US ports and crude has to be first loaded on small ships and at high sea the same is put on a VLCC. So, IOC obtained permission to buy the cargo on a delivered basis where the seller arranges for the ships. "Every time IOC decide to buy US oil, they will have to take this permission.

14. G-20 leaders adopt Hamburg Action Plan

The 12th G-20 summit concluded in Germany's Hamburg city with adaptation of Hamburg Action Plan. It sets out the group's strategy for achieving strong, sustainable, balanced and inclusive growth. The action plan aims to address major global challenges, including climate change, harnessing digitalisation, and to contribute to prosperity and well-being.

Highlights of Hamburg Action Plan

Tackle common challenges: G20 members resolved to tackle common challenges to the global community, including terrorism, displacement, hunger, poverty and health threats, job creation, climate change, energy security and inequality including gender inequality, as a basis for sustainable development and stability.

Trade and globalisation: They stressed on the importance of harnessing the benefits of globalisation, reaffirm the importance of transparency for predictable and mutually beneficial trade relations. They also underlined importance to boost employment by improving sustainable global supply chains, as an important source of job creation and balanced economic growth.

Continue to use all policy tools: G20 members will use all policy tools such as monetary, fiscal and structural- individually and collectively to achieve the goal of strong, sustainable, balanced and inclusive growth, while enhancing economic and financial resilience.

Paris Agreement: They agreed that the 2015 Paris Agreement is irreversible and reiterated the importance of fulfilment of the UNFCCC commitments by developed countries in providing means of implementation including financial resources to assist developing countries with respect to both mitigation and adaptation actions.

Sustainable livelihoods: G-20 members are committed to increase innovation on sustainable and clean energies and energy efficiency, work towards low greenhouse-gas emission energy systems and harness digitalisation to achieve the goals of the 2030 Agenda for Sustainable Development.

Global Health systems: G-20 members called for strengthening health systems and safeguarding against health crises. The leaders called on the UN to keep global health high on the political agenda and strive for cooperative action to strengthen health systems worldwide, including through developing the health workforce. The leaders also stressed on combatting Anti-Microbial Resistance (AMR), which is a growing threat to public health and economic growth.

About Group of Twenty (G20)

The G20 is the premier forum for its members' international economic cooperation and decision-making. It is deliberating on global economic issues and other important development challenges. It was started in 1999 as a meeting of Finance Ministers and Central Bank Governors in the aftermath of the Southeast Asian (Tiger economies) financial crisis. In 2008, the first G20 Leaders' Summit was held in Washington DC, US. Since them the group had played a key role in responding to the global financial crisis. Its members include 19 countries India, Australia, Argentina, Brazil, Canada, China, France, Germany, Indonesia, Italy, Japan, South Korea, Mexico, Saudi Arabia,

Russia, Turkey, South Africa, UK, US and European Union (EU). They collectively represent 85% of global GDP, 80% of international trade, 65% of world's population.

15. 122 Countries adopts historic global treaty to ban Nuclear Weapons

- A global treaty banning nuclear weapons was adopted at the United Nations on Friday despite opposition from nuclear powers Britain, France and the United States which said it disregards the reality of dealing with international security threats such as North Korea.
- The treaty was adopted by a vote of 122 in favor with one country — NATO member The Netherlands — voting against, while Singapore abstained.
- None of the nine countries that possess nuclear weapons — the United States, Russia, Britain, China, France, India, Pakistan, North Korea and Israel — took part in the negotiations or the vote.

- Even Japan — the only country to have suffered atomic attacks, in 1945 — boycotted the talks as did most NATO countries.
- Loud applause and cheers broke out in a UN conference hall following the vote that capped three weeks of negotiations on the text providing for a total ban on developing, stockpiling or threatening to use nuclear weapons.
- Within hours of its adoption, the United States, Britain and France rejected the treaty and said they have no intention of joining it.
- "This initiative clearly disregards the realities of the international security environment," said the UN ambassadors from the three countries.
- "This treaty offers no solution to the grave threat posed by North Korea's nuclear program, nor does it address other security challenges that make nuclear deterrence necessary," they said in a joint statement.
- North Korea marked a worrying milestone in its drive to develop nuclear weapons when it tested its first intercontinental ballistic missile this week.
- Nuclear powers argue their arsenals serve as a deterrent against a nuclear attack and say they remain committed to gradual approach to disarmament outlined in the nuclear Non-Proliferation Treaty (NPT).
- The decades-old NPT seeks to prevent the spread of atomic weapons but also puts the onus on nuclear states to reduce their stockpiles.
- Impatience however is growing among many non-nuclear states over the slow pace of disarmament as are worries that weapons of mass destruction will fall into the wrong hands.

Delegitimizing nuclear weapons

- Led by Austria, Brazil, Mexico, South Africa and New Zealand, 141 countries joined in drafting the treaty that they hope will increase pressure on nuclear states to take disarmament more seriously.
- Ireland, Sweden and Switzerland voted in favor as did Iran, Iraq, Egypt, Kazakhstan and many African and Latin American countries.
- "We have managed to sow the first seeds of a world free of nuclear weapons," said Costa Rica's ambassador, Elayne Whyte Gomez, the president of the UN conference that negotiated the treaty.
- The International Committee of the Red Cross hailed it as a "historic step towards delegitimizing" nuclear weapons and declared the adoption "an important victory for our shared humanity."

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- Welcoming "an important step" towards a nuclear-free world, UN Secretary-General Antonio Guterres said the treaty reflects growing "awareness of the catastrophic humanitarian consequences" of a nuclear war.
- Disarmament campaigners say the treaty will increase the stigma associated with nuclear weapons and have an impact on public opinion.
- "The key thing is that it changes the legal landscape," said Richard Moyes, director of the British-based organization Article 36.
- "It stops states with nuclear weapons from being able to hide behind the idea that they are not illegal."
- "It is beyond question that nuclear weapons violate the laws of war and pose a clear danger to global security," said Beatrice Fihn, director of the International Campaign to Abolish Nuclear Weapons.
- The treaty will be open for signatures as of September 20 and will enter into force when 50 countries have ratified it.

16. Prime Minister Modi's Israel Visit: Other Important Takeaways

Modi will be the first Indian Prime Minister to visit Israel – he has opted to go there despite facing stiff criticism from other political parties. It may be recalled that former prime minister AtalBihari Vajpayee had famously feted then Israeli PM Ariel Sharon despite opposition from many quarters. The Prime Minister's visit to the nation gains significance due to many reasons.

Among these, heightening defence ties between the two countries, taking forward the fight against terror and symbolism to re-start the close association between the two nations are the most significant ones. Apart from these, NarendraModi and his counterpart Benjamin Netanyahu's table will also have issues related to Cyber Security, Water Conservation, Agriculture, and health. The visit can be separated into three categories – one carrying symbolic significance and the others to cement close defence and economic ties.

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Symbolism

Meeting Baby Moshe

In one of the top symbolic gestures, PM Modi will meet 10-year-old Moshe Holtzberg, whose parents were killed in the 26/11 terror attack at Mumbai's Nariman House (now called Chabad House) when he was a toddler.

Visit to YadVashem Holocaust Museum

After the meet, Modi is also scheduled to visit the YadVashem Holocaust Museum in Jerusalem, where the Indian Premier will lay a wreath, visit the Children's Memorial, and sign the guest book. Modi's visit will also see boostening of defence ties between the two nations.

Not visiting Ramallah

In a big move, Modi will not be visiting official Palestinian capital of Ramallah, something other world leaders have always been doing while visiting Israel. The move is being said to balance India's ties with Israel and Palestine.

Signing of treaties

Defence ties

The two nations are expected to ink some major defence deals. As per a Reuters report, Indian PM is aiming to give a push to his trademark 'Make in India' drive, and will be making efforts to advance sales and production of missiles, drones and radar systems. New Delhi is now Tel Aviv's largest arms market, buying weapons at an average of $1 billion each year. According to the sources of Financial Express, the visit may see inking of several arms deals, including a contract for Israel Aerospace Industries (IAI)'s Heron TP drone and for Phalcon (AWACS).

Economic ties

Water Conservation

The issue of water conservation will also be discussed between Modi and Netanyahu. A few days ahead of Modi's visit, union cabinet had approved the signing of a memorandum of understanding (MoU) between the two countries on a water conservation campaign in India. The MoU aims to conserve water for future generations. "The two countries shall work to enhance cooperation at the national, regional and international level to design, implement and monitor the professionally-designed conservation campaign.

Agricultural and Health ties

Agricultural and ties will also take a high note on agenda during PM Modi's two-day tour. As per Danny Carmon, Israel Ambassador to India, Agriculture and water, among others, will be the areas of cooperation the "two countries wish to set up joint strategic partnerships." Also, the two countries are expected to discuss support to each other on health.

17. North Korea claims successful test of its first intercontinental missile

What is in news?

- North Korea on 4th july claimed it successfully test-launched its first intercontinental ballistic missile, a potential game-changing development in what may be the world's most dangerous nuclear stand-off
- New intercontinental ballistic missile, the Hwasong-14, was capable of hitting the "heart of the United States" with "large heavy nuclear warheads.
- The launch was North Korea's 11th missile test this year and comes amid increasing frustration from Trump about the lack of progress in curbing Pyongyang's nuclear and ballistic missile programs.
- North Korea claims it fired a Hwasong-14 missile which reached an altitude of **2,802 kilometres** and flew **933km** in 39 minutes.

About Intercontinental ballistic missile (ICBM):

- An **intercontinental ballistic missile** (**ICBM**) is a guided ballistic missile with a minimum range of 5,500 kilometres (3,400 mi)
- primarily designed for nuclear weapons delivery (delivering one or more thermonuclear warheads).
- Similarly, conventional, chemical, and biological weapons can also be delivered with varying effectiveness, but have never been deployed on ICBMs.
- Most modern designs support multiple independently targetable reentry vehicles (MIRVs), allowing a single missile to carry several warheads, each of which can strike a different target.
- Early ICBMs had limited precision, which made them suitable for use only against the largest targets, such as cities.

- They were seen as a "safe" basing option, one that would keep the deterrent force close to home where it would be difficult to attack.
- Attacks against military targets (especially hardened ones) still demanded the use of a more precise manned bomber.
- Second- and third-generation designs (such as the LGM-118 Peacekeeper) dramatically improved accuracy to the point where even the smallest point targets can be successfully attacked.
- ICBMs are differentiated by having greater range and speed than other ballistic missiles: intermediate-range ballistic missiles (IRBMs), medium-range ballistic missiles (MRBMs), short-range ballistic missiles (SRBMs) and tactical ballistic missiles (TBMs). Short and medium-range ballistic missiles are known collectively as theatre ballistic missiles.

About North korea:

- **North Korea** officially the **Democratic People's Republic of Korea** is a country in East Asia constituting the northern part of the Korean Peninsula.
- Pyongyang is the nation's capital and largest city.
- To the north and northwest the country is bordered by China and by Russia along the Amnok (known as the Yalu in China) and Tumenrivers,it is bordered to the south by South Korea, with the heavily fortified Korean Demilitarized Zone (DMZ) separating the two. However, the territory is wholly claimed by the Republic of Korea according to the constitution.
- In 1910, Korea was annexed by the Empire of Japan.
- After the Japanese surrender at the end of World War II in 1945, Korea was divided into two zones along the 38th parallel by the United States and the Soviet Union, with the north occupied by the Soviets and the south by the Americans.
- Negotiations on reunification failed, and in 1948, separate governments were formed: the socialist Democratic People's Republic of Korea in the north, and the capitalist Republic of Korea in the south.
- An invasion initiated by North Korea led to the Korean War (1950–1953).
- The Korean Armistice Agreement brought about a ceasefire, but no peace treaty was signed

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18. India-China Border Dispute

Doklam Standoff near Bhutan between India and China is becoming a major concern, near the Chumbi Valley at the corner of India-China-Bhutan tri-junction. This month long border Doklam Standoff has become the longest ever between the two nations. This is also the first time when Indian troops have confronted the People's Liberation Army of China on the soil of a third country i.e. Bhutan.

There are two reasons for this standoff – India has a long standing commitment to Bhutan's defence and serves as a virtual security guarantor to Bhutan through the 2007 friendship treaty. Secondly, the Doklam sector is critical to India as it brings China even closer to the Indian border in a vulnerable location towards the 27-kilometres long Siliguri Corridor or "Chicken's neck" that connects the Northeastern states of India with the rest of India. China has repeatedly disputed Bhutan's claims over Doklam. Beijing considers this plateau as vital to fortify the dagger-shaped Chumbi valley by piercing the tri-junction.

Doklam Standoff - History

Intrusions in Sikkim area may be new but there is a general pattern of such incursions are traced back to 2008 Beijing Olympics. In Ladakh and other places, the Chinese troops have been repeatedly working towards ingression in such areas. In 2009, the Chinese refused to give visas on Indian passports for several months for citizens of Jammu and Kashmir, including the Commander-in-Chief of the then Northern Command.Three factors started emerging in 2008 which are converging now in 2017 – the first being Pakistan's renewed animosity against India which was earlier demonstrated during the Mumbai attacks, the second was the street rage which was demonstrated within the Kashmir valley, and the last being China's attempts to stymie India's growth trajectory while it still can do it in the long term.

Actually, the border dispute in the region dates back to the 19th century when the states in the region were expanding in the areas which were loose in nature – North East Frontier Agency, North West Frontier Agency by the British Empire, and the Qing dynasty under the warlordswas expanding the Empire in Tibet and Sichuan. The 1890 treaty was signed between the British Empire and the Qing dynasty in China, 1914 Shimla Agreement between the British Empire, the Tibetans and the nationalist China are the two agreements being cited by China to stake legal claims over the region.

The treaty of 1890 was signed but the delineation and demarcation did not happen subsequently, specifically in the Sikkim sector. In the 1914 Shimla Agreement, China was represented by Ivan Chen, LonchenShatra represented Tibet and McMahon represented the British-India Empire, yet this agreement is labelled as Imperialist in nature by the Chinese authorities. They have ignored the 1885 Treaty between France-controlled Vietnam and the Qing dynasty at the time. Therefore, selectively implementing treaties according to their own convenience is the issue at hand with China.

It is being said that one of the objectives of China is to test India's resolve to defend its ally Bhutan in the case of a border dispute turning into a war. This current Doklam Standoff around the tri-junction of India-China-Bhutan border is an extension to the policy of encirclement being pursued by the Chinese around India. India has spent too much time on the 'principles of Panchsheel in dealing with an aggressive state like China, the current standoff between the two neighbours at a strategic territory is a reflection of the change in this decades old approach by India towards China.

The May 2015 'White Paper on National Defence' by China talks about Chinese armed forces protecting China's interests abroad. In November 2014, President Xi Jinping addressed the fourth Foreign Affairs Work Conference and mentioned that the foreign ministry has to protect the interests of China abroad. Hence, the Foreign Ministry and the military is now showcasing a synchronised effort to secure their strategic interests at the Tibet region. China has adopted a strategy of legal, media and psychological warfare which was initiated in 2005. China is playing a psychological warfare through its state controlled media, cash-controlled global think tanks and tactical strategies by the PLA troops on the ground to aggravate India to enter into a war. It is using legal strategies to point out that India is entering a third-country i.e. Bhutan, forgetting for the moment that the Chinese entered the Korean war in the 1950s.

Doklam Standoff - Present

China can roughly mobilise about 28-30 divisions in all in the case of a conventional war which includes mobilisation of around 5 divisions in the Sikkim-Bhutan sector, 8 in the Arunachal sector, about 3 divisions in Barahoti (middle sector of Uttarakhand and Himachal Pradesh) and roughly about 14 divisions in the Western sector. These divisions would be mobilised through the narrow passages because of the high Tibetan plateau region that makes it easier for the Chinese to push through such forts.

Currently, China possesses around 62-63 division in the PLA, out of which they would have to muster around half of the strength towards India which is actually difficult for them, considering the volatile situation in China's other long boundaries with other hostile nations. In the Sikkim-Bhutan sector, the Chinese face geographical issues because India is at the high ground over the hills, so the casualties can roughly be regarded as 33,000 on the other side. Hence, the Chinese would take a backseat in the conventional warfront. At the sub-conventional level, it is quite possible that the 158 monasteries that India has in the trans-Himalayan belt will come under stress due to the current standoff between India and China. Therefore, India needs to worry more about the sub-conventional warfare techniques of China, more than the conventional warfare strategies because it is untenable for China to go for it.

India is successfully holding to all the semantics played by China and the Government is responding to such semantics with appropriate responses at the most opportune times. As rightly pointed out by the India's Defence Minister ArunJaitley,

IV. ECONOMY, PROJECT AND SCHEMES

19. India ranks 116 out of 157 nations on 2017 SDG index

India has ranked 116 out of 157 nations on a global index that assesses the performance of countries towards achieving the ambitious **sustainable development goals (SDGs)**. The **SDG Index and Dashboards Report** has been **compiled by the Sustainable Development Solutions Network (SDSN)** and the **Bertelsmann Stiftung.**

Findings of SDG Index and Dashboards Report:

The SDG Index ranks countries based on their performance across the **17 Sustainable Development Goals.**

- **India is ranked 116th on the index with a score of 58.1**, behind countries such as **Nepal, Iran, Sri Lanka, Bhutan and China**. **Pakistan is ranked 122.**
- **Sweden leads the list**, followed by Denmark and Finland. The **United States ranks 42nd** on the Index, while **Russia and China rank 62nd and 71st respectively**.
- As per the report, many of the richest countries in the world are nowhere near achieving the global policy objectives. They are even deteriorating the implementation process for poorer countries because of negative spill over effects.
- For high-income countries, one of the greatest obstacles to achieving the global goals are poor performances regarding sustainable consumption and production.
- The report outlined that the countries which are closest to fulfilling the goals are not the biggest economies but comparably small, developed countries.

Sustainable Development Goals (SDG) Index – Top 10:

Rank	Country
1	Sweden
2	Denmark
3	Finland
4	Norway
5	Czech Republic
6	Germany
7	Austria
8	Switzerland
9	Slovenia
10	France

About Sustainable Development Goals (SDGs):

Sustainable Development Goals(SDGs), officially known as **Transforming our world: the 2030 Agenda for Sustainable Development** is a set of **17 "Global Goals" with 169 targets.**

- It is an initiative by **United Nations** and was preparedthrough a deliberative process involving its 193 Member States.
- SDGs were adopted in September 2015 at the UN Sustainable Development Summit in New York, US.

20. Over Rs 57,000 crore saved through DBT: Government

The government has saved a whopping Rs 57,000 crore with its direct benefit transfer (DBT) scheme under which subsidies are given directly to beneficiaries. The DBT programme, a major reform initiative to check graft in welfare funds, was launched by the UPA government on January 1, 2013. It was aimed at transferring benefits of various central government-run social welfare schemes to the bank accounts of beneficiaries.

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According to government data of the Rs 57,029 crore saved under DBT in 2016-17, the LPG subsidy scheme 'Pahal' accounted for Rs 29,769 crore, reports PTI. Besides, about Rs 14,000 crore were saved in providing subsidies directly to beneficiaries under the Public Distribution System.

The Mahatma Gandhi National Rural Employment Guarantee Scheme, that guarantees 100 days of employment for every rural household, saved Rs 11,741 crore, and Rs 399 crore were saved in DBT transfers for the National Social Assistance Programme, which deals with, among other things, old age and widow pensions, the latest data from the Cabinet Secretariat showed.

DBT led to a saving of about Rs 36,144 crore in 2015- 16. Till March, 2017, there were 140 schemes under the DBT net. A total of 59 and 34 schemes were under the DBT at the end of 2015-16 and 2014-15 fiscals respectively, the data said. A total of 485 schemes have been identified from 60 ministries for the DBT. The beneficiary base rose from 10.71 crore in 2013-14 to 35.62 crore in 2017-18.

21. AaykarSetu: Government launches new tax payer service module

A new tax payer service module 'AaykarSetu', was launched here today by the Union Finance Minister, ShriArunJaitley. To enhance mobile access experience, a mobile responsive android version was also released along with the desktop version. ShriJaitley stressed on the Government's commitment towards continuously upgrading tax payer services. He said that this e-initiative would help in reducing physical interface between assesses and tax assessing authorities and thereby minimizing the chances of any tax harassment.

Highlights

The new step is an effort by the Income Tax Department (ITD) to directly communicate with the taxpayers, on a range of multiple informative and useful tax services aimed at providing tax information at their fingertips. The module compiles various tax tools, live chat facility, dynamic updates, and important links to various processes within the Income Tax Department in a single module. The tax payers will also be able to receive regular updates regarding important tax dates, forms and notifications on mobile numbers registered with the ITD.

All taxpayers who wish to receive such SMS alerts are advised to register their mobile numbers in the AaykarSetu module.

The Central Board of Direct Taxes (CBDT) constantly endeavours to provide better taxpayer services and reduce taxpayer grievances. New schemes and e-initiatives to educate the taxpayers and deliver tax payer services in an effective manner are key to this effort.

22. India to join Global Foreign Exchange Committee

- India will soon get a seat on the Global Foreign Exchange Committee (GFXC) a newly created forum of central bankers and experts to work for promoting a powerful and transparent Foreign Exchange market.
- In a report on reducing misconduct risks in the financial sector, presented by the Financial Stability Board (FSB), an international body for global financial system at the G20 summit attended by the Prime Minister NarendraModi, in Hamburg, Germany that actions to enhance conduct standard and adherence in market include a Global Code of Conduct for the Foreign Exchange Markets.
- The Global Foreign Exchange Committee has been set up under the guidance of the Bank for International Settlements (BIS).
- The new GFXC will maintain and update this code which also comprising public sector and private sector representative from the Foreign Exchange Committee of 16 International Foreign Exchange Trading Centres.

All about Global Foreign Exchange Committee (GFXC):

- In May 2017, the committee was set up in London during a meeting of Public and Private sector representative from the Foreign Exchange Committees (FXCs) of 16 international Forex Trading Centres.
- The newly expanded and formalized GFXC replaces similar but more informal originations of eight foreign exchange committees (FXCs) from Australia, Hong Kong, Singapore, Japan, Euro Area, Canada, US and UK.
- The committee will now include a representative from existing, or soon to be established, foreign exchange committees or similar structures in India, Brazil, Mexico, China, Korea, South Africa, Switzerland and Sweden.

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The Objective of GFXC:

- It will explore by communicating and developing collaboration among the local Foreign Exchange Committees and Non – GFXC jurisdictions with significant Forex Markets.
- It will also provide a forum for exchanging views on trends and developments in global Forex markets, including structure and functioning of those markers

Bank for International Settlements (BIS):

- It is an international financial organization, which promotes international monetary and financial cooperation also serves as a bank for central banks. The headquarter of BIS is situated in Basel, Switzerland.

23. Government launches 4 digital initiatives to push e-education

President Pranab Mukherjee on the occasion of Guru Purnima launched four major digital initiatives in to push e-education. They are Swayam, SwayamPrabha, National Academic Depository and National Digital Library. All these digital initiatives are operational under Union Ministry of Human Resource and Development.

Swayam: It an indigenously designed massive open online course (MOOC), It will host all the courses, taught in classrooms from 9th class till post-graduation and can be accessed by anyone, anywhere at any time. It aims to bridge the digital divide for students in e-education.

SwayamPrabha: It will provide high quality educational contents, developed by experts, through 32 DTH (direct to home) Television Channels with an aim to bring uniformity in standards of education. It will cover diverse disciplines of all levels of education in various languages. It will be available to all and will be having new content of 4 hours to be telecasted 6 times a day.

National Academic Depository: It is a digital depository of academic awards for authenticating all certificates issued by institutions. NAD will directly integrate with Boards/Universities which issue Certificates which will be verified, authenticated, accessed and retrieved in a digital depository for purpose of employment, higher education, and loans.

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National Digital Library: It is a large online library containing 6.5 million books. It provides free access to many books in English and the Indian languages.

24. RBI limits Customer liability in Online Banking

With the Reserve Bank of India introducing zero liability and limited liability concept, now the customer will not suffer any loss if unauthorised online banking transactions are reported within three days and the amount involved will be credited in the accounts concerned within 10-days.

The RBI has also asked its banks to make its customers to register themselves to the text message alerts and permit reporting of for electronic banking transactions through a reply to the alert message. The draft proposal to limit customer liability in a fraudulent transaction was floated in August 2016. But now the RBI has come out with final guidelines.

A customer's zero liability will also arise in case of third party breach where the deficiency lies neither with the bank nor with the customer but lies elsewhere in the system. If the fraud is reported after seven days, the customer liability will be determined as per the bank's Board approved policy. However, the maximum liability of a savings bank account customer will be Rs 10,000 in such cases. Whereas, in case of where the loss is due to negligence by the account holder, the customer will bear the entire loss until the unauthorised transaction is reported to the bank.

25. HRD Ministry: No Detention Policy to be removed from next Academic Year

- The government has decided to do away with the no-detention policy from next year onwards.
- Due to the policy, many states have said that the enrollment of students is increasing but the level of education standards are going down and the results of the same can be seen in class 9 and class 10 results.

No-detention policy to go from next academic year:

- According to a report in The Hindustan times, "Many states have expressed worry over declining education quality due to the no-detention policy and supported to remove it.
- Eyeing this, a decision has been made where the Centre approved that the no-detention policy can be uprooted from the next academic year," Pandey told the media in Agartala
- "There has been a unanimous decision of withdrawing the no-detention policy from the Right to Education Act 2009," the minister said
- The state governments will decide if they want to continue with the policy or remove it.

What is no-detention policy?

- The no-detention policy, which comes under the Right to Education (RTE) Act, 2009, students were automatically promoted from class 1 to 8. In short, no student was failed during these many classes
- The idea behind the policy was to stop kids from failing and to free them from the exam pressure.

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26. Eight core sectors growth slips to 3.6% in May 2017

The growth of eight core sectors slowed to 3.6% in May 2017 due to fall in output of coal and fertilisers. It was 5.2% in May 2016. In April 2017, these eight sectors had recorded a growth rate of 2.8%.

Core industry can be defined as the main industry. In most countries, there is a particular industry that seems to be the backbone of all other industries and it qualifies to be the core industry. In India, there are eight core sectors comprising of coal, crude oil, natural gas, refinery products, fertilisers, steel, cement and electricity.

The electricity has the maximum weight of 10.32% followed by Steel (6.68%), Petroleum Refinery (5.94%), Crude Oil production (5.22 %), Coal production (4.38 %), Cement (2.41%), Natural Gas production (1.71 %) and Fertilizer production (1.25%). These eight Core Industries comprise nearly 38% of the weight of items included in the Index of Industrial Production (IIP), which measures factory output.

In May 2017, Coal and fertiliser productions recorded negative growth of 3.3% and 6.5%, respectively. Steel sector growth dipped to 3.7% as against 13.4% in May 2016.

Slow growth in these key sectors may also have implications on the Index of Industrial Production (IIP) number as these segments account for about 41% to the total factory output.

However, growth in refinery products and electricity output grew by 5.4% and 6.4% in May 2017 as against 3.3% and 6.2%, respectively in the same period last year. Natural gas production too grew by 4.5% in May 2017 as against a negative growth rate of 6.5% a year earlier.

V. SCIENCE AND TECHNOLOGY

27. Scientists for first time store small movie clip in DNA of living bacteria

In a first, Harvard scientists have encoded a small movie clip in the DNA of living bacterial cells and then played it back. They used the CRISPR gene-editing technique to encode and retrieve reconstructed frames of a classic 1870s racehorse in motion sequence of photos. “We want to turn cells into historians,” said researchers, who aim to develop “molecular recorders”.

The team introduced the DNA into E. coli at a rate of one frame per day for five days.They use nucleotides, the building blocks of DNA, to produce a code that relates to the individual pixels of each image. For the GIF, sequences are delivered frame-by-frame over time to living bacteria, where they are inserted into the genome in the order that they were delivered. Once inserted into the genome of e.coli, the data can then be retrieved by sequencing the DNA and the images are reconstructed by reading the pixel nucleotide code, which was achieved with around 90% accuracy.

Researchers have revealed the first film stored in bacterial DNA, and claimed that it could herald a revolution in digital storage.

28. Vaccine shows protection against gonorrhea for first time: Scientists

- A vaccine has for the first time been shown to protect against the sexually transmitted infection gonorrhoea, scientists in New Zealand say.
- There are fears gonorrhoea is becoming untreatable as antibiotics fail.
- The World Health Organization sees developing a vaccine as vital in stopping the global spread of "super-gonorrhoea".
- The study of 15,000 young people, published in the Lancet, showed infections were cut by about a third.
- About 78 million people pick up the sexually transmitted infection each year, and it can cause infertility.
- But the body does not build up resistance no matter how many times someone is infected.

Unusual start

- The vaccine, originally developed to stop an outbreak of meningitis B, was given to about a million adolescents in New Zealand between 2004 and 2006.
- Researchers at the University of Auckland analysed data from sexual health clinics and found gonorrhoea cases had fallen 31% in those vaccinated.

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- The bacterium that causes meningitis, Neisseria meningitidis, is a very close relative of the species that causes gonorrhoea - Neisseria gonorrhoeae.
- It appears the Men B jab was giving "cross-protection" against gonorrhoea.
- Dr Helen Petousis-Harris, one of the researchers, said: "This is the first time a vaccine has shown any protection against gonorrhoea.
- "At the moment, the mechanism behind this immune response is unknown, but our findings could inform future vaccine development."
- Protection seemed to last about two years.

What is gonorrhoea?

- The disease is caused by the bacterium Neisseria gonorrhoeae and spread by unprotected sex.
- Symptoms can include a thick green or yellow discharge from sexual organs, pain when urinating and bleeding between periods.
- However, of those infected, about one in 10 heterosexual men and more than three-quarters of women and gay men have no easily recognisable symptoms.
- Untreated infection can lead to infertility, pelvic inflammatory disease and be passed on to a child during pregnancy.

29. Scientist create mini Saturns from charged liquid droplets

Scientists from Northwestern University in the United States have created miniature versions of Saturn, complete with rings, by electrifying tiny droplets of fluids.

When a drop of electrically conductive liquid is exposed to an electric field, the droplet responds by forming two electrically charged poles. In the previous research it was found that these poles can get pulled towards the sources of the electric field, taking on cone shapes. If the pull is strong enough, the tips of the cones can spray jets of droplets. This effect is known as electrospraying.

In the latest experiments, researchers explored the outcomes seen after drops of liquid is submerged in more electrically conductive fluids-specifically, drops of silicone oil suspended in castor oil. When an electric field is applied to drop of silicone oil, it was observed that drop flattens and emits rings of fluid from its equator that break up into droplets.

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If an electric field is strong enough, the equators of these squashed drops emit concentric rings of droplets, making the drops look like miniature versions of Saturn. In these experiments, drops of silicone oil about 1 millimetre wide generated droplets that were about 100 times smaller.

The future advance research may pave the way for generating microscopic and uniform particles and capsules which are used in products such as drugs, inks, cosmetics and paints. It will also explore new materials that can be used to produce “ring of particles” effect.

30. India ranked 23rd in second Global Cybersecurity Index (GCI)

India has been ranked 23rd out of 165 nations in the second Global Cybersecurity Index (GCI) that measures the commitment of nations across the world to cyber security. The Index has been released by the UN telecommunications agency International Telecommunication Union (ITU).

Highlights

India has been listed in the "maturing category" of the index with a score of 0.683. Around 77 countries have been placed in the maturing category as they have developed complex commitments to cyber security and engage in cybersecurity programmes and initiatives. Singapore has topped the index with a score of 0.925. Singapore is followed by United States (2nd), Malaysia (3rd), Oman (4th), Estonia (5th), Mauritius (6th), Australia (7th), Georgia (8th), France (9th), Canada (10th) and Russia (11th). China has been placed at 34th. Equatorial Guinea is the worst performer among all nations with a score of zero. ITU has ranked the countries based on the countries' legal, technical and organisational institutions, educational and research capabilities, as well as their cooperation in information-sharing networks.

The index also figured the improvement and strengthening of the five pillars of the ITU Global Cybersecurity Agenda, namely, legal, technical, organisational, capacity building and international cooperation. The report has observed that only about half of all countries have a cybersecurity strategy or in the process of developing one and has urged the other countries to have a national policy to protect against cybercrime. ITU has advocated for the adoption of a national security strategy. As per the report, 50% of the nations do not have any such strategy. As per the ITU, the malicious attacks have increased in recent years. The latest example of cyber attacks is those carried out as recently as 27 June 2017.

ITU

ITU is the United Nations specialised agency for information and communication technologies (ICTs). ITU has 193 countries as its members and also 800 private-sector entities and academic institutions. ITU is headquartered in Geneva, Switzerland. ITU is responsible for allocating global radio spectrum and satellite orbits. It also develops the technical standards that ensure networks and technologies to seamlessly interconnect. It also strives to improve access to ICTs among the underserved communities worldwide.

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VI. Miscellaneous

31. India to host 8th International Theatre Olympics in 2018

India will host international Theatre Olympics in 2018 for the first time.

The 51-day carnival of theatre, beginning February 17 next year, will simultaneously be held in Delhi, Mumbai, Kolkata, Bengaluru, Chennai and 10 other cities across India.

In a development that puts India firmly among the top nations in the world theatre map, the country is all set to host the next edition of the prestigious Theatre Olympics. Established in 1993, the Theatre Olympics is the foremost international theatre festival, presenting the finest productions of well-known theatre practitioners from around the world.

The Theatre Olympics, being held in India for the first time, is being organised by National School of Drama, under the aegis of Ministry of Culture. The country's tryst with the biggest celebration of theatre in the world will take place from February 17 till April 08, 2018 and will be held in 15 cities across India.

It was also announced that the inaugural ceremony of the Theatre Olympics will take place in New Delhi, in a gala function with performances by hundreds of artistes while the closing ceremony will take place in Mumbai. The Theatre Olympics 2018 will be the 8th edition of the event and will feature maximum number of Indian & International theatre groups, invitee eminent theatre personalities along with their performances. In addition, there will be ambience performances with allied activities like exhibitions, seminars, symposia, interactive discussions and workshops with well-known academicians, authors, actors, designers and directors.

The Theatre Olympics was established in 1993 in Delphi, Greece, as the first international theatre festival. With the tagline 'Crossing Millennia', this is an initiative to connect the cultural past with the present and future, bringing the richness and diversity of theatre heritage to the experiments and research of contemporary theatre.

The first country to host the Theatre Olympics was Greece in 1995. Japan hosted the second edition in Shizuoka in 1999, followed by Russia in 2001. In 2006 the Olympics were held in Istanbul, Turkey and four years later, in 2010 in Seoul, South Korea. China hosted them in Beijing in 2014 and in 2016 the 7th Theatre Olympics were held in Wroclaw, Poland. India is all set to join this illustrious list as it plays host to the 8th edition of this global event.

32. India's Mithali Raj becomes first to score 6000 runs in women's ODI cricket

Indian skipper Mithali Raj has become the first player in the history of women's ODI cricket to have crossed 6000 career runs. Mithali reached the milestone in India's ICC Women's World Cup 2017 match against Australia. She is now the all-time highest run-scorer in women's cricket, surpassing the record previously held by England's Charlotte Edwards.

Edwards scored 5992 runs in 191 matches at an average of 38.16 including nine centuries and 46 half-centuries. On the other hand, Mithali has crossed 6000 runsin 182 ODIs. The Indian captain has a total of five centuries and 49 half-centuries to her name. She made her debut in 1999 against Ireland team scored an unbeaten hundred in the process.

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The Mithali Raj-led Indian side began the tournament on a near perfect note as they clinched victories in first four matches out of the five. They defeated hosts England and followed it with wins against West Indies, Pakistan and Sri Lanka. In all the matches, Mithali has shown sublime form. She has so far scored 71, 46, 8, 53 and 0. The one match in which she failed to score runs was the one India lost against South Africa.

Earlier, in the match against Australia, India were in a spot of bother after they lost SmritiMandhana early in the innings but a sensible partnership between PunamRaut and Mithali Raj provided them with resistance as the two compiled a partnership of over 100 runs for the second wicket.

33. Cabinet approves establishment of International Rice Research Institute

The Union Cabinet chaired by the Prime Minister ShriNarendraModi has approved the establishment of the International Rice Research Institute (IRRI), South Asia Regional Center (ISARC) at campus of National Seed Research and Training Center (NSRTC) in Varanasi.

Under the proposal, a Centre of Excellence in Rice Value Addition (CERVA) will be set up in Varanasi. This will include a modern and sophisticated laboratory with capacity to determine quality and status of heavy metals in grain and straw. The Centre will also undertake capacity building exercises for stakeholders across the rice value chain.

This Center will be the first international Center in the eastern India and it will play a major role in harnessing and sustaining rice production in the region. It is expected to be a boon for food production and skill development in the eastern India and similar ecologies in other South Asian and African countries.

Benefits from ISARC

The Centre will help in utilizing the rich biodiversity of India to develop special rice varieties. This will help India to achieve higher per hectare yields and improved nutritional contents. India's food and nutritional security issues will also be addressed. The Centre will support in adopting value chain based production system in the country. This will reduce wastage, add value and generate higher income for the farmers. The farmers in Eastern India will benefit in particular, besides those in South Asian and African countries.

Management of ISARC

ISARC will operate under the governance of the IRRI Board of Trustees who will appoint an appropriate IRRI staff member as Director. A Coordination Committee will be headed by Director General, IRRI as Chair and Secretary, Government of India, Department of Agriculture, Cooperation and Farmers Welfare (DACFW) as Co-Chair. The other members of Coordination Committee are Deputy Director General (Crop Sciences), ICAR; Director, NSRTC; IRRI representative in India, representative of Government of UP and representatives of Governments of Nepal & Bangladesh and Private Sector.

For setting up of the Centre, A Memorandum of Agreement, will be signed between DAC&FW and IRRI, Philippines. The Department of DAC&FW will provide physical space for laboratories, offices, training classes, etc. with associated infrastructure and land at NSRTC, Varanasi. The Centre will be commissioned within six months.

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34. Walled City of Ahmedabad designated as India's first World Heritage City

The 600-year-old Walled City of Ahmedabad was announced World Heritage City by the World Heritage Committee (WHC) of UNESCO after it met in Karlow, Poland. It is first Indian city get the respect. The Walled City of Ahmedabad is situated on the eastern banks of Sabarmati waterway. It exhibits a rich structural legacy from the sultanate time frame, remarkably the Bhadra bastion, dividers and entryways of the Fort city and various mosques and tombs, and also imperative Hindu and Jain sanctuaries of later periods. It will be third city from the Indian subcontinent to appreciate this status alongside Bhaktapur in Nepal and Galle in Sri Lanka.

Background

The nomination of Ahmedabad was supported by about 20 countries including Turkey, Tunisia, Lebanon, Peru, Portugal, Croatia, Tanzania, Zimbabwe, South Korea, Croatia, Cuba and Poland. Earlier, the committee also added Asmara (capital of

Eritrea), added Hebron-Al Khalil Old Town (Palestine) and W-Arly-Pendjari Complex (Benin, Burkina Faso) to the list

About Walled City of Ahmedabad

The Walled City of Ahmedabad was established by Sultan Ahmed Shah I of Gujarat Sultanate in 1411. It remained the capital of the Gujarat Sultanate and later critical political and business focus of Gujarat. It was set up as a result of the Sultan's desire to make an exchanging adversary to the neighboring Hindu exchange focus of Asaval. Further, he made Ahmedabad focal point of his own line of administration and supplanted the old capital of AnhilvadPatan, found adjacent.

Ahmed Shah I had established the framework of Bhadra Fort beginning from ManekBurj, the primary bastion of the city in 1411 which was finished in 1413. Amid Mughal run, Bhadra Fort filled in as the seat of Governor of Gujarat The extravagance of design show in Ahmedabad is upgraded by the social combination of Hindu and Muslim components. The city likewise holds uncommon qualification of being one of the most established exchanging focuses in India and furthermore focuses of Indian opportunity battle under Mahatma Gandhi. Spread more than 5.43 square kilometers, the city now has rough populace of four lakh, living in exceptionally old wooden homes in around 600 pols or neighborhoods. Today, in spite of having turned out to be greatly swarmed and broken down, regardless it fills in as the typical heart of metropolitan Ahmedabad.

35. WHO declares end of Ebola outbreak in Congo

The World Health Organization (WHO) has declared the end of the most recent outbreak of Ebola virus disease (EVD) in the Democratic Republic of Congo (DRC).

The announcement comes 42 days (two 21-day incubation cycles of the virus) after the last confirmed Ebola patient in the affected Bas-Uélé province of DRC tested negative for the disease for the second time. It was DRC's eighth outbreak of EVD since the discovery of the virus in the country in 1976. It killed four of the eight people infected in the central African country.

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The recent outbreak in DRC is not connected to the 2014 deadly Ebola outbreak that had worst hit Guinea, Liberia and Sierra Leone and killed more than 11,300 dead, highest ever since its discovery of virus. This outbreak was declared finished in 2016.

Ebola virus disease (EVD)

Ebola virus disease (EVD) is a viral hemorrhagic fever of humans and other primates caused by ebola viruses. It was first identified in 1976 in the Democratic Republic of Congo (DRC) in a village near the Ebola River, from which it takes its name.

Transmission: The virus is transmitted to people from wild animals and spreads in the human population through human-to-human transmission. Fruit bats are natural host of this virus. It spreads through contact with body fluids of inflected persons such as blood, urine and saliva. It also spreads through sexual transmission.

Symptoms: High fever, bleeding and central nervous system damage. The average EVD case fatality rate is around 50%. However, in past outbreaks case fatality rates have varied from 25% to 90%.

Treatment: There is as yet no proven treatment available for EVD. However, a range of potential treatments including immune therapies, blood products and drug therapies are currently being evaluated. An experimental Ebola vaccine rVSV-ZEBOV is proved to highly protective against the deadly virus in a major trial in Guinea conducted in 2015.

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