

GENERAL STUDIES-1

INDIAN CULTURE

PADMA AWARDS 2017

This year the President of India has approved conferment of 85 Padma Awards including two duo cases. The list comprises 3 Padma Vibhushan, 9 Padma Bhushan and 73 Padma Shri Awards.

About Padma Awards:

Padma Awards – one of the highest civilian Awards of the country, are conferred in three categories, namely, Padma Vibhushan, Padma Bhushan and Padma Shri. They were instituted in the year 1954.

Categories:

- Padma Vibhushan is awarded for exceptional and distinguished service;(it is a second degree honour).
- Padma Bhushan is awarded for distinguished service of high order. (it is a third degree honour).
- Padma Shri is awarded for distinguished service in any field. (it is a fourth degree honour).

The awards are announced on the occasion of Republic Day every year. The award is normally not conferred posthumously. However, in highly deserving cases, the Government could consider giving an award posthumously if the demise of the person proposed to be honoured has been recent, say within a period of one year preceding the Republic Day on which it is proposed to announce the award.

CHHAU DANCE

Why in news?

A traditional Indian Chhau dance show will be staged at National Palace Museum in Taipei City as part of efforts to strengthen cultural exchanges between Taiwan and India, by a troupe sponsored by New Delhi-headquartered India Council for Cultural Relations.

Chhau dance

24th Jan to 1st Feb

Originating in eastern India, Chhau features dancers in colorful masks and costumes performing movements inspired by animals, birds, martial arts and tribal and folk customs.

- The practice was added to UNESCO's Representative List of the Intangible Cultural Heritage of Humanity in 2010.
- Chhau shows typically depict episodes from classic Hindu epics.
- It is found in three styles named after the location where they are performed, ie.
 - the Purulia Chau of Bengal
 - the Seraikella Chau of Jharkhand
 - the Mayurbhanj Chau of Odisha.
- The dance is traditionally an all males troupe, regionally celebrated particularly during spring every year.

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SOCIAL ISSUES AND INDIAN SOCIETY

SHOULD EUTHANASIA BE ALLOWED?

Why in news?

Elderly Mumbai couple have sought Presidential nod for 'active euthanasia'. They have no major health problems. However, the fear of falling terminally ill and of not being able to "contribute to society" has pushed them to write to the President to seek permission for "doctor-assisted death".

National discourse on euthanasia

It started in India in 2011, when the Supreme Court, while hearing the case of a nurse from KEM Hospital, Aruna Shanbaug, who was in a vegetative state since 1973 after she was sexually assaulted in the hospital premises, for nearly 30 years, legalised passive euthanasia.

There have been applications before Indian courts seeking permission for active euthanasia. The courts have rejected such pleas invariably.

Request unlikely to be heeded

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The 2011 judgment helped to push the debate to the extent of permitting passive euthanasia for terminally ill patients under the strict supervision of the High Court, in consultation with a team of doctors treating the terminally ill patient.

Passive euthanasia means withdrawing life support to induce death in a natural way. In contrast, active euthanasia means injecting legal drugs to induce death. This is not permitted in India and so the old couple's request is unlikely to be heeded as India is not comfortable with the idea.

Misuse, a cause for concern

In the case of terminally ill patients who are provided with expensive health care, whose families know that the patients are unlikely to return to normalcy and given the economic burden on the family and on society to treat these patients, euthanasia could be debated. But euthanasia for those who are mentally alert, though physically disabled, is a big no.

Euthanasia in that form cannot be allowed or legalised because the probability of its misuse is very high. The decision in favour of euthanasia is far more complex when a person is mentally alert.

The right to life

The right to life was made more sacrosanct and, over the years, has been seen as a basic feature of the Constitution, thereby making it both fundamental and permanent.

The significance of this is that if one relinquishes the right, one can do so only in accordance with procedure established by law. Imposing death by way of capital punishment is an example of the right to life being terminated in accordance with the procedure established by law.

To terminate life, even one's own life, were it to be done without the authority of law, would amount to an unlawful act. In certain cases, it may even be a criminal act. In fact, an attempt to commit suicide is a crime under the IPC.

There exists no legislation laying down the procedure to permit a person to take her own life. Now the courts are called upon to decide, without having the benefit of legislation to guide their decision-making.

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In conclusion

The right to life under Article 21 has been interpreted by the Supreme Court as the right to live with dignity. The debate now is whether the fundamental right to life extends to the right to choice.

This letter has opened up a new debate in this area. So far, the debate has been confined only to people who are terminally ill. Countries like Canada have given legal recognition to the concept of a “living will”, where people lay down directives in advance on how they should be treated if they end up in a vegetative state. Now an important question before the courts is whether the law should allow living wills.

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GEOGRAPHY

'SUPER BLUE BLOOD MOON'

Large parts of the globe experienced a rare 'Super Blue Blood Moon' on January 31st, 2018. A supermoon, a blue moon and a total lunar eclipse took place at the same time.

What is a 'Super Blue Blood Moon?'

A 'Super Moon' is simply a moon that is closer to the Earth than normal. As a result, it appears bigger and brighter in the sky.

A 'Blue Moon' is also simple and means the second full moon in a calendar month.

A 'Blood Moon' happens when sunlight passes through the atmosphere above the Earth, casting a dark colour across the surface of the moon.

GENERAL STUDIES-2

POLITY

STATE FUNDING OF ELECTIONS

24th Jan to 1st Feb

Chief election commissioner recently said, Electoral bonds will not solve all problems pertaining to transparency in political funding, but hoped that it will be a step in the “right direction”.

Indian elections are the world’s biggest exercise in democracy but also among the most expensive. India’s campaign spend is only matched by the American presidential race, the world’s most expensive election.

Cause for concern

Unreported cash continues to make its way into the reserves of political parties and individual candidates. There is very little transparency in who gives and receives corporate contributions.

- Political parties often sidestep any independent audit of their accounts, leaving the public uninformed.
- The system of electoral bonds for making political contributions to political parties is nowhere near the system of transparent political funding that is needed.

Electoral bonds issued by government

The conventional system of political funding is to rely on donations. These donations come from a range of sources from political workers, sympathisers, small business people and even large industrialists. The sources are anonymous or pseudonymous.

Earlier the Income Tax Act was amended to include a provision that donations made to political parties would be treated as expenditure and would thus give a tax advantage to the donor. It was hoped that donors would increasingly start donating money by cheque. Some donors did start following this practise but most of them were reluctant to disclose the details of the quantum of donation given to a political party. This was because they feared consequences visiting them from political opponents.

Last year, Electoral bonds, which were introduced by the government to make funding to political parties transparent, will allow a political donor to purchase bonds from authorised banks and can be redeemed by parties only through registered accounts in a prescribed time frame.

What is Electoral Bond?

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An electoral bond is designed to be a bearer instrument like a Promissory Note — in effect, it will be similar to a bank note that is payable to the bearer on demand and free of interest. It can be purchased by any citizen of India or a body incorporated in India.

Details

- The bonds will be issued in multiples of ₹ 1,000, ₹ 10,000, ₹ 1 lakh, ₹ 10 lakh and ₹ 1 crore and will be available at specified branches of State Bank of India.
- They can be bought by the donor with a KYC-compliant account.
- Donors can donate the bonds to their party of choice which can then be cashed in via the party's verified account within 15 days.
- Every political party in its returns will have to disclose the amount of donations it has received through electoral bonds to the Election Commission. The entire transactions would be through banking instruments.

What are the other conditions?

- Every party that is registered under section 29A of the Representation of the Peoples Act, 1951 and has secured at least one per cent of the votes polled in the most recent Lok Sabha or State election will be allotted a verified account by the Election Commission of India.
- Electoral bond transactions can be made only via this account.
- The bonds will be available for purchase for a period of 10 days each in the beginning of every quarter.
- An additional period of 30 days shall be specified by the Central Government in the year of Lok Sabha elections.
- The electoral bonds will not bear the name of the donor. In essence, the donor and the party details will be available with the bank, but the political party might not be aware of who the donor is.
- The maximum amount of cash donation that a political party can receive is capped at ₹ 2,000 (from ₹ 20,000) and that parties be entitled to receive donations by cheque or digital mode, in addition to electoral bonds.
- A donor will get a deduction and the recipient, or the political party, will get tax exemption, provided returns are filed by the political party.

Shortfalls of Electoral bonds

1. Lack of Transparency: The name of the donor will not be revealed either to the party or to the public. This would lead to further opacity in the funding process and further limit oversight and accountability.
2. Generation of Black money: Opacity will lead to generation of more and more black money into the political system.
3. Politico corporate nexus: Government removal of cap on donations of money to political parties by corporations and the current rule of maintaining anonymity of the donor will further increase the corporate and politicians nexus to work towards the fulfilment of their own selfish aims.
4. Given that the State Bank of India is owned by the Union government, this raises the spectre that data on donors could be made available to the ruling party to be used to its benefit.
5. Lifting of the maximum limit of 7.5% on the proportion of the profits a company can donate to a political party, thus opening up the possibility of shell companies being set up specifically to fund parties;
6. Amendment of the Foreign Contribution (Regulation) Act (FCRA) opening the floodgates of foreign funding to political parties, especially those which have a foreign support base;
7. The refusal of political parties to come under the RTI Act in order to conceal their sources of funding.

The three things will end up strengthening the business-politics nexus. It goes against the position taken by various electoral reform committees that the existing pattern of political funding encourages lobbying and capture of the government by big donors.

All registered parties were required to disclose to the EC the identity of individuals and private entities donating more than ₹ 20,000 every year. Proposed amendments to the Income Tax Act and the Reserve Bank of India (RBI) Act will exempt parties from keeping records of donations made through bonds.

Way forward and state funding

However, the decision to reduce cash contributions from ₹ 20,000 to ₹ 2,000 is a step in the right direction, but the net effect is debatable, since it could prompt parties to take smaller cash donations, and therefore not declare their source.

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A number of government committees have outlined reform proposals to contain the negative effects of the high cost of elections. These include strong disclosure norms, strict statutory limits on election expenses and ceiling on corporate donations to political parties. The rules to limit and restrict the campaign expenditure of parties are largely inoperative because it is easy to circumvent them.

State funding of elections is a potential solution to this problem. The Indrajit Gupta Committee on State Funding of Elections had endorsed partial state funding of recognised political parties and their candidates in elections way back in 1998, but the lack of political will has prevented any serious discussion on this

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GOVERNANCE ISSUES AND POLICIES

SAFER ROADS

Why in news?

The process of introducing legislation for road safety has been in the making for the past four years. The Motor Vehicles (Amendment) Bill was passed by the Lok Sabha in 2017. If passed by the Rajya Sabha, it will be the first of its kind to extensively reform existing legislation on road safety, the Motor Vehicles Act, 1988.

The World Health Organisation (WHO) points out that for effective road safety management, it is imperative to have an institutionalised and sustainable data system. This includes information pertaining to drivers, such as types of licences held and a record of violation of traffic laws.

Main proposals in the Bill:

The Amendment Bill is robust and rectifies several systemic issues by providing for a uniform driver licensing system, protection of children and vulnerable road users, rationalising penalties, and much more. It is believed that passage of the Bill would help meet the UN mandate to reduce road accidents up to 50 per cent by 2020.

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The inefficiencies of a predominantly manual system of issuing driving licenses, results in lakhs of licences being issued without the prescribed checks and balances.

- The new bill makes Aadhaar mandatory for getting a driving licence and vehicle registration.
- For deaths in hit-and-run cases, the government will provide a compensation of Rs 2 lakh or more to the victim's family. Currently, the amount is just Rs 25,000.
- In traffic violations by juveniles, the guardians or owner of the vehicle would be held responsible unless they prove the offence was committed without their knowledge or they tried to prevent it. The registration of the motor vehicle in question will be cancelled. The juvenile will be tried under the Juvenile Justice Act.
- The bill has provision for protection of Good Samaritans. Those who come forward to help accident victims will be protected from civil or criminal liability. It will be optional for them to disclose their identity to the police or medical personnel.
- The minimum fine for drunk driving has been increased from Rs 2,000 to Rs 10,000.
- The fine for over-speeding, rash driving, Not wearing seatbelt, Talking on a mobile phone while driving, Driving without a license have all been increased
- A Motor Vehicle Accident Fund will provide compulsory insurance cover to all road users in India for certain types of accidents.
- It will be mandatory to alter vehicles to make them suitable for specially abled people.
- Contractors, consultants and civic agencies will be accountable for faulty design, construction or poor maintenance of roads leading to accidents.
- A time limit of six months has been specified for an application of compensation to the Claims Tribunal with regard to road accidents.
- The Bill removes the cap on liability for third-party insurance. The 2016 Bill had capped the maximum liability at Rs 10 lakh in case of death and Rs 5 lakh in case of grievous injury.
- The time limit for renewal of driving license is increased from one month to one year before and after the expiry date.
- The government can recall vehicles whose components or engine do not meet the required standards. Manufacturers can be fined up to Rs 500 crore in case of sub-standard components or engine.

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What changes can the bill bring?

Improvement is proposed in the areas of road safety, rural transport, last mile connectivity, public transport, automation, computerization, online services, passenger convenience, online learning licenses, and increasing validity period for driving licenses.

1. Digitalisation

The Bill addresses several challenges by introducing technology in the licensing procedure. A digitised, uniform and centralised driver licensing system will go a long way in ensuring ease of access, efficiency and transparency in the filtering process.

The Bill also proposes to introduce digitisation in the monitoring and enforcement of traffic laws. Electronic monitoring and enforcement can already be seen in practice in Kerala.

- 2. Good Samaritan guidelines** will help passer-by take appropriate action in helping the wounded in an accident.
- 3. Children in focus:** The WHO asserts that using child-restraint systems in vehicles decreases the risk of death. The Bill proposes to mandate the use of protective headgear by every person above the age of four driving, riding or being carried on a two-wheeler. It provides for measures to be laid down for the safety of children below the age of four.
- 4. Penalties:** For decades, penalties for behaviour that results in fatalities and grievous injuries have remained minimal, largely unrevised, and, consequently, have failed to deter violators. This Bill promises to rationalise these fines.

In Conclusion:

As a signatory to the Brasilia Declaration on Road Safety, India has committed to reducing, by 2020, the number of road crash fatalities and serious injuries by 50%. This will be impossible to achieve if the sole statute governing road safety in India, the Motor Vehicles Act, 1988, is not overhauled.

RES EXTRA COMMERCIIUM

Why in news?

To curb the \$11 billion tobacco industry's legal right to trade, the government, for the first time, has asked the top court to classify tobacco as "res extra commercium", which is a Latin phrase for "outside commerce".

Res extra commercium

Res extra commercium means things beyond commerce, i.e., which cannot be brought or sold, such as public roads, rivers, titles of owners etc. It is a doctrine originating in Roman law. In some contexts, it can refer to areas beyond national borders, such as space and the seabed.

What's the issue?

India's tobacco labelling rules, which mandate 85% of a cigarette pack's surface be covered in health warnings, have been a sticking point between the government and the tobacco industry since they were enforced in 2016. But a court in Karnataka state last month quashed those labelling rules after the tobacco industry successfully argued the measure was "unreasonable" and violated its right to trade.

Therefore, seeking to apply this doctrine to tobacco, the government argued it should have the power "to regulate business and to mitigate evils" to safeguard public health.

Concerns associated:

The doctrine would open the door to an outright ban on tobacco sales if a state so wished. It also gives governments the constitutional cover that will protect future litigation. The industry will lose significant ground as the protection of right to trade is gone.

Efforts by government to curb the use of tobacco:

The government, over the years, initiated several reforms in the recent years to curb the use of tobacco that kills almost nine lakh people in India each year. Increased taxes, campaigns, advertisements are some of the measures taken by the government to curb the use of tobacco.

WELFARE SCHEMES AND DEVELOPMENTAL GROUPS

AFFORDABLE MEDICINES AND RELIABLE IMPLANTS FOR TREATMENT SCHEME (AMRIT)

Why in news? The health ministry is working to increase the number of AMRIT pharmacy stores. It is the flagship programme of the Union Health ministry

Aim: To provide affordable life-saving cancer, cardiac drugs and medical disposables. The AMRIT pharmacies offer an average discount of 63% on medicines.

Details

Launched in 2015, it is being implemented through mini-ratna PSU HLL Lifecare Ltd (HLL) which has been setting up pharmacies at major hospitals across the country to dispense the medicines.

The primary goal of AMRIT is to make available and accessible, at very affordable rates, all drugs, implants, surgical disposables that are not dispensed free of cost by the hospitals.

RAPID REPORTING SYSTEM FOR THE SCHEME FOR ADOLESCENT GIRLS

What is it?

The government has launched the Rapid Reporting System for the Scheme for Adolescent Girls – a web based on line monitoring for the Scheme for Adolescent Girls.

The RRS will facilitate the monitoring of the scheme and taking corrective measures by ensuring faster flow of information, accurate targeting of the beneficiaries and reduction of leakages. This Portal has been developed in collaboration with National Informatics Centre (NIC).

Scheme for Adolescent Girls:

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Realizing the multi-dimensional needs of out of school adolescent girls (11-14 years) owing to the onset of second growth spurt during this period and with an aim to motivate these girls to join school system, the government is implementing the Scheme for Adolescent Girls (SAG) for out of school girls in the age group of 11-14 years.

Aim: To provide nutritional support, motivate out of school girls to go back to formal schooling or skill training under non-nutrition component of the scheme. The girls are equipped with information on health, hygiene and guidance on existing public services.

Implementation: By Ministry of Women and Child Development using the platform of Integrated child Development Services Scheme. Anganwadi Centres (AWCs) are the focal point for the delivery of the services.

Funding: It is a centrally sponsored scheme, implemented through Centre and State share in the ratio of 50:50 for nutrition component, 60:40 for the rest of the activities for State and UTs with legislation, 90:10 for NE and three Himalayan States and 100% for UTs without legislation.

NEW PROGRAMMES FOR TALENT IN SCIENCE

Why in news?

The government has announced four schemes to promote young scientists and researchers in the country. The schemes primarily aim at early recognition and reward to young talent in the field of science. They focus on youth to empower, recognize and motivate them.

The schemes announced are as follows:

1. ***Teacher Associateship for Research Excellence (TARE) Scheme:*** The scheme aims to tap the latent potential of faculty working in state universities, colleges and private academic institutions who are well trained but have difficulty in pursuing their research due to varied reasons. It facilitates mobility of such faculty members to carryout research in well-established public funded institution such as IITs, IISc, NITs, CSIR etc
2. ***Overseas Visiting Doctoral Fellowship:*** This has been instituted for enhancing the international mobility of Indian research students to gain exposure and access to top class research facilities

in academia and labs across the world. The selected fellows will be paid a monthly fellowship amount, visa fee, airport transfer charges, medical insurance etc.

3. ***Distinguished Investigator Award (DIA)***: This has been initiated to recognize and reward Principal Investigators (PIs) of SERB (Science and engineering research board)/DST (Dept. of science and technology) projects who have performed remarkably well. It also seeks to motivate the ongoing PIs to perform exceedingly well.
4. ***AWSAR (Augmenting Writing Skills for Articulating Research)***: This has been initiated to encourage, empower and endow popular science writing through newspapers, magazines, blogs, social media, etc. by young PhD Scholars and Post-Doctoral Fellows during the course of their higher studies and research pursuits.

ROTAVAC: FIRST INDIA-DESIGNED VACCINE TO PASS WHO TEST

For the first time, the Rotavac, a vaccine conceived and developed from scratch in India, has been “pre-qualified” by the World Health Organisation. To be “pre-qualified” means that the vaccine can be sold internationally to several countries in Africa and South America.

Developed by: Hyderabad-based Bharat Biotech Limited.

What is it? It has been included in India’s national immunisation programme. The Rotavac vaccine protects against childhood diarrhoea caused by the rotavirus.

ATAL PENSION YOJANA (APY)

The Centre has decided to allow small finance banks and payment banks to offer the Atal Pension Yojana (APY), which is expected to significantly increase the coverage of the scheme. This is also expected to strengthen the existing channels of APY distribution.

APY and its provisions

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The Atal Pension Yojana became operational from 2015 and is available to all the citizens of India in the age group of 18-40 years.

Features:

Under the scheme, a subscriber would receive a minimum guaranteed pension of Rs 1,000 to Rs 5,000 per month, depending upon his contribution, from the age of 60 years. The same pension would be paid to the spouse of the subscriber and on the demise of both the subscriber and the spouse, the accumulated pension wealth is returned to the nominee.

The Central Government would also co-contribute 50% of the total contribution or Rs. 1000 per annum, whichever is lower, to each eligible subscriber account, for a period of 5 years, that is, from 2015 to 2020, to those who joined the NPS before 31st December, 2015 and who are not members of any statutory social security scheme and who are not Income Tax payers.

PULSE POLIO PROGRAMME

Why in news?

Concerned over any entry of polio virus from other countries, the government has launched Pulse Polio programme for 2018. For additional protection, the government has also introduced the injectable Inactivated Polio Vaccine (IPV) into its routine immunization program.

Backgrounder:

In India the last polio case was recorded in 2011. India maintains a sensitive surveillance system for polio. All cases of paralysis with sudden onset in children up to 15 years (which is called Acute Flaccid Paralysis or AFP) are picked up by the polio surveillance network. Each of these cases is followed up and their stool samples tested for poliovirus in World Health Organization (WHO) accredited laboratories. In addition, sewage samples are collected from over 30 sites spread

IPV: IPV is produced from wild-type poliovirus strains that have been inactivated (killed) with formalin. As an injectable vaccine, it can be administered alone or in combination with other vaccines. It provides protection against all types of polio viruses, and also helps save vaccine.

India became the first country globally to introduce fractional doses of IPV in childhood immunisation programme in eight states and Union territories in early 2016.

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across the country for poliovirus detection at regular intervals.

STREE SWABHIMAN INITIATIVE

Initiative by: common services centres (CSCs) under Ministry of Electronics and Information Technology

Aim: To create a sustainable model for providing adolescent girls and women an access to affordable sanitary products by leveraging CSCs.

Details

Under the 'Stree Swabhiman' project, sanitary napkin micro manufacturing units are being set up at CSCs across India, particularly those operated by women entrepreneurs. The initiative is driven by

CSCs:

Common Services Centers (CSCs) are a strategic cornerstone of the Digital India programme. They are the access points for delivery of various electronic services to villages in India, thereby contributing to a digitally and financially inclusive society. CSCs enable the three vision areas of the Digital India programme:

- Digital infrastructure as a core utility to every citizen.
- Governance and services on demand.
- Digital empowerment of citizens.

awareness and personalised outreach by women entrepreneurs who produce and market sanitary napkins themselves.

INDIA AND ITS INTERNATIONAL RELATIONS

REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP (RCEP)

Why in news?

Mounting pressure on New Delhi to give an early consent to the Regional Comprehensive Economic Partnership — a mega regional trade pact being negotiated by sixteen nations — the 10-member ASEAN expressed hope that India would conclude the agreement this year.

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India has, however, refused to quicken the process stressing that it is important to address the sensitivities and aspirations of all participants.

Issues at conflict

India is not comfortable with the ambitious dismantling of import tariffs being pushed for by the ASEAN, especially as it would also mean allowing duty-free access to Chinese goods, which would hurt domestic players.

India has also stressed on the need for other RCEP members to deliver an agreement in the area of services, including on work-visas for movement of professionals. It has been disappointing with no member ready to make meaningful contributions.

RCEP

RCEP is proposed between the ten member states of the Association of Southeast Asian Nations (ASEAN) (Brunei, Burma (Myanmar), Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand, Vietnam) and the six states with which ASEAN has existing FTAs (Australia, China, India, Japan, South Korea and New Zealand).

Negotiations were formally launched in 2012 at the ASEAN Summit in Cambodia. RCEP aims to boost goods trade by eliminating most tariff and non-tariff barriers — a move that is expected to provide the region's consumers greater choice of quality products at affordable rates. It also seeks to liberalise investment norms and do away with services trade restrictions.

ASEAN-INDIA: DELHI DECLARATION

Delhi declaration was adopted at the recently concluded ASEAN-India Commemorative Summit. ASEAN-India Commemorative Summit was held to celebrate the 25th anniversary of the establishment of sectoral dialogue between two sides.

Also, in a first, all the 10 leaders of ASEAN countries were hosted as chief guests for Republic day celebrations.

Highlights:

The Declaration supports a common and a “comprehensive approach to combat terrorism through close cooperation by disrupting and countering

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terrorists, terrorist groups and networks, including by countering cross border movement of terrorists and foreign terrorist fighters and misuse of Internet including social media by terror entities.

- It also urges countries to strengthen cooperation and collaboration in combating other transnational crimes, including people smuggling, trafficking in persons, illicit drug trafficking, cybercrime, and piracy and armed robbery against ships.
- The Delhi Declaration also reaffirmed “the importance of maintaining and promoting peace, stability, maritime safety and security, freedom of navigation and overflight in the region, and other lawful uses of the seas and unimpeded lawful maritime commerce and to promote peaceful resolutions of disputes, in accordance with UNCLOS”.

The motto of ASEAN is “One Vision, One Identity, One Community”.

INTERNATIONAL AFFAIRS

GLOBAL TALENT COMPETITIVENESS INDEX

Released by: INSEAD in partnership with The Adecco Group and Tata communications.

What is it?

It is an annual benchmarking report that measures the ability of countries to compete for talent. The index measures how countries grow, attract and retain talent. The 5th edition of GTCI addresses the theme of Diversity for Competitiveness.

Performance of various nations

- India has moved up to the 81st position, but remains a laggard among the BRICS nations.
- BRICS countries: China is followed by Russia, South Africa and Brazil.
- Switzerland has topped the list. It is followed by Singapore and the US.

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- European countries dominate the top ranks, with 15 out of the top 25 places.

OXFAM REPORT ON WEALTH

Title: 'Reward Work, Not Wealth'

Released by: International rights group Oxfam.

What is the report about? The report reveals how the global economy enables wealthy elite to accumulate vast wealth even as hundreds of millions of people struggle to survive on poverty pay.

Globally, 82% of the wealth generated last year worldwide went to the 1%, while 3.7 billion people that account for the poorest half of population saw no increase in their wealth.

The survey also showed that women workers often find themselves at the bottom of the heap and nine out of 10 billionaires are men.

About India:

The richest 1% in India cornered 73% of the wealth generated in the country last year. Besides, 67 crore Indians comprising the population's poorest half saw their wealth rise by just 1%.

- The wealth of India's richest 1 per cent increased by over Rs. 20.9 lakh crore during 2017, an amount equivalent to total budget of the central government in 2017-18.
- In India, there are only four women billionaires and three of them inherited family wealth.

Doesn't bode well for future

The billionaire boom is not a sign of a thriving economy but a symptom of a failing economic system. Those working hard, growing food for the country, building infrastructure, working in factories are struggling to fund their child's education, buy medicines for family members and manage two meals a day. The growing divide undermines democracy and promotes corruption and cronyism.

Possible solutions

Oxfam makes several recommendations to start fixing the problem of income inequality. On the government's part, it has asked for things like promoting inclusive growth by encouraging labour-intensive sectors that will create more jobs, imposing higher tax on the super-rich, implementing policies to tackle all forms of gender discrimination and sealing the "leaking wealth bucket" by taking stringent measures against tax evasion.

US TALKS TOUGH ON PAK

Why in news?

US President said his country will not give any more aid to Pakistan as it gave safe havens to the terrorists that attack US troops in Afghanistan. He also accused Pakistan gave America nothing but lies and deceit. He said that the US 'foolishly' gave more than 33 billion dollars to Pakistan in aid over the last 15 years.

The stance 'appears' to be radically resetting US administration's Pakistan policy, with implications for the rest of South Asia.

What has US done so far in this regard?

The United States has suspended over 1 billion US dollar security assistance to Pakistan until Islamabad takes decisive action against terror groups, including the Afghan Taliban and the Haqqani Network.

- In addition, the Department of Defence has suspended the entire 900 million dollar of the Coalition Support Fund money to Pakistan for the fiscal year 2017.
- The US has also placed Pakistan on a Special Watch List for severe violations of religious freedom. Pakistan is the only country to be put under the newly-formed list in 2016

A clever ploy?

With the US steadily losing its Afghan war, losing ground to China in the region, and China's increasing interest in politically managing the potential outcomes of the Afghan war, US president decided to end the

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party for Pakistan on January 1, till of course Pakistan agrees to deliver on American concerns regarding China and Afghanistan.

And Islamabad seems to have had the best of both worlds — being China's closest ally, while remaining a non-NATO ally of the U.S.

Response from Islamabad

As an immediate measure, Pakistan has banned the Mumbai terror attacks mastermind Hafiz Saeed-led Jamaat-ud Dawa (JuD) from collecting donations. Any tightening of the noose around the Taliban is likely to be viewed by the Pakistan army as a strategic blunder, the implications of which would outlast the irresolute U.S. commitment in Afghanistan.

The response from Islamabad has so far been verbal, with threats of suspending military and intelligence cooperation with Washington. However, it should be noted that American aid and reimbursements (for expenses incurred by Pakistan in the war on terror) have been declining over the past several years. And hence, the U.S. withholding aid may not be exceptionally damaging for Pakistan.

U.S.'s strong-arm policies' implications for South Asia.

1. Pakistan has been steadily moving towards China from the American camp: this will now be a far quicker shift.
2. As a direct consequence of these moves and counter-moves, there would emerge a far severe geopolitical competition in the region, the sharpest since the end of the Cold War.
3. Southern Asia's regional geopolitics would be reshaped along several disconcerting fault-lines.
4. The emerging China-Pakistan-Russia axis is set to play a dominant role in the regional geopolitical order.
5. The role of Iran — which also has hostile relations with the U.S. even as it maintains a crucial strategic partnership with New Delhi — in this grouping would be interesting to watch.
6. The closer India gets to the U.S., the more each of these countries would display their discomfort towards India.
7. The emerging counter-pole is to be led by the U.S., with India and Japan on board, and the increasingly cautious Western powers taking a rather subdued interest.

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However, given the rise of China and the retreat of the U.S., current American allies are likely to hedge their bets. The one U.S. ally that has immense influence in Pakistan is Saudi Arabia with which India also maintains a close relationship.

Implications for India

Implications of the U.S.-Pakistan rift may not be as straightforward as they might seem. Even though the American rhetoric against Pakistan is viewed highly favourably in India, the freezing of U.S.-Pakistan relations could potentially have negative implications for the country, certainly in the medium to long term.

1. This will mean the end of the indirect influence (through the U.S.) that India has traditionally managed to exert on Pakistan, especially on terror-related issues.
2. The ever-strong China-Pakistan ties, without the balancing effect of the U.S. in the region, could push India further to the wall.
3. American 'absence' would embolden Chinese manoeuvres against India, and more so, China will be a far less pro-India broker than Washington ever was
4. Reluctant India may be pushed to make a choice: either to remain unallied and safeguard its strategic autonomy or walk with the U.S.

Sensible balancing required

While New Delhi's best bet would be to deal with Washington without closing its doors to Moscow or Beijing, such fine balancing would require a great deal of diplomatic acumen, strategic foresight and long-term thinking, because choosing sides while physically located in the middle of a geopolitical whirlwind is no easy task.

Such a crucial choice needs to factor in economic relations, defence partnerships, and most of all geographic realities. New Delhi should also closely consider the real intent behind Washington's ire at Islamabad: it's the Pakistani Taliban and the Haqqani network the Americans are after, not so much India-centric terror groups.

It is also important to note that with long-term interests in Pakistan, the US might soft-peddle its President's angry outbursts. New Delhi should view it as a clash between Pakistani and American geopolitical interests,

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and not get involved itself. To its credit, the response from New Delhi has been guided by ‘cautious optimism’, and should continue to be so.

In conclusion

India needs to carefully consider focusing on infrastructure development, market access, development of regional organisations, and regional conflict resolution mechanisms because unlike both China and the U.S., India is deeply invested in stability in South Asia.

CHINA’S ARCTIC POLICY

China has released its Arctic Policy. The document draws a picture of how China views the economic possibilities the region offers. With this, China has vowed to actively participate in Arctic affairs as a “near-Arctic State” and a major stakeholder in the Arctic.

As per the policy, specifically, China will mainly focus its attention on four aspects:

- First, China will participate in the development of Arctic shipping routes as “the Arctic shipping routes are likely to become important transport routes for international trade” as a result of global warming. China plans to build a “Polar Silk Road” by developing the Arctic shipping routes.
- Second, China aims to participate “in the exploration for and exploitation of oil, gas, mineral and other non-living resources” in the Arctic.
- Third, China will start to utilize fisheries and other living resources and participate in conservation, since “the Arctic has the potential to become a new fishing ground in the future.”
- Fourth, China will support and encourage “its enterprises to cooperate with Arctic States in developing tourism in the region”.

Cause for concern

Although Beijing maintained that China’s Arctic policy is based on the principle of “respect, cooperation, win-win results and sustainability,” some analysts have raised

The land territories in the Arctic cover an area of about 8 million square kilometres, whose sovereignty belongs to Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the US. The Arctic Ocean has an area of over 12 million square kilometres, in which coastal and other countries share maritime rights and interests according to international law.

concerns over China's increasing prominence in the region.

DEMOCRACY INDEX REPORT 2018

Released by: The Economist Intelligence Unit

The index ranks 165 independent states and two territories on the basis of five categories: electoral process and pluralism, civil liberties, the functioning of government, political participation and political culture. The list has been divided into four broad categories — full democracy, flawed democracy, hybrid regime and authoritarian regime.

Findings

The report shows that democracy is in decline across the world. It is the worst performance since 2010-'11 in the aftermath of the global financial crisis

- Norway, Iceland and Sweden are the top three
- Chad, Syria and North Korea are at the bottom.
- India was one of the countries whose score declined the most. It fell ten places in the rankings from 32 to 42
- In the 'media freedom ranking', India ranked 49 out of 167 countries that the index covered.
- Asia recorded the biggest decline compared to other regions of the world.
- Indonesia was the worst-performing nation, falling to 68th position from 48th rank.

Classification:

Only top-19 countries have been classified as 'full democracies', while the hybrid regimes include Pakistan, Bangladesh, Nepal and Bhutan. Those named as 'authoritarian regimes' include China, Myanmar, Russia and Vietnam. North Korea is ranked the lowest, while Syria is a notch better.

Behind India's poor performance

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The report has classified India as a flawed democracy and attributed the dip in India's rankings to lack of freedom of speech and free media. The report notes that the rise of conservative religious ideologies has mainly affected India. The strengthening of right-wing Hindu forces in an otherwise secular country led to a rise of vigilantism and violence against minority communities, particularly Muslims, as well as other dissenting voices.

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CPEC

Why in news?

China has offered to open talks with India to resolve differences on the China-Pakistan Economic Corridor (CPEC), opening the door for removing a major irritant in New Delhi-Beijing ties.

About CPEC:

CPEC is clutch of projects which aim at rapidly expanding and upgrading Pakistan's infrastructure and strengthening the economic ties between the People's Republic of China (China) and Pakistan. It includes building roads, laying railway lines and pipelines to carry oil and gas.

- CPEC eventually aims at linking the city of Gwadar in South Western Pakistan to China's North Western region Xinjiang through a vast network of highways and railways.

India's worry or opportunity?

India has objected to CPEC which passes through Pakistan occupied Kashmir (PoK), as violation of its sovereignty. Chinese political expansion and economic ambitions are two sides of the same coin.

To be firm while responding to one facet, while making use of the opportunities that become available from the other, will largely depend on the institutional agency and strategic imagination India is able to bring to the table.

GENERAL STUDIES-3

INDIAN ECONOMY

INCLUSIVE DEVELOPMENT INDEX

Released by: The World Economic Forum

New metric

This Inclusive Development Index has been developed as a new metric of national economic performance as an alternative to GDP. The index takes into account

1. growth and development
2. inclusion
3. inter-generational equity

Details

The 2018 index, which measures progress of 103 economies, on three individual pillars has been divided into two parts- advanced economies and emerging economies. The index has also classified the countries into five sub-categories in terms of the five-year trend of their overall Inclusive Development Growth score — receding, slowly receding, stable, slowly advancing and advancing.

Performance of countries:

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India is placed at the 62nd place among emerging economies much below China's 26th position and Pakistan's 47th. India was ranked 60th last year amongst the 79 emerging economies.

- Despite its low overall score, India is among the ten emerging economies with 'advancing' trend.
- Performance is mixed among BRICS economies: Russian Federation followed by China, Brazil, India and South Africa.
- The neighbouring countries ranked above India include Sri Lanka, Bangladesh, Pakistan and Nepal.
- Norway remains the world's most inclusive advanced economy followed by Ireland, Luxembourg, Switzerland.
- Lithuania again tops the list of emerging economies. It is followed by Hungary, Azerbaijan.

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What caused this dip?

The study found that decades of prioritising of policies on economic growth (read GDP) over social equity has led to historically high levels of wealth and income inequality and caused governments to miss out on a virtuous circle in which growth is strengthened by being shared more widely and generated without unduly straining the environment or burdening future generations.

AGRICULTURE AND CROPPING PATTERNS

PRADHAN MANTRI KRISHI SINCHAYEE YOJANA (PMKSY)

Why in news?

The Union Water Resources Ministry released central assistance for nine prioritised projects under the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) for Accelerated Irrigation Benefits Programme (AIBP) works.

PMKSY:

PMKSY has been conceived by amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR, RD&GR), Integrated Watershed Management Programme (IWMP) of Department of

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Land Resources (DoLR) and the On Farm Water Management (OFWM) of Department of Agriculture and Cooperation (DAC).

- The scheme will be implemented by Ministries of Agriculture, Water Resources and Rural Development.
- The major objectives of PMKSY are
 - to achieve convergence of investments in irrigation at the field level
 - expand cultivable area under assured irrigation
 - improve on-farm water use efficiency to reduce wastage of water
 - enhance the adoption of precision-irrigation and other water saving technologies (More crop per drop).

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Accelerated Irrigation Benefits Programme:

Launched during 1996- 1997, to give loan assistance to the States to help them complete some of the incomplete major/medium irrigation projects which were at an advanced stage of completion and to create additional irrigation potential in the country. Grant component has been introduced in the programme like any other Central Sector Schemes.

ZERO BUDGET NATURAL FARMING PROJECT

Where? Himachal Pradesh

Aim: To promote organic farming.

Zero Budget Natural Farming

It is a method of farming where the cost of growing and harvesting plants is zero. This means that farmers need not purchase fertilizers and pesticides in order to ensure the healthy growth of crops.

It is, basically, a natural farming technique that uses biological pesticides instead of chemical-based fertilizers. Farmers use earthworms, cow dung, urine, plants, human excreta and such biological fertilizers for crop protection. It reduces farmers' investment. It also protects the soil from degradation.

INDUSTRY, INFRASTRUCTURE AND INVESTMENT

UDAN-2

UDAN ('Ude Desh ka Aam Naagrik') is a first-of-its-kind scheme globally to stimulate regional connectivity through a market-based mechanism. The scheme aims to connect the country's under-served and unserved airports.

Why in news?

The Civil aviation ministry has awarded 325 routes in the second round of UDAN bidding. In the second round, RCS routes have also been given to helicopter operators.

Objective: To make flying affordable for the masses, to promote tourism, increase employment and promote balanced regional growth.

Details

It offers viability gap funding to operators to fly smaller aircraft to such airports with a commitment to price tickets for at least half of the seats at ₹ 2,500 for an hour-long flight.

INDIA IS WORLD'S 3RD LARGEST STEEL PRODUCER

As per the latest data released by World Steel Association, India is the world's third-largest steel producer.

- India remained the world's third-largest steel producer for the third year in a row in 2017.
- India had grabbed the third slot in steel production in 2015 from the US after long been holding the fourth slot.
- In 2017, China and

World Steel Association

Worldsteel is a non-profit organisation with headquarters in Brussels, Belgium. A second office in Beijing, China, opened in April 2006.

Representation: Worldsteel represents over 160 steel producers (including 9 of the world's 10 largest steel companies), national and regional steel industry associations, and steel research institutes. Worldsteel members represent around 85% of world steel production.

Japan have occupied top two positions respectively.

ZOJILA TUNNEL

It is a 14.2-km long tunnel project in Jammu and Kashmir to provide all-weather connectivity between Srinagar, Kargil and Leh, which remains cut-off from the rest of India during winters due to heavy snowfall.

Zojila pass is situated on Srinagar-Kargil-Leh National Highway which remains closed during winters (December to April) due to heavy snowfall and avalanches cutting off Leh-Ladakh region from Kashmir.

Implementation: The project will be implemented by the ministry of road transport and highways (MoRT&H) through the National Highways and Infrastructure Development Corporation Limited (NHIDCL).

Details

- Zojila tunnel will be the longest bi-directional tunnel in Asia.
- The project would enhance the safety of travellers crossing Zojila Pass and reduce the travel time from 3.5 hours to 15 minutes.
- This pass is most strategic for the entire Kargil sector which has seen intrusion and war in the past.

SOLAR CAPACITY REACHES 20 GW

India has achieved 20 GW (giga watt) cumulative solar capacity, achieving the milestone four years ahead of the target for 2022 originally set in the National Solar Mission. The utility-scale cumulative installations now stand at approximately 18.4 GW, with rooftop solar accounting for another 1.6 GW.

Key facts:

For the first time, solar was the top source of new power capacity additions in India during calendar year 2017. The top state for solar

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installations was Telangana, followed by Karnataka, Andhra Pradesh, and Rajasthan.

Challenges ahead: The country has reached the milestone at a time when protectionist measures threaten to slow down activity in the industry. The pace of overall solar installations is expected to be less impressive in 2018 as several protectionist government policies appear poised to increase costs and uncertainty.

Also, experts say Centre's revised solar installation target of 100 GW by 2022 has recently been clashing with Make in India Initiative to promote domestic manufacturing.

- The recently announced 70% preliminary safeguard duty recommendation,
- the ongoing anti-dumping case, and
- a 7.85% port duty on imported modules are together creating an atmosphere of regulatory uncertainty that is taking a toll on the industry and slowing down installation activity.

National Solar Mission:

National Solar Mission, launched in 2010, aims to establish India as a global leader in solar energy by creating the policy conditions for its diffusion across the country as quickly as possible. The mission is one of the several initiatives that are part of the National Action Plan on Climate Change. Initial target was to achieve 20GW by 2022 which was later increased to 100 GW in the 2015 Union budget of India.

The objective of the National Solar Mission is to establish India as a global leader in solar energy, by creating the policy conditions for its diffusion across the country as quickly as possible.

THAR LINK EXPRESS

Thar Link Express, the solitary rail link between India and Pakistan has received an extension for three more years from Islamabad.

Details

The Thar Link Express connects Khokhrapar in Pakistan and Munabao in Rajasthan. The agreement to run the Thar Link Express was signed in 2006 and is one of the cheapest means of transport between the two rival countries.

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- The rail link facilitates people-to-people contacts which Pakistan believes are essential for improving relations between both the countries.

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SCIENCE AND TECHNOLOGY

GLOBAL-SCALE OBSERVATIONS OF THE LIMB AND DISK (GOLD)

NASA's Global-Scale Observations of the Limb and Disk (GOLD) instrument was recently launched atop an Ariane 5 rocket.

What is GOLD?

GOLD is essentially an imaging spectrograph. Spectrographs are scientific instruments that have been designed to break light down into its constituent wavelengths and to measure their intensity. By examining the data from such an instrument, scientists can determine a wide variety of characteristics, including a target's composition and temperature. GOLD will be tasked with collecting far ultraviolet light data on Earth's atmosphere.

Mission: To shed light on how the relatively less understood uppermost layers of Earth's atmosphere can be affected by powerful space and Earth-based weather events.

Particularly it will focus on how the charged particles of the ionosphere mingle with the diffused neutral gases that make up the thermosphere.

SCIENTISTS CLONE MONKEYS

Shanghai scientists have created two genetically identical long-tailed macaques. The monkeys are named Hua Hua and Zhong Zhong, a version of the Chinese adjective Zhonghua which means the "Chinese nation" or "people." This could be an important tool in medical research for understanding disease in a species genetically more comparable to humans.

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The scientists have created cloned primates using the same complicated cloning technique that made Dolly the sheep in 1996. The technique is called somatic cell transfer, or SCNT.

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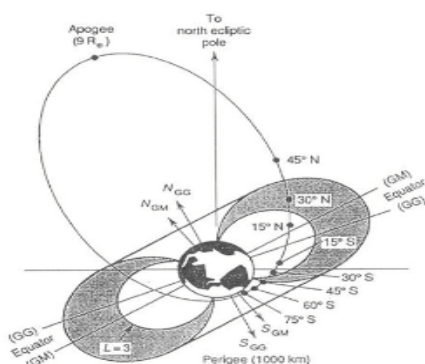
Not the first primates to be cloned

Overall, these two are not the first primates to be cloned. Scientists in 1999 created Tetra, a rhesus monkey, but used what researchers consider a simpler cloning method that produces a more limited number of offspring. In Tetra's case, scientists split the embryos, much like what happens naturally when identical twins develop.

About somatic cell transfer, or SCNT:

Under this technique, scientists reconstruct an unfertilized egg. The researchers remove the egg's nucleus — the part of the cell that contains most of its genetic information— and replace it with the nucleus from another cell. It's then stimulated to develop into an embryo, which is transplanted into a surrogate mother. That same cell cluster can make more genetically matched animals.

IMAGER FOR MAGNETOPAUSE-TO-AURORA GLOBAL EXPLORATION (IMAGE)



The **Imager for Magnetopause-to-Aurora Global Exploration (IMAGE)** mission is the first NASA Mid-size Explorer (MIDEX) mission. The overall science question that IMAGE addresses is: **How does the magnetosphere respond globally to the changing conditions in the solar wind?**

The satellite has a highly elliptical polar orbit with initial apogee at a geocentric radial distance of 8.22 R_E on the day side near the noon meridian and an initial perigee altitude of 1000 km.

Why in news?

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A long lost NASA satellite has been found alive. NASA has confirmed it stumbled across radio transmissions from Imager for Magnetopause-to-Aurora Global Exploration (IMAGE) science satellite, which lost contact with mission control over 12 years ago.

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IMAGE mission:

IMAGE was the first satellite mission dedicated to imaging the Earth's magnetosphere, the region of space controlled by the Earth's magnetic field and containing extremely tenuous plasmas of both solar and terrestrial origin.

Invisible to standard astronomical observing techniques, these populations of ions and electrons have traditionally been studied by means of localized measurements with charged particle detectors, magnetometers, and electric field instruments. With IMAGE, space scientists were able to observe, in a way never before possible, the large-scale dynamics of the magnetosphere and the interactions among its constituent plasma populations.

IMAGE used neutral atom, ultraviolet, and radio imaging techniques to:

- Determine the directly driven response of the magnetosphere to solar wind changes.
- Discover how and where magnetospheric plasmas are energized, transported, and subsequently lost during substorms and magnetic storms.

LIFI TECHNOLOGY

Why in news?

In a recent pilot project, the ministry of electronics and IT successfully tested a technology called LiFi (Light Fidelity), which uses LED bulbs and light spectrum to transmit data at speeds as high as 10 GB per second over a 1-km radius. Indications are strong that it will be soon launched in India on a commercial basis.

Significance

The idea is to connect difficult terrains of the country that can't be reached by fiber but have access to electricity. The technology can be used to connect hospitals where regular internet signals interfere with certain equipment as well as to provide underwater connectivity.

About the technology

Li-Fi, or light fidelity, invented by German physicist and professor Harald Haas, is a wireless technology that makes use of visible light in place of radio waves to transmit data at terabits per second speeds—more than 100 times the speed of Wi-Fi.

- Li-Fi is a Visible Light Communications (VLC) system.
- This means that it accommodates a photo-detector to receive light signals and a signal processing element to convert the data into 'stream-able' content.
- Unlike Wi-Fi, which uses radio waves, Li-Fi runs on visible light.
- Here, data is fed into an LED light bulb (with signal processing technology), it then sends data (embedded in its beam) at rapid speeds to the photo-detector (photodiode).
- The tiny changes in the rapid dimming of LED bulbs is then converted by the 'receiver' into electrical signal.
- The signal is then converted back into a binary data stream that the user would recognise as web, video and audio applications that run on internet enables devices.

An LED lightbulb is a semi-conductor light source meaning that the constant current of electricity supplied to an LED lightbulb can be dipped and dimmed, up and down at extremely high speeds, without being visible to the human eye.

Advantages:

- Li-Fi could make a huge impact on the internet of things too, with data transferred at much higher levels with even more devices able to connect to one another.
- Li-Fi offers great promise to overcome the existing limitations of Wi-Fi by providing for data-heavy communication in short ranges.
- Due to its shorter range, Li-Fi is more secure than Wi-Fi.

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- Since it does not pollute, it can be called a green technology for device-to-device communication in the Internet of Things (IoT).
- Li-Fi systems consume less power.

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Limitations of Li-Fi:

- As visual light can't pass through opaque objects and needs line of sight for communication, its range will remain very restricted to start with. In order to enjoy full connectivity, more capable LED bulbs will need to be placed at various places.
- Li-Fi requires the lightbulb is on at all times to provide connectivity, meaning that the lights will need to be on during the day.
- Li-Fi is likely to face interference from external light sources, such as sunlight and bulbs, and obstructions in the path of transmission, and hence may cause interruptions in communication.
- Also, initially, there will be high installation costs of visual light communication systems as an add-on to lighting systems.

KARANI

It is the third of the six Scorpene-class submarine that has been launched.

Details

- These are being built by Mazagon Dock Shipbuilders Limited (MDL) under the Project 75 programme of Indian navy.

The Scorpene submarines are a primary modernization requirement of the Indian Navy, which is currently faced with an ageing submarine fleet. MDL has the contract for the construction and transfer of technology for six Scorpene submarines. The submarines are being built in collaboration with French shipbuilding major Naval Group (formerly DCNS).

The first one, INS Kalvari, a diesel-electric attack submarine was commissioned in 2017. The second one, INS Khandari, was launched earlier this year.

- It is designed to operate in all theatres, including the tropics.

It has superior stealth features such as advanced acoustic silencing techniques, low radiated noise levels and hydrodynamically optimized shape. These stealth features give it an invulnerability, unmatched by most submarine.

MIHIR

Why in news?

India recently commissioned High Performance Computer (HPC) system – named ‘Mihir’ (meaning Sun) – at the National Centre for Weather Forecasting at Noida, Uttar Pradesh.

What is Mihir?

The new system will be India’s largest HPC facility in terms of peak capacity and performance and will propel India’s ranking from the 368th position to the 30th in the list of top 500 HPC facilities in the world. The country will now also be ranked 4th – after Japan, UK and USA – for dedicated HPC resources for weather/climate community.

Significance

Weather forecasts at block level over India which can predict extreme weather events.

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- High resolution seasonal/extended range forecasts of active/break spells of Monsoon.
- Ocean state forecasts including marine water quality forecasts at very high resolution.
- Air quality forecasts for various cities.
- Climate projections at very high resolution.

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EXPLORER-1

United States is celebrating the 60th anniversary of the launch of the first spacecraft sent into space- Explorer-1

Details

Explorer 1, a two-metre long satellite carrying a scientific instrument, was launched from Cape Canaveral in Florida in 1958.

Explorer 1 and missions that came after it were responsible for the first space-based discovery – radiation belts around the Earth called the Van Allen Belts.

Not the first

Overall, Explorer 1 was not the first object launched into space, as almost a year earlier the USSR successfully put a small metal satellite, Sputnik 1, into orbit. A month later, they also successfully launched a second, Sputnik 2.

ENVIRONMENT

A TURTLE RECOVERY PLAN

Every year, thousands of sea turtles are accidentally captured, injured or killed by mechanised boats, trawl nets and gill nets operated and used by commercial fishermen. This heavy toll, of injuries and deaths, occurs when turtles begin migrating to their nesting grounds on beaches and in fishing areas that are their feeding grounds.

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Five species found in India

Olive Ridley, Green, Hawksbill, Loggerhead and the Leatherback turtles. Except the Loggerhead, the remaining four species nest along the Indian coast.

Protection and threats

In India, though sea turtles are protected under the Indian Wildlife Protection Act of 1972, under the Schedule I Part II, they face grave threats. Some of the major threats include

- unplanned beach development
- By-catch mortality (in trawl nets and gill nets): By-catch is the name given to ocean animals that are unintentionally caught by fishing gear.
- weak enforcement of fisheries and Protected Area regulations
- To a limited extent, killing of turtles for meat and the poaching of eggs.

Breeding Seasons

The turtle breeding season is usually between November and December. In Tamil Nadu, the Olive Ridley nests between December and April along the Chennai-Kancheepuram coastline. The eastern coastline is the feeding area for Olive Ridley, juvenile Hawksbills and Green turtles.

The coastal state of Odisha on the eastern coast of India experiences one of the world's largest mass nestings or arribada of the Olive Ridley turtle during the months of October to April. Three of the world's major mass nesting beaches for this species are located in Odisha, making this one of the most critical conservation areas for this species globally.

Role of Turtles

Sea turtles occupy a unique position within the food web. They consume an assortment of prey, including puffer fish, crustaceans, sponges, tunicates, sea grasses, and algae. The unusual life cycle of the animal plays a vital role in transportation of nutrients from the highly productive marine habitats such as sea-grass beds to energy-poor habitats like sandy beaches. This helps reverse the usual flow of nutrients from land to sea.

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- Sea turtles, especially the leatherback, keep jellyfish under control, thereby helping to maintain healthy fish stocks in the oceans.
- The Green turtle feeds on sea grass beds and by cropping the grass provide a nursery for numerous species of fish, shellfish and crustaceans.
- The Hawksbill feeds on sponges in the reef ecosystem and opens up crevices for other marine life to live in.
- Unhatched eggs, eggshells and fluids help foster decomposers and create much needed fertilizer in sandy beaches.

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As turtle populations in general decline, so does their ability to play a vital role in maintaining the health of the world's oceans.

Integrated conservation measures are needed to rebuild their populations to healthy levels so that they can carry out the full extent of their key roles in ocean ecosystems.

Workable solutions

1. Enforcement of Bans on mechanized trawl boats
2. Turtle excluder devices
3. Seasonal Closures
4. Vessel monitoring system-- a simple system of monitoring by the Coast Guard.
5. By-catch reduction programmes

ENVIRONMENTAL PERFORMANCE INDEX

Why in news? The EPI green rankings for 180 countries based on 24 indicators was recently released on the sidelines of the World Economic Forum meet in Davos.

Prepared by: The biennial index is prepared by Yale and Columbia Universities along with the World Economic Forum (WEF).

Performance of countries:

India is among the bottom five countries on the Index. Overall, India (at 177) and Bangladesh (179) come in near the bottom of the rankings, with

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Burundi, Democratic Republic of the Congo and Nepal rounding out the bottom five.

- India's overall low ranking—177 among 180 countries—was linked to poor performance in the environment health policy and deaths due to air pollution categories.
- Switzerland leads the world in sustainability, followed by France, Denmark, Malta and Sweden.

Concerns pointed out:

The report found that, globally, air quality is the leading environmental threat to public health. In 2016, a report estimated that diseases related to airborne pollutants contributed to two-thirds of all life-years lost to environmentally related deaths. Pollution is particularly severe in places such as India and China, where greater levels of economic development contribute to higher pollution levels.

India's scenario: India's low scores are influenced by poor performance in the environmental health policy objective. Deaths attributed to PM2.5 have risen over the past decade. Despite government action, pollution from solid fuels, coal and crop residue burning, and emissions from motor vehicles continue to severely degrade the air quality.

Government's recent initiatives for environmental protection

- In December 2015, it notified new, strict environmental standards for coal-fired power plants, to be effective from January 2018.
- An aggressive target was set to implement Bharat Stage VI emission norms from April 1, 2020, skipping Stage V norms.
- In 2017, the Ministry of Power and Renewable Energy said that a road map was being prepared so that only electric vehicles would be produced and sold in the country by 2030.
- In order to accelerate the transition to renewable sources of power, the government, under the National Solar Mission, revised the target for setting up solar capacity from 20 GW to 100 GW by 2021-22.
- The Centre has also assured the Supreme Court of India that the highly polluted Ganga will be cleaned up by 2018.

A big gap between policy goals and action

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While we seem to be moving in the right direction on solar targets, we are seriously lagging behind in a number of other goals. There are many examples to support this argument.

- The government has gone back on its promise of implementing strict power plant emission norms by December 2017.
- The automobile industry has categorically stated that based on current estimates, full conversion to electric vehicles is realistically possible only by 2047.
- After setting electronics manufacturers a reasonable annual electronic waste collection target of 30% of the products sold in the market, the figure has now been relaxed to 10%.
- And late last year, the Comptroller and Auditor General, in a report, pulled up the government for not developing an action plan and for its poor utilisation of allocated funds in the clean-up of the Ganga.

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Environmental degradation costs India \$80 billion a year: World Bank

India's steady economic growth over the last decade has improved the country's average income and has brought out millions above the poverty threshold. This remarkable economic growth has, however, been clouded by a sharp degradation of environment causing scarcity of natural resources.

Considering the size and diversity of India's economy, environmental risks are wide ranging and are both driven by prosperity and future poverty.

- Poverty remains both a cause and consequence of resource degradation: agricultural yields are lower on degraded lands, forests and grasslands are depleted as livelihood resources declined.
- Environmental degradation of air, soil and water, especially fresh water reserves' depletion in India coupled with the impending resource scarcity are exacerbated by the climate change issues.
- In a recent survey of 178 countries whose environments were studied by the International Labour Organization, India ranked 155th overall and almost the last in air pollution.
- Also according to another WHO survey across G-20 economies, 13 of the 20 most polluted cities were in India.

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- The report finds the air pollution, the biggest culprit. According to this report the higher costs of air pollution are primarily driven by an elevated exposure of the young and productive urban population to particulate matter pollution that results in a substantial cardiopulmonary and chronic obstructive pulmonary disease.
- A recent study by the World Bank and the Institute for Health Metrics and Evaluation, University of Washington, Seattle, U.S., showed air pollution to be the cause of an estimated 1.4 million premature deaths in India, which translated into a welfare loss equivalent around 8% of India's GDP in 2013. In addition, the cost of lost labour productivity was 0.84% of its GDP.

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In conclusion

As the world community pursues new sustainable development goals, policymakers need to know who is leading and who is lagging on energy and environmental challenges. The 2018 EPI confirms that success with regard to sustainable development requires both economic progress that generates the resources to invest in environmental infrastructure and careful management of industrialization and urbanisation that can lead to pollution that threatens both public health and ecosystems.

FLOATING ISLAND

A floating island of 2,500 sq.ft with about 3,500 wetland plants will be introduced on the Nekkampur Lake in Hyderabad on the eve of World Wetland Day on February 2nd.

- It will be introduced by Dhruvansh, a voluntary organisation working for protection of water bodies.
- The 'island platform' has been designed using styrofoam, bamboo, gunny bags, coir and so on and could bear the weight of four persons.

NILGIRI MARTEN

Why in news?

24th Jan to 1st Feb

A recent study has found that Pampadum Shola National Park located on the southern portion of Western Ghats is a safe haven of rare and most elusive Nilgiri Marten.

Nilgiri Marten:

Endemic to the Western Ghats, Nilgiri Marten looks like a civet or a mongoose and it most prefers higher altitudes.

- The species is listed as Vulnerable in the IUCN Red List of Threatened Species and Schedule II, Part 2 of the Indian Wildlife (Protection) Act 1972.

Pampadum shola national park:

Coming under Munnar Wildlife Division, Pampadum Shola enjoys proximity of Kurunjimala Wildlife Sanctuary and Palani hills of Tamil Nadu. It is the smallest national park in Kerala state.

SECURITY CHALLENGES

GLOBAL CENTRE FOR CYBERSECURITY

Why in news?

In a bid to safeguard the world from hackers and growing data breaches — especially from nation-states — the World Economic Forum (WEF) announced a new Global Centre for Cybersecurity.

Global Centre for Cybersecurity:

The Global Centre for Cybersecurity will help build a safe and secure global cyberspace. The centre will be based in Geneva, Switzerland, and will function as an autonomous organization under the auspices of the World Economic Forum.

- The aim of the centre is to establish the first global platform for governments, businesses, experts and law enforcement agencies to collaborate on cybersecurity challenges, through its established multistakeholder approach.
- Consolidating existing cybersecurity initiatives of the World Economic Forum.

24th Jan to 1st Feb

- Establishing an independent library of cyber best practices.
- Helping partners to enhance knowledge on cybersecurity.
- Working towards an appropriate and agile regulatory framework on cybersecurity.
- Serving as a laboratory and early-warning think tank for future cybersecurity scenarios.

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In conclusion

As a truly borderless problem, cyber-attacks are surpassing the capacities and institutions that are currently dealing with this threat in an isolated manner. Only through collaboration, information exchange and common standards can the global community successfully counter organized digital crime.

CYBERCRIME COORDINATION CENTRE

Why in news?

The Centre has proposed to set up Indian Cyber Crime Coordination Centre (I4C) in Delhi. It has asked States to establish a similar mechanism in every district. The funds were given under the Cyber Crime Prevention against Women and Children Scheme.

I4C

It is an apex coordination centre to deal with cyber crimes such as financial frauds, circulation of communal and pornographic contents. The Centre will be set up under the newly created Cyber and Information Security (CIS) division of the MHA.

- The I4C will assist in centralising cyber security investigations, prioritise the development of response tools and bring together private companies to contain the menace.
- It would coordinate with state governments and union territories, and closely monitor the cyber space and social media with due emphasis on vernacular content.

24th Jan to 1st Feb

- The centre would also block those websites which flout India's laws and circulate child porn, and communally and racially sensitive content.

Backgrounder:

Cyber crime cases pose technical, legal and administrative challenges in investigation which require strengthening of the institutional mechanism and coordination. Phishing, scanning or probing, website intrusions and defacements, virus or malicious code and denial of service attacks are some types of cyber crimes.

National Crime Record Bureau (NCRB) that there is a rise of 69% cases during 2013 to 2014 and 20% increase during 2014 to 2015.

VINBAX

It is a military exercise between India and Vietnam.

Significance: VINBAX-2018 was Table Top Exercise to carry out training for Peace Keeping Operations under United Nations (UN) mandate. It is the first military exercise between the two countries. The exercise is being held in Jabalpur in Madhya Pradesh.

Growing cooperation

Defence ties between India and Vietnam have been on an upswing with the primary focus being cooperation in the maritime domain. India and Vietnam had signed a protocol on defence cooperation in 1994. Thereafter elevated to strategic level in 2007, in 2016 it was elevated to a comprehensive strategic partnership.