GENERAL STUDIES-2

POLITY

DISQUALIFICATION IN RAJYA SABHA

Why in news?

Early December, the Chairman of Rajya Sabha disqualified two Members of Parliament (MPs) from the House under the Tenth Schedule of the Constitution (better known as the anti-defection law) for having defected from their party. These members were elected on a Janata Dal (United) ticket.

The orders of the Chairman have established a benchmark, both in terms of speedy disposal as well as the quality of the decisions.

Objective of Anti-defection law:

The objective of the landmark anti-defection law of 1985 was to enhance the credibility of the country's polity by addressing rampant party-hopping by elected representatives for personal and political considerations.

Aaya Ram Gaya Ram was a phrase that became popular in Indian politics after a Haryana MLA changed his party thrice within the same day in 1967. The anti-defection law sought to prevent such political defections.

What is the anti-defection law?

The Tenth Schedule was inserted in the Constitution in 1985 by the 52nd Amendment Act. It lays down the process by which legislators may be disqualified on grounds of defection by the Presiding Officer of a legislature based on a petition by any other member of the House.

- A legislator is deemed to have defected if he either voluntarily gives up the membership of his party or disobeys the directives of the party leadership (whip) on a vote. This implies that a legislator defying

(abstaining or voting against) the party whip on any issue can lose his membership of the House.
- As a pre-condition for his disqualification, his abstention from voting should not be condoned by his party or the authorised person within 15 days of such incident.
- The decision on question as to disqualification on ground of defection is referred to the Chairman or the Speaker of such House, and his decision is final.
- The law applies to both Parliament and state assemblies.

Exceptions under the law:

Legislators may change their party without the risk of disqualification in certain circumstances.

The law allows a party to merge with or into another party provided that at least two-thirds of its legislators are in favour of the merger. In such a scenario, neither the members who decide to merge, nor the ones who stay with the original party will face disqualification.

SC's reinterpretation

The Supreme Court has interpreted different provisions of the law.

- The law provides for a member to be disqualified if he/she 'voluntarily gives up his membership'. However, the Supreme Court has interpreted that in the absence of a formal resignation by the member, the giving up of membership can be inferred by his conduct.
- In other judgments, members who have publicly expressed opposition to their party or support for another party were deemed to have resigned.

In the case of the two JD(U) MPs who were disqualified from Rajya Sabha on December 4th, they were deemed to have 'voluntarily given up their membership' by engaging in anti-party activities which included criticizing the party on public forums on multiple occasions, and attending rallies organised by opposition parties in Bihar.

Judicial review applicable

The law initially stated that the decision of the Presiding Officer is not subject to judicial review. This condition was struck down by the Supreme Court in 1992, thereby allowing appeals against the Presiding Officer's decision in the High Court and Supreme Court. However, it held that there may not be any judicial intervention until the Presiding Officer gives his order.

The Chairman is required either to proceed to determine the question himself or refer it to the committee of privileges for a preliminary inquiry. But reference to the committee is contingent upon the Chairman satisfying himself that it is necessary or expedient to do so; it is not mandatory.

As a matter of fact, in several cases in the past, the Speaker of the Lok Sabha and the Chairman of the Rajya Sabha, whenever "the circumstances of the case" so warranted, have "determined the question" themselves, without referring it to the committee.

No time limit

The law does not specify a time-period for the Presiding Officer to decide on a disqualification plea. Given that courts can intervene only after the Presiding Officer has decided on the matter, the petitioner seeking disqualification has no option but to wait for this decision to be made.

- ➤ There have been several cases where the Courts have expressed concern about the unnecessary delay in deciding such petitions. In some cases this delay in decision making has resulted in members, who have defected from their parties, continuing to be members of the House.
- ➤ There have also been instances where opposition members have been appointed ministers in the government while still retaining the membership of their original parties in the legislature.

The Vice President, in his recent order disqualifying two JD(U) members stated that all such petitions should be decided by the Presiding Officers within a period of around three months.

Does the anti-defection law affect the ability of legislators to make decisions?

The anti-defection law seeks to provide a stable government by ensuring the legislators do not switch sides. However, this law also restricts a legislator from voting in line with his conscience, judgement and interests of his electorate.

Political parties issue a direction to MPs on how to vote on most issues, irrespective of the nature of the issue. Several experts have suggested that the law should be valid only for those votes that determine the stability of the government (passage of the annual budget or no-confidence motions).

The significance of recent decision of Vice President

Vice President's orders assume significance in the context of instances where members have switched sides and become ministers in the governments, which are formed by parties against whom they contested and won.

The chairman of Rajya sabha(Vice President) declared that those two defected had ceased to be members of the Rajya Sabha with immediate effect on account of having incurred disqualification under Tenth Schedule to the Constitution.

➢ The orders of the Chairman have established a benchmark, both in terms of speedy disposal (about three months) as well as the quality of the decisions. Since the anti-defection law came into place, there have been a large number of cases where proceedings have dragged on for years.
➢ While delivering the order, Chairman made it clear that while dissent is a political right, it should be articulated appropriately without striking at the roots of the functioning of the party-based democratic system.

In conclusion

The defection cases should not be kept pending and dragged on by the Presiding Officers, with a view to save the membership of the persons, who have otherwise incurred disqualification or even to save the Government, which enjoys majority only because of such type of persons.

All such petitions should be decided by the Presiding Officers within a period of around three months by giving an opportunity to the concerned Members (Seven days of time as per the Rules of the Members of Rajya Sabha). If the practice is left uncurbed, it is likely to undermine the very foundations of our democracy and the principles which sustain it.

INDIA'S FIRST SOCIAL AUDIT LAW

Who? Meghalaya

'The Meghalaya Community Participation and Public Services Social Audit Act, 2017' The legislation provides a legal framework for allowing citizens' participation in the planning of development, selection of beneficiaries, concurrent monitoring of programmes, redress of grievances, and audit of works, services, and programmes on an annual basis.

• A social audit facilitator will be appointed to conduct the audit directly with the people.
• He will present findings to the Gram Sabha, who will add inputs and the result will finally go to the auditors.

Significance

1. It will make it easier to correct course as the scheme is rolling along; the audit is not after all the money has been spent.
2. It gives people a direct say in how money will be spent and fills an information gap for officers as they are directly in touch with the ground.
3. Social audits have been civil society initiatives rather than government-mandated. They are now part of the system.

GOVERNANCE ISSUES AND POLICIES

BLOCK CHAIN IN ADMINISTRATION

Where?

The West Bengal government is planning to introduce the blockchain technology to protect its documents from cyber attacks. The state government's proposed Cyber Security Centre of Excellence would be entrusted to execute the new 'blockchain' mechanism at various departments.

What propelled such a thought?

Recently, computers at some offices of the West Bengal State Electricity Distribution Company Limited were crippled by 'WannaCry' virus, a global ransomware. Ransomware is a type of malicious software designed to block access to a computer system until a sum of money is paid.

Blockchain

Blockchain is an online ledger of digitally recorded transactions which is encrypted in the form of blocks, each of which is connected by a network of computers.

How it works?

Blockchain enables two entities that do not know each other to agree that something is true without the need of a third party. As opposed to writing entries into a single sheet of paper, a blockchain is a distributed database that takes a number of inputs and places them into a block. Each block is then 'chained' to the next block using a cryptographic signature. This allows blockchains to be used as a ledger which is accessible by anyone with permission to do so.

Benefits of blockchain technology:

A blockchain is anonymous, protecting the identities of the users. This makes blockchain a more secure way to carry out transactions. The algorithm used in blockchain reduces the dependence on people to verify the transactions.

IIM BILL

Parliament has unanimously passed the IIM Bill, 2017 that grants the Indian Institutes of Management the power to grant degrees instead of post-graduate diplomas.

Key features of the Bill:

- The boards of the institutes are proposed to be vested with full autonomy including the power to appoint chairperson as well as the director. Chairperson of the board will be appointed by the board for a period of four years.
- Power to review the performance of each IIM is also vested with the board.
- Board to be the principal executive body of each institute.
- Director of each IIM will be appointed by the board for a period of five years via a search-cum-selection panel. Once the bill becomes an act, the board is not required to seek the human resource development ministry's approval for this.
- The Board will have the power to remove a director.
- The IIMs' accounts will be audited by the Comptroller and Auditor General of India.
- There will be an IIM Coordination Forum to be notified by the central government. It shall function as an advisory body and will be headed by an eminent person.
- The bill says the central government may frame rules to give additional powers and duties to the IIM Boards and, it will decide the terms and condition of service of directors although the appointment will be made by the board. It will notify the IIM coordination forum to be headed by an eminent person.
- All rules and regulations framed either by the central government or the IIM Boards will need to be tabled in parliament

REGULATING ADS ON PRE-NATAL SEX: BALL IN GOVT.'S COURT

The Supreme Court has now washed its hands of the matter of regulating ads and content relating to sex-determination tests. The task is now left to the government to take care of in consultation with the search engines. The court cited lack of expertise as a reason for this.

Backgrounder:

A PIL was filed seeking the search engines to abide by local law, which bans such tests. The law aims to arrest the falling sex ratio in the country. The government had then set up a nodal body to act as the interface with the search engines on such complaints. The court has many a time issued stern warnings to the engines that they should either follow local law or shut shop.

PCPNDT Act:

The Pre-conception & Pre-natal Diagnostics Techniques (PC & PNDT) Act, 1994 was enacted in response to the decline in Sex ratio in India, which deteriorated from 972 in 1901 to 927 in 1991. The main purpose of enacting the act is to ban the use of sex selection techniques before or after conception and prevent the misuse of prenatal diagnostic technique for sex selective abortion.

- Offences under this act include
  - conducting or helping in the conduct of prenatal diagnostic technique in the unregistered units,
  - conducting PND test for any purpose other than the one mentioned in the act,
  - sale, distribution, supply, renting etc. of any ultra sound machine or any other equipment capable of detecting sex of the foetus.
- The act was amended in 2003 to improve the regulation of the technology used in sex selection. The Act was amended to bring the technique of pre conception sex selection and ultrasound technique within the ambit of the act.
- In 1988, the State of Maharashtra became the first in the country to ban pre-natal sex determination through enacting the Maharashtra Regulation of Pre-natal Diagnostic Techniques Act.

MEDICAL COUNCIL OF INDIA

Why in news?

The Union Cabinet has cleared the National Medical Commission Bill, which does away with the Medical Council of India (MCI) and replaces it with a regulator that will do away with "heavy handed regulatory control" over medical institutions and will also bring in a national licentiate examination.

Key features of the Bill:

1. The bill provides for the constitution of four autonomous boards entrusted with conducting undergraduate and postgraduate education,

assessment and accreditation of medical institutions and registration of practitioners under the National Medical Commission.

2. The commission will have government nominated chairman and members, and the board members will be selected by a search committee under the Cabinet Secretary. There will five elected and 12 ex-officio members in the commission.

3. The government, under the National Medical Commission (NMC), can dictate guidelines for fees up to 40% of seats in private medical colleges. This is aimed at giving students relief from the exorbitant fees charged by these colleges and is a standout feature of the bill.

4. The bill also has a provision for a common entrance exam and licentiate (exit) exam that medical graduates have to pass before practising or pursuing PG courses. For MBBS, students have to clear NEET, and before they step into practice, they must pass the exit exam.

5. Recognised medical institutions don't need the regulator's permission to add more seats or start PG course. This mechanism to reduce the discretionary powers of the regulator

6. Earlier, medical colleges required the MCI's approval for establishment, recognition, renewal of the yearly permission or recognition of degrees, and even increase the number of students they admitted. Under the new bill, the powers of the regulator are reduced to establishment and recognition. This means less red tape, but also less scrutiny of medical

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The Medical Council of India

The Indian Medical Council Act, 1956, had following objectives

➢ Maintenance of standards in medical education through curriculum guidelines, inspections and permissions to start colleges, courses or increasing number of seats.
➢ Recognition of medical qualifications.
➢ Registration of doctors and maintenance of the All India Medical Register.
➢ Regulation of the medical profession by prescribing a code of conduct and taking action against erring doctors

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colleges.

ANTIBIOTIC PRESCRIPTIONS

Why in news?

With growing antibiotic resistance, it has become difficult to treat many bacterial infections. Owing to this, the Indian Medical Association (IMA) has advised doctors to follow the guidelines strictly while prescribing antibiotics. IMA has advised its members to mandatorily restrict the usage of antibiotics for

treatment of proven bacterial infections. It has also come out with a policy on anti-microbial resistance.

Previous efforts and apathy

Despite the Indian Council of Medical Research (ICMR) setting up the National Anti-Microbial Resistance Research and Surveillance Network (AMRRSN) to enable compilation of data of such resistance at different levels of healthcare and publishing of treatment guidelines for anti-microbial use in common syndromes, the problem of multi-drug resistance due to widespread and indiscriminate use of antimicrobial and antibiotic drugs continues unabated in the country.

What is antibiotic resistance?

Antibiotics are medicine used to treat infections caused by bacteria. Antibiotic Resistance refers to resistance developed by bacteria against antibiotics or the ability of bacteria to mutate or change so as to resist the effects of antibiotics. The more we use them, and the more we abuse them, the less effective they become.

Antibiotics are unquestionably useful against bacterial infections. However, indiscriminate use has resulted in development of resistance in patients with bacterial infections thereby leading to long lasting illnesses. It is driven by overusing antibiotics and prescribing them inappropriately.

TOBACCO PACK WARNINGS

Why in news?

Karnataka High Court has declared as unconstitutional the Cigarette and other Tobacco Products (Packaging and Labelling) Amendment Rules, 2014, which had enhanced to 85% the area of pictorial warning on the principal area of packages of cigarette and other tobacco products.

Reasons cited by the court

- ➢ The Ministry of Health and Family Welfare unilaterally framed the Rules without concurrence of the other departments concerned. This was a violation of Conduct of Business of Government of India and the Transaction of Business (ToB) rules.
- ➢ Ministry of Commerce wanted to restrict the pictorial warnings to 40% or 50% . And the Labour Ministry too had opposed pictorial warning for the reason that it would harm the beedi industry, on which several poor families are depending upon for their livelihood.

- ➢ Also, the rules were notified even before the Parliamentary Committee on sub-ordinate legislations was examining them.
- ➢ The rules are also contrary to Article 19(1)(g) [right to practise any profession, or to carry on any occupation, trade or business] as they are "unreasonable" restrictions imposed "without application of mind or any basis."

WELFARE SCHEMES AND DEVELOPMENTAL GROUPS

SAKHI SCHEME

Why in news?

A National Workshop on Role of Sakhi One Stop Centres in Strengthening Multi Sectoral Response to Violence was held in New Delhi. Organized by the Ministry of Women and Child Development, the one Stop Centre Functionaries and nodal officials from State Department of Women and Child Development participated in the workshop.

What is sakhi?

The scheme being implemented since 2015, aims to facilitate access to an integrated range of services including medical aid, police assistance, legal aid/case management, psychosocial counselling, and temporary support services to women affected by violence.

- ➢ It has been envisaged that One Stop Centres (OSC) would be set up across the country in a phased manner.

NATIONAL AYUSH MISSION (NAM)

Why in news?

The Union Cabinet has approved the continuation of Centrally Sponsored Scheme of National Ayush Mission (NAM) till 2020.

What is National AYUSH mission?

Launched in 2014, it is aimed at addressing the gaps in health services by supporting AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy) care and education, particularly in vulnerable and far-flung areas.

Details:

- ➢ Special focus will be given to specific needs of vulnerable areas and allocation of higher resources in their annual plans.
- ➢ Improvement of AYUSH education through enhancement in the number of upgraded educational institutions.
- ➢ Better access to AYUSH services through increase in number of AYUSH hospitals and dispensaries, availability of drugs and manpower.
- ➢ Sustained availability of quality raw material for AYUSH systems of medicine.
- ➢ Availability of quality Ayurvedic, Siddha, Unani and Homoeopathy drugs through increase in the number of pharmacies, drug laboratories and improved enforcement mechanism.

In conclusion

The National AYUSH Mission intends to build on India's ancient systems of medicine like Ayurveda, Sidhha, Unani & Homeopathy (ASU&H) which are a treasure house of knowledge for preventive and promotive healthcare. The positive features of the Indian systems include diversity and flexibility; accessibility; affordability and a broad acceptance by general public.

SANKALP PROJECT

Why in news?

A Financing Agreement has been signed by GoI with World Bank's IBRD to avail a loan of USD 250 million (equivalent) for the "Skills Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP) Project".

What is the scheme about?

SANKALP is a Centrally sponsored scheme. It is an outcome focused scheme marking shift in government's implementation strategy in vocational education and market relevant training.

- ✓ The scheme provides the required impetus to the National Skill Development Mission, 2015 and its various sub missions.
- ✓ It is aligned to flagship Government of India programs such as Make in India and Swachhta Abhiyan and aims at developing globally competitive workforce for domestic and overseas requirements.

- ✓ Improved access to and completion of skills training for female trainees and other disadvantaged groups; and Expanding skills training through private-public partnerships (PPPs).

Objective:

The Objective of the project is to enhance institutional mechanisms for skills development and increase access to quality and market-relevant training for the work force.

INDIA AND ITS INTERNATIONAL RELATIONS

15TH RIC TRILATERAL MEET: A BALANCING ACT

Why in news?

New Delhi hosted foreign ministers of Russia and China for The Russia-India-China trilateral

This comes in the backdrop of the 'Quad' discussion on the sidelines of the East Asia Summit in Manila involving Japan, Australia and the U.S and India's lengthy summer standoff with China along their disputed Himalayan border, in Doklam.

It can be construed as New Delhi's attempt to get a semblance of balance in its ties with Moscow and Beijing.

RIC Forum:
The idea of the "strategic triangle" was first mooted by then Russian prime minister in 1998. It took time for trilateral talks to take place and from 2006, these turned into stand-alone formal foreign minister meetings.

The RIC has since been working together in various regional and global organizations, including BRICS, SCO and BASIC, and has come to be viewed as a restraining force on any unquestioned Western hegemony

15th Meeting of RIC Foreign Ministers:
The discussions of meeting focused on regional security, issues affecting Asia-Pacific region, counter-terror efforts and coordination at regional and multilateral forums.

The ministers released joint communiqué after meeting. They agreed to strengthen the trilateral dialogue for consultation and coordination on regional and global issues of mutual interest.

- International and regional peace: They held that cooperation is conducive to maintaining international and regional peace, stability and promoting global economic growth and prosperity and for building a global just order. They held that various crises in the world should be resolved in accordance with the international law.
- Terrorism: The three nations also condemned terrorism in all its forms and manifestations and brought to justice under international law.
- Arms Race: They called for prevention of arms race in outer space for maintaining international peace and security. Russia and China reiterated that they welcome India's participation in Asia-Pacific Economic Cooperation.

Nothing much to import

The three nations had very different expectations from this trilateral because of the significant shifts in Indo-U.S. ties as bilateral relations expanded while Russian and Chinese links with the U.S. have witnessed a downward shift.

Russia: Russia, having lost the hegemony, tried to establish itself as the hub of two bilateral security partnerships that could be used to counteract U.S. power and influence in areas of mutual concern.

China: China has emerged as a rising power that sees the U.S. as the greatest obstacle, if it is to achieve a pre-eminent position in the global political hierarchy. As a consequence, China recognised the importance of cooperating with Russia to check U.S. expansionism in the world, even if only for the short term.

India's stance: India, on the other hand, had different considerations, as it is still away from becoming a global power of any reckoning. India saw in the trilateral a mechanism to bring greater balance in the global order as it believed that a unipolar U.S.-dominated world was not in the best interests of weaker states like itself, even as strategic convergence deepened between Washington and Delhi.

All three countries realised the enormous potential in the economic, political, military and cultural realms if bilateral relationships among them were adequately strengthened. As a consequence, the trilateral did not lead to consequences of any great import. It merely resulted in declarations which were often critical of the West, and of the U.S. in particular.

Commendable consensus built despite differences

In the backdrop of Syrian, Iranian, Rohingya and North Korean crises and US President's troubles in office, China and Russia have emerged as the leading influencers in the emerging Asian order.

Indian foreign policy has made addressing terrorism a top priority and made it the highlight of this 15th RIC trilateral meeting. However, they also deserve credit for not allowing their standpoint to complicate a consensus on serious issues.

- India and China view Pakistan's connections to terrorism very differently and India also remains skeptical about Russia and Pakistan building closer defence ties.
- Moscow shows increasing interest in China's flagship China-Pakistan Economic Corridor, that remains a bitter point for India.
- India worries about Russia's growing closeness to China and also China's revival of friendship with Pakistan, whilst both China and Russia seem skeptical about India's growing closeness toward the US.

An arrangement that had started with an attempt to manage American unipolarity is now being affected fundamentally by Chinese resurgence.

BBIN MOTOR PACT

Why in news?

Pending ratification from Bhutan, India plans to operationalise BBIN motor vehicle agreement (MVA) with Bangladesh and Nepal for seamless movement of passenger and cargo vehicles.

Signed in 2015

Bangladesh, Bhutan, India and Nepal (BBIN) had signed a framework MVA in June 2015 to enable movement of passenger and cargo vehicles across borders among the four countries.

Bhutan's reservations

Bhutan has not yet ratified the pact, saying that the BBIN would adversely affect the environment, for its entry to come into force. However, Bhutan has given its consent for the BBIN MVA to enter into force amongst the other 3 countries i.e. Bangladesh, India and Nepal, who have already ratified it.

Why the pact is important?

The agreement encapsulates the spirit of economic integration emphasised in the SAARC Charter. The main objective of the agreement is to provide seamless

people-to-people contact and enhance economic interaction by facilitating cross border movement of people and goods.

- It would permit unhindered movement of passenger and cargo vehicles among the four countries. Cargo vehicles do not have to be changed at the border, a practice that has prevailed until now.
- As per the agreement, member countries would allow vehicles registered in the other countries to enter their territory under certain terms and conditions. Customs and tariffs will be decided by the respective countries and these would be finalised at bilateral and trilateral forums.
- The BBIN agreement will promote safe, economical efficient and environmentally sound road transport in the sub-region and will further help each country in creating an institutional mechanism for regional integration

INTERNATIONAL AFFAIRS

WORLD MIGRATION REPORT 2018

Who? International Organization for Migration

The report is being published since 2000, which contributes to increased understanding of migration throughout the world.

Who are International migrants?

The definition used is broad, taking into account anyone living in a country other than their own and includes refugees and economic migrants, both those immigrating officially and those who do so "irregularly". The numbers are not a count of people by national origin or ethnicity and, therefore, do not include children of migrants born in the countries their parents went to.

Key takeaways

- India tops the world in the number of migrants sent abroad. About 16.59 million Indian live abroad. Mexico comes second.
- The United Arab Emirates has the largest number of Indian migrants, followed by the US.
- The number of migrant from other countries living in India is 5.2 million, a fall of 1.22 million from 2000.
- In Europe, Britain has most Indians.

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> ➤ Most of the international migration takes place among developing countries with 60% of the migrants from Asia going to other Asian

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International Organization for Migration:

Established in 1951, IOM is the leading inter-governmental organization in the field of migration and works closely with governmental, intergovernmental and non-governmental partners.

- With 169 member states, a further 8 states holding observer status and offices in over 100 countries, IOM is dedicated to promoting humane and orderly migration for the benefit of all. It does so by providing services and advice to governments and migrants.
- IOM works to assist in the search for practical solutions to migration problems and to provide humanitarian assistance to migrants in need, including refugees and internally displaced people.
- IOM activities that cut across these areas include the promotion of international migration law, policy debate and guidance, protection of migrants' rights, migration health and the gender dimension of migration.

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countries. About $400 billion is sent to developing countries by migrants and the remittances are used to finance education, housing and other activities that promote development.

HAMBANTOTA PORT

Why in news?

Sri Lanka has formally handed over its southern port of Hambantota to China on a 99-year lease. It is seen by critics as an erosion of the country's sovereignty.

What necessitated the deal?

Sri Lanka, in July 2017, cleared a revised deal for the Chinese-built port in Hambantota. Sri lanka had borrowed immensely from China for building the port. Amid mounting debts which the country owed to China, the SL govt decdided to sell 70% of the stake. The modified agreement is believed to be more profitable to Sri Lanka, as it will solely be responsible for the security and also addresses security concerns raised by other countries. As per the deal, while the Chinese would manage port operations, no naval ship, including Chinese ones, can call at Hambantota without Sri Lanka's permission.

Significance of Hambantota port for China:

Hambantota is right in the middle of vital energy supply lines in the Indian Ocean, connecting the Middle East and East Asia. For Beijing, the Hambantota

project is a linchpin of the "One Belt One Road" project, which aims to build a new Silk Road of trade routes between China and more than 60 countries in Asia, the Middle East, Africa and Europe.

India's concern

Hambantota, which sits on Sri Lanka's southern coast, provides access to critical Indian Ocean sea lanes. The acquisition of the port by China has spurred particular alarm in India, which is concerned about Beijing's growing strategic and economic footprint in the Indian Ocean region.

INTERNATIONAL COURT OF JUSTICE (ICJ)

Why in news?

Pakistan has rejected India's plea at the ICJ for consular access to death row prisoner Kulbhushan Jadhav, claiming that New Delhi wants the access to get the information gathered by its "spy". Pakistan said the provision of such an access under the Vienna Convention is only for legitimate visitors and not for spies.

India, however, maintains that Jadhav was kidnapped from Iran where he had business interests after retiring from the Navy.

What is ICJ?

The International Court of Justice (ICJ) is the principal judicial body of the UN. Established in 1946 to replace the Permanent Court of International Justice.

Two primary functions:

1. To settle legal disputes submitted by States in accordance with established international laws
2. To act as an advisory board on issues submitted to it by authorized international organizations.

Members

Composed of 15 judges elected with nine-year terms of office by the United Nations General Assembly and the Security Council. These organs vote simultaneously but separately.

In order to be elected, a candidate must receive an absolute majority of the votes in both bodies. In order to ensure a measure of continuity, one third of the Court is elected every three years. Judges are eligible for re-election.

What are the qualifications of ICJ judges?

- A judge should have a high moral character.
- A judge should fit to the qualifications of appointment of highest judicial officers as prescribed by their respective states or.
- A judge should be a jury-consult of recognized competence in international law.

The 15 judges of the Court are distributed as per the regions:

- Three from Africa.
- Two from Latin America and Caribbean.
- Three from Asia.
- Five from Western Europe and other states.
- Two from Eastern Europe.

Independence of the Judges:

Once elected, a Member of the Court is a delegate neither of the government of his own country nor of that of any other State. Unlike most other organs of international organizations, the Court is not composed of representatives of governments. Members of the Court are independent judges whose first task, before taking up their duties, is to make a solemn declaration in open court that they will exercise their powers impartially and conscientiously.

In order to guarantee his or her independence, no Member of the Court can be dismissed unless, in the unanimous opinion of the other Members, he/she no longer fulfils the required conditions. This has in fact never happened.

GENERAL STUDIES-3

INDIAN ECONOMY

AMENDMENTS TO COMPANIES ACT

The Bill provides for more than 40 amendments to the Companies Act, 2013. The bill was recently passed by RS.

Why amend?

The amendment seeks to strengthen corporate governance standards, initiate strict action against defaulting companies and help improve ease of doing business in the country.

Highlights of the Bill:

- Simplification of the private placement process
- Rationalization of provisions related to loans to directors
- Replacing the requirement of approval of the central government for managerial remuneration above prescribed limits by approval through special resolution of shareholders and aligning disclosure requirements in the prospectus with the regulations made by Sebi (Securities and Exchange Board of India).
- The Bill also provides for maintenance of register of significant beneficial owners and makes offence for contravention of provisions relating to deposits.
- It also provides for stringent penalties in case of non-filing of balance sheet and annual return every year, which will act as deterrent to shell companies.
- This would facilitate ease of doing business, and result in harmonization with Sebi, RBI (Reserve Bank of India) and rectify certain omissions and inconsistencies in the existing Act.

CRACKING DOWN ON BITCOINS

Backgrounder

The rising craze for bitcoin, which is unregulated, has rocketed to shocking highs and has come under the government's lens.

Widening its probe into bitcoin investments and trade, the Income Tax (IT) department issued notices to several High networth individuals (HNI) across the country who were trading on the exchanges of this unregulated virtual currency.

Concerns associated with the use of bitcoins:

- Bitcoin can be an easy way to evade tax or snare unsuspecting small investors in ponzi schemes.
- The regulators are worried about their use for illicit and illegal activities, subjecting the users to an unintentional breach of laws against money laundering and terror finance.
- There is a suspicion that some so-called cryptocurrencies and bitcoin investments may actually have nothing to do with any blockchain-

developed virtual currency and are just new ways devised by scamsters to ride the wave and what they may be offering could be 'e-ponzi' schemes.

Previous warning

While some of the countries such as Nepal, Bangladesh, Kyrgyzstan have declared Bitcoins as a means of payment illegal and in violation of the state law, a majority are yet to take a stand on it. In 2013, RBI issued a warning with caution to users, holders and traders of virtual currencies, including Bitcoins, about the potential financial, operational, and legal, customer protection and security related risks that they are exposing themselves to. Bitcoins are currently unregulated in India. There are no specific legal frameworks for Bitcoins and cryptocurrencies in India yet.

AMENDS TO INSOLVENCY AND BANKRUPTCY CODE

Why in news?

The President of India gave his assent to an amendment in the Insolvency and Bankruptcy Code that barred a majority of defaulting promoters from buying back their assets.

The changes via an ordinance made at least nine categories of persons ineligible for submitting a resolution plan for the indebted companies facing insolvency action at the National Company Law Tribunal.

Amendments to the code said that those whose accounts have been non-performing for a year will not be allowed to participate in the resolution plan. The move came at a time when about 50 of the India's biggest defaulting companies face insolvency proceedings.

What is bankruptcy? What is the IBC's intent?

A company is bankrupt if it is unable to repay debts to its creditors (banks, suppliers etc). The inability to repay debts by some Indian firms has resulted in a huge pile up of NPAs for the banking system.

The Indian government had introduced the IBC to tackle the issue. Under the Code, a resolution has to be found for the indebted company within 270 days. Otherwise, a liquidator is appointed. The company can also opt for voluntary liquidation by a special resolution in a general meeting.

The Insolvency and Bankruptcy Board of India (IBBI) is the regulator set up in 2016 under the Insolvency and Bankruptcy Code. The resolution professionals are entrusted with the responsibility of sorting out the insolvent companies. The IBBI is assisted by the disciplinary, advisory and technical committees.

How has IBC progressed? Why was the amendment needed?

The resolution to stressed assets picked up steam under IBC and investors started warming up to the huge opportunity. The question was whether existing sponsors / promoters of corporate debtors (i.e. the company with debt and under the insolvency proceedings) can directly or indirectly acquire stake in these firms post acceptance of a resolution plan which would have entailed substantial discount to outstanding loans of lenders.

The key questions were —

- Can promoters seek a huge cut from lenders and be back in the business?
- Does this provide a level playing field to other prospective bidders?
- Does this send the right political and economic signals?

The government took note of all these concerns expressed by investors, and that's what led to the recent (amendment) ordinance.

What are the key elements of the amendment?

The amendment has inserted two new sections in the insolvency code —

1. Section 29A, which provides for persons ineligible to be a Resolution Applicant;

Those ineligible to be a Resolution Applicant include:

- Wilful defaulters
- Persons convicted for any offence punishable with imprisonment for two or more years
- Undischarged insolvent
- Persons disqualified as directors
- Persons barred by SEBI from the securities markets
- Those whose accounts are classified as Non-Performing Assets (NPAs) for one year or more and are unable to settle overdue amounts including interest and charges relating to the account before submission of the Resolution Plan.
- Persons who have given a guarantee to a creditor in respect to a corporate debtor in IBC
- Persons from foreign jurisdictions

2. Section 235A, which provides for punishment for contravention of the provisions where no specific penalty or punishment is provided. The punishment is fine which shall not be less than one lakh rupees but which may extend to two crore rupees.

What the amendment means in terms of NPA resolution? What are the key challenges?

The government has taken the high moral ground to deal with the menace of non-performing assets or NPAs that have brought many public sector banks on the verge of bankruptcy.

Many are of the view that if the errant promoter is disqualified from the bidding process it will lead to further losses for banks.

Challenges –

1. The key challenge would be to invite applicants who are not related to the Corporate Debtor after conducting due diligence about the creditworthiness of such buyers. It is now up to the resolution professional to decide who will be eligible to bid for the defaulter companies or their assets.
2. The advisory committees on corporate insolvency and liquidation are chaired by several top corporates. The appointment of corporates as heads of important corporate insolvency advisory committees under IBBI may not inspire confidence in the credibility of the resolution process. The banks will only lose if resolution is side-tracked by the ensuing power struggle among corporate India to purchase distressed assets at rock-bottom prices.
3. By disqualifying a large number of persons, the Ordinance will lower the amount that the banks as the main financial creditors in most of the IBC cases expect to recover. This may result in the banks not recognising accounts as NPA so that the promoters can submit their bids in the IBC resolution process.
4. The Ordinance may also affect the incentives of the government as the majority shareholder in these banks. The government maybe incentivised to encourage public sector firms (PSUs) to bid in the IBC resolution process so that the deals go through at relatively higher prices and the PSU banks do not face large haircuts.

In conclusion

An ultimate test of the success of IBC is the recovery rate. The primary objective of the law is maximisation of value of assets of the debtor firm undergoing the

insolvency and bankruptcy proceedings. Fulfilling this objective requires a competitive bidding process such that there is a fair price discovery mechanism.

One way to resolve this conundrum maybe to bar promoters from participating in the IBC bidding process in their full capacity while permitting them to make deals with third parties such as private equity funds, who would be the primary bidders.

Even though there have been concerns about the amendment, it should ensure that errant promoters don't end up getting the business back with all sacrifices being made by the lenders.

BUENOS AIRES DECLARATION ON WOMEN AND TRADE

Spearheaded by: The governments of Iceland and Sierra Leone

Why in news?

World Trade Organization has for the first time endorsed a collective initiative to increase the participation of women in trade via the Buenos Aires Declaration on Women and Trade, which seeks to remove barriers to, and foster women's economic empowerment through participation of women in public procurement markets.

India 'not' an endorser

India was among the minority group that chose not to endorse the move saying while it supports gender equality, it cannot concur with the view that gender is a trade-related issue.

1. Agreeing to the proposition to link gender and trade could lead to advanced countries using their high standards in gender-related policies to not only curb exports from the developing world, but also indirectly restrict developing countries from incentivising their women citizens as part of measures to address developmental challenges.
2. India also observed that gender-related discussions should take place at appropriate fora and not at the WTO, which is purely a trade-related body. Otherwise, it will set a precedent to bring in other non-trade issues such as labour and environment standards into the WTO's ambit.

The need of such a declaration

Currently, many women worldwide stand on the sidelines of the economy. While women comprise about half of the global population, they generate only 37% of gross domestic product (GDP) and run only about a third of small and medium-sized enterprises. In more than 155 countries, there is at least one law impeding economic opportunities for women.

No country has managed to close the gender gap on economic participation and opportunity; progress is so slow that it would take170 years to reach gender equality. Also, international trade and trade agreements affect women and men differently.

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11TH MINISTERIAL CONFERENCE (MC11) OF THE WTO

Where? Buenos Aires, Argentina

Outcome

The meeting ended in stalemate after U.S. criticism and member country vetoes, raising questions about the body's ability to govern increasingly disputed global trade. However, the outcome of the conference was a positive one for India as the country was able to secure the interests of its farmers as well food security for the poor.

India was successful in stopping any of the new issues like investment facilitation and micro, small and medium enterprises (MSMEs) from entering the ambit of the WTO.

What India wanted?

- ✓ A permanent solution for food security by improving existing peace clause.
- ✓ Stopping entry of new issues like investment facilitation, e- commerce, MSMEs.
- ✓ Safeguarding WTO and multilateralism.

What India got?

- ➢ No dilution in peace clause that protects MSP programmes for food grain.
- ➢ No fast- tracking of e- commerce talks.
- ➢ No commitments to curb fisheries subsidies.
- ➢ New issues and non trade issues like gender and trade were not taken forward.

Way forward for India

➢ Get legal backing for permanent solution.
➢ Broaden interests on agriculture and services.
➢ Form coalition to push interests.

What is peace clause?

It is an interim mechanism, as per which WTO members had agreed not to challenge developing nations at the WTO Dispute Settlement Mechanism if they breached the cap of the product-specific domestic support (which is 10% of the value of production). The 'Peace Clause' is available to developing nations, including India, till a permanent solution is found to public stock holding for food security purposes.

The limited window offered by the Western powers for the peace clause was seen by India as insufficient assurance. The clause also requires full disclosure of MSPs and annual procurement for food security programmes, which the Government fears would leave India open to questioning by other countries on domestic matters.

Why is it important?

The right to food is a basic human right. Therefore, Western misgivings about a country like India providing food subsidies seems hypocritical. The developed nations see India as a huge market for foodgrains and other products, but their produce is rendered uncompetitive when the government is willing to subsidise farmers, purchase their produce for a minimum support price and then sell it at a loss through the public distribution system and other channels.

Accepting a temporary peace clause would be tantamount to admitting that the subsidy programmes in India and other developing nations violate global trade norms, leaving the nation a sitting duck if a complaint was to be raised in the WTO or other international forums later. This would also result in India losing its biggest bargaining chip in future WTO meetings.

INDUSTRY, INFRASTRUCTURE AND INVESTMENT

CENTRAL ROAD FUND (AMENDMENT) BILL, 2017

The Lok Sabha has passed the Central Road Fund (Amendment) Bill, 2017, which seeks to amend the Central Road Fund Act, 2000, through which the cess levied and collected on high speed petrol and diesel is distributed for development of rural roads, national highways, railways, state roads and border area roads.

Highlights of the Bill:

Utilisation of fund: Under the 2000 Act, the fund can be utilised for various road projects including: (i) national highways, (ii) state roads including roads of inter-state and economic importance, and (iii) rural roads. The Bill provides that in addition to these the fund will also be used for the development and maintenance of national waterways.

Powers of central government: Under the Act, the central government has the power to administer the fund. The central government will make decisions on the decisions for national waterways as well.

Allocation of cess: Under the Act, the cess on high speed diesel oil and petrol is allocated towards different types of roads. The Bill seeks to decrease the allocation of cess towards the development and maintenance of national highways from 41.5% to 39%. It allocates 2.5% of the cess towards the

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About Central Road Fund:

The Central Road Fund was established by the government as per the Central road fund act 2000 to fund the development and maintenance of National Highways, State Highways and Rural roads.

In order to mobilise the fund, the Central Road Fund Act 2000 proposed to levy and collect by way of cess, a duty of excise and duty of customs on petrol and high speed diesel oil. The fund is utilised for the development and maintenance of National highways, State roads, Rural roads and for provision of road overbridges/under bridges and other safety features at unmanned Railway Crossings.

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development and maintenance of national waterways.

ECO-NIWAS

What is it?

On the Energy Conservation Day celebrated on December 14th, the government unveiled the interactive online portal, ECO-NIWAS (Energy Conservation – New Indian Way for Affordable & Sustainable homes) for increasing awareness to build sustainable and energy efficient homes in the country.

Organized by: Bureau of Energy Efficiency (BEE), under Ministry of Power

Why is energy conservation day observed?

It is aimed to demonstrate India's achievements in energy efficiency and conservation, while working for its ambition of holistic development as part of the nation's overall effort towards climate change mitigation.

As part of its awareness outreach, BEE recognizes and encourages endeavours of industries in reducing energy consumption by felicitating them with National Energy Conservation Awards. BEE also awards prizes to the national winners of the annual National Painting Competition on Energy Conservation.

NORTH EAST SPECIAL INFRASTRUCTURE DEVELOPMENT SCHEME" (NESIDS)

Why in news?

The Union Cabinet has approved the introduction of new Central Sector Scheme of "North East Special Infrastructure Development Scheme" (NESIDS) from 2017-18 with 100% funding from the Central Government to fill up the gaps in creation of infrastructure in specified sectors till March, 2020.

The new scheme will broadly cover creation of infrastructure under following sectors:

- Physical infrastructure relating to water supply, power, connectivity and specially the projects promoting tourism;
- Infrastructure of social sectors of education and health.

Possible outcomes

The assets to be created under the new scheme of NESIDS will not only strengthen health care and education facilities in the region but will also encourage tourism thereby the employment opportunities for local youth. The scheme will act as a catalyst in overall development of the region in the years to come.

NLCPR

The Union Cabinet has approved the continuation of the existing Non Lapsable Central Pool of Resources (NLCPR) scheme with funding pattern of 90:10 till March, 2020. It would enable completion of ongoing projects

Objective: To ensure speedy development of infrastructure in the North Eastern Region by increasing the flow of budgetary financing for new infrastructure projects/schemes in the Region. Both physical and social infrastructure sectors are considered for providing support under the Central Pool, with projects in physical infrastructure sector receiving priority.

Funds from the Central Pool can be released for State sector as well as Central sector projects/schemes. However the funds available under the Central Pool are not meant to supplement the normal Plan programmes either of the State Governments or Union Ministries/ Departments/ Agencies.

TUITIAL HYDROELECTRIC POWER PROJECT

Where? Mizoram

Details

The 60 MW project is the biggest power project located in the State of Mizoram and will feed the entire energy to be generated to the home State, which will help achieve Government of India's ambitious and flagship Mission '24×7 Affordable Clean Power for All'.

➢ Has been constructed as a Central Sector Project
➢ Implemented by North Eastern Electric Power Corporation (NEEPCO), under the administrative control of the Ministry of Power, Government of India
➢ The State of Mizoram will now be the third power-surplus State in North East India after Sikkim and Tripura.
➢ Apart from attaining self-sufficiency in electric power, the project will fetch other spin-off benefits to the State of Mizoram like employment generation, navigation, water supply, pisciculture and wild life conservation, tourism etc

EXPEDITING BHARATMALA

Why in news?

In order to expedite implementation of the Bharatmala Pariyojna, NHAI has decided to start an incentive scheme for its officials.

The scheme not only envisages completing the projects earlier than the scheduled time, but also aims at savings on account of cost overruns due to time delays. The scheme will reward hardworking, meritorious officials with cash incentives, certificates, awards and appreciation letters, which will act as a catalyst to motivate other officials to work more efficiently.

Bharatmala project

Bharatmala Project is the second largest highways construction project in the country since NHDP. Bharatmala will look to improve connectivity particularly on economic corridors, border areas and far flung areas with an aim of quicker movement of cargo and boosting exports.

Bharatmala includes building economic corridors, inter-corridor and feeder routes, roads under the National Corridors Efficiency Program, border and international connectivity roads, coastal and port connectivity roads, expressways NHDP roads. The total length in phase 1 comes to around 34,800 km.

Significance of the project:

The project is expected to create nearly 100 million man days of jobs during the road construction and subsequently 22 million jobs as a result of the increased economic activity across the country.

RERA'S ADMINISTRATION

Why in news?

The work of the Real Estate (Regulation and Development) Act, 2016, which mandates the establishment of the Real Estate Regulatory Authority (RERA), will be looked after by the Urban Affairs Ministry. The central government has amended the Government of India (Allocation of Business) Rules 1961, in this regard.

Real Estate (Regulation and Development) Act, 2016:

The RERA is for regulation and promotion of the real estate sector and to ensure sale of plot, apartment or building in an efficient and transparent manner and to protect the interest of consumers in the real estate sector.

- It makes it mandatory for all builders – developing a project where the land exceeds 500 square metre – to register with RERA before launching or even advertising their project.
- The promoter of a real estate development firm has to maintain a separate escrow account for each of their projects. A minimum 70% of the money from investors and buyers will have to be deposited. This money can only be used for the construction of the project and the cost borne towards the land.
- RERA requires builders to submit the original approved plans for their ongoing projects and the alterations that they made later.
- They also have to furnish details of revenue collected from allottees, how the funds were utilised, the timeline for construction, completion, and delivery that will need to be certified by an Engineer/Architect/practicing Chartered Accountant.

SCIENCE AND TECHNOLOGY

METHANOL ECONOMY FUND

Idea proposed by: Niti Aayog

Aim: To promote production and use of the clean fuel by converting high ash content coal into methanol

Such a plant is expected to be set up by Coal India.

An alternative fuel:

Methanol is a promising fuel as it is clean, cheaper than fossil fuels and a good substitute for heavy fuels. India imports methanol from Saudi Arabia and Iran at present.

Methanol can be blended with gasoline in low-quantities and used in existing road vehicles, or it can be used in high-proportion blends such as M85-M100 in flex-fuel or dedicated methanol-fueled vehicles. Technology is also being commercialized to use methanol as a diesel substitute.

Advantages of using methanol

- It can cut down India's oil import bill by an estimated 20% over the next few years.
- Unlike CNG, using methanol as a transportation fuel would require minimal alteration in the vehicles.

- It produces fewer smog-causing emissions — such as sulphur oxides (SOx), nitrogen oxides (NOx) and particulate matter — and can improve air quality and related human health issues.
- Methanol is most commonly produced on a commercial scale from natural gas. It can also be produced from renewable sources such as biomass and recycled carbon dioxide.
- As a high-octane vehicle fuel, methanol offers excellent acceleration and power. It also improves vehicle efficiency.

E-CIGARETTES

Why in news?

The Health Ministry has constituted three groups to study the various aspects of e-cigarettes. One was to study the legal implications of this e-nicotine drug induce system, another was to go into the health effects and the other was to study advocacy.

What are e-cigarettes?

An electronic cigarette (or e-cig) is a battery-powered vaporizer that mimics tobacco smoking. It works by heating up a nicotine liquid, called "juice." Nicotine juice (or e-juice) comes in various flavors and nicotine levels.

e-liquid is composed of five ingredients:

1. vegetable glycerin (a material used in all types of food and personal care products, like toothpaste)
2. propylene glycol (a solvent most commonly used in fog machines.) propylene glycol is the ingredient that produces thicker clouds of vapor.
3. Water
4. Nicotine
5. Flavorings

Proponents of e-cigs argue that the practice is healthier than traditional cigarettes because users are only inhaling water vapor and nicotine.

Need for regulation:

- In India smoking devices are easily available through online shopping portals and with little information out in the public domain about the ill-effects of e-cigarettes there is a misconception that it is less harmful than traditional cigarettes.
- In the absence of a regulation the use of e-cigarettes has grown; they are easily accessible to even the non smokers.

Harmful effects of e cigarettes:

Although they are generally thought to be less harmful than smoking real cigarettes, because they contain no tobacco, they do still contain the addictive chemical nicotine.

Research has also confirmed that e-cigarette vapours contain free radical chemicals previously thought only to be found in tobacco cigarettes and air pollutants. Free radicals are highly reactive agents that can damage DNA or other molecules within cells, resulting in cell death. Though e-cigarette vapour contains far fewer free radicals than cigarette smoke – one percent as much – their presence in e-cigarettes still suggests potential health risks.

DEEP LEARNING NEURAL NETWORKS

Why in news?

Scientists have discovered two new exoplanets, Kepler-90i and Kepler-80g, using Deep learning neural networks. With this discovery, it is now clear that there is another star besides the Sun that has eight planets orbiting it.

Use of Deep learning neural networks:

It is an artificial intelligence tool that mimics the workings of a human brain. Scientists "trained" their computer to analyse light readings made by NASA's Kepler Space Telescope, which are archived and made available for anyone to use.

The network identified Earth-sized exoplanet, Kepler 80g, orbiting the star Kepler 80. This is a very stable system in which Kepler 80g and four of its neighbours are locked together in a so-called resonant chain.

What is Deep Learning?

Deep learning is a machine learning technique that teaches computers to do what comes naturally to humans: learn by example. In deep learning, a computer model learns to perform classification tasks directly from images, text, or sound. Deep learning models can achieve state-of-the-art accuracy, sometimes exceeding human-level performance. Models are trained by using a large set of labeled data and neural network architectures that contain many layers.

Applications:

Deep learning is a key technology behind driverless cars, enabling them to recognize a stop sign, or to distinguish a pedestrian from a lamppost. It is the key to voice control in consumer devices like phones, tablets, TVs, and hands-free

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What's the Difference Between Machine Learning and Deep Learning?

Deep learning is a specialized form of machine learning. A machine learning workflow starts with relevant features being manually extracted from images. The features are then used to create a model that categorizes the objects in the image. With a deep learning workflow, relevant features are automatically extracted from images. In addition, deep learning performs "end-to-end learning" – where a network is given raw data and a task to perform, such as classification, and it learns how to do this automatically.

Another key difference is deep learning algorithms scale with data, whereas shallow learning converges. Shallow learning refers to machine learning methods that plateau at a certain level of performance when you add more examples and training data to the network.

A key advantage of deep learning networks is that they often continue to improve as the size of your data increases.

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speakers.

AP SIGNS MOU WITH GOOGLE

What is it all about?

X, a division owned by Google's parent company Alphabet and one that deals in experimental technologies, has signed a MoU with Andhra Pradesh government to setup developmental centre in Visakhapatnam and to create a high speed internet network that doesn't require special cabling.

Instead of cables, the X internet network will use "Free Space Optical Communications, aka FSOC, technology". The X centre in Visakhapatnam will be its first development centre outside the US.

What is FSOC technology?

FSOC is an optical communication technology that uses light to wirelessly transmit data to telecommunication and internet applications. The technology remained outside the commercial applications for long owing to distance, speed, and efficiency related problems.

FSOC links use beams of light to deliver high-speed, high-capacity connectivity over long distances, just like fiber optic cable, but without the cable. And because there's no cable, this means there's none of the time, cost, and hassle involved in digging trenches or stringing cable along poles. FSOC boxes can simply be placed kilometres apart on roofs or towers, with the signal beamed directly between the boxes to easily traverse common obstacles like rivers, roads and railways.

> **Google X:**
>
> Founded by Google in 2010 as Google X with an aim to work on finding solutions to the world's large problems, this American semi-secret advanced technology lab facility became an independent Alphabet company and was renamed as X after Google was restructured into Alphabet in the year 2015. It has been working on several projects including driver-less car, product delivery through flying vehicles, Project Loon, Google glass among other technologies.

"PRATAP" HELICOPTERS

Why in news?

The Soviet-era MI-8, also known as 'Pratap', the backbone of the Indian Air Force helicopter operations, was recently phased out, bringing an end to its glorious service career spanning 45 years.

Origins

Formally inducted in 1972 and rechristened as "Pratap", MI-8 took part in several major IAF operations, including Operation Meghdoot in the Siachen Glacier and the Indian Peace Keeping Force operation in Sri Lanka. The helicopter was also extensively used in Humanitarian and Disaster Relief operations, besides being associated with VIP/VVIP flying.

GLOWING PLANTS

Why in news?

MIT scientists induced plants to give off dim light by embedding specialised nanoparticles into their leaves. This technology could be used to provide low-intensity indoor lighting, or to transform trees into self- powered streetlights.

Fireflies' enzyme used: To create the glowing plants, scientists relied on luciferase, the enzyme that gives fireflies their glow. Luciferase acts on a

molecule called luciferin, causing it to emit light. Researchers packaged these components into a different type of nanoparticle carrier.

How plants were made to glow?

To get the particles into plant leaves, the researchers first suspended the particles in a solution. Plants were immersed in the solution and then exposed to high pressure, allowing the particles to enter the leaves through tiny pores called stomata.

The particles gradually release luciferin, which then enters the plant cells, where luciferase performs the chemical reaction that makes luciferin glow.

VOLTE SERVICES

Why in news?

Bharti Airtel, as part of expanding its services, has launched Voice over Long Term Evolution (VoLTE) facility for its customers in Chennai. Airtel VoLTE works over 4G services that will enable HD quality voice calls with faster call set up time.

What is VoLTE?

VoLTE stands for voice over Long Term Evolution. VoLTE is an Internet Protocol Multimedia Subsystem (IMS) specification which enables a variety of services to operate seamlessly on the network rather than having to switch to different applications for voice or video.

How it works?

VoLTE is a technology update to the LTE protocol used by mobile phone networks. Under LTE, the infrastructure of telecom players only allows transmission of data while voice calls are routed to their older 2G or 3G networks. This is why, under LTE, one cannot access 4G data services while on a call. This leads to problems such as slow internet speeds and poor voice clarity. VoLTE allows voice calls to be 'packaged' and carried through LTE networks. This would mean 4G data accessibility even during calls.

Benefits of VoLTE:

- VoLTE provides a more efficient use of spectrum than traditional voice and increases handset battery life.
- VoLTE ensures that video services are fully interoperable across the operator community, just as voice services are, as demand for video calls grows.

SCORPENE-CLASS SUBMARINE KALVARI

Why in news?

India's first modern conventional submarine, INS Kalvari, has been commissioned into Navy's fleet.

Details

➢ The diesel-electric submarine is designed by French naval defence and energy company DCNS.
➢ The submarine is named after the dreaded tiger shark, a deadly deep sea predator of the Indian Ocean.
➢ The submarine boasts of superior stealth features, low radiated noise levels, hydro-dynamically optimised shape and the ability to launch a crippling attack on the enemy using precision-guided weapons.
➢ The submarine has a speed of 20 knots

ENVIRONMENT

AIR POLLUTION: HIGH TIME GOVERNMENTS ACT

Why in news?

A report of the Lancet Commission on pollution and health states that around 19 lakh people die prematurely every year from diseases caused by outdoor and indoor air pollution. Air pollution is the largest environmental cause of disease and death in the world today.

Causes of Air pollution

At the heart of the problem of pollution are carbon dioxide (CO_2) emissions. About 75% of all greenhouse gas emissions are CO_2 emissions produced through burning fossil fuels — oil, coal and natural gas — to generate energy.

- Carbon emissions have increased because of high growth in the Indian economy.
- This is because of India's heavy dependence on fossil fuels and a dramatically low level of energy efficiency.

Effects

➢ Exposures to contaminated air, water and soil kill more people than smoking, hunger, natural disasters, war, AIDS, or malaria.
➢ Pollution disproportionately kills the poor and the vulnerable.
➢ Fossil fuel combustion in higher-income countries and the burning of biomass in lower-income countries accounts for 85% of airborne particulate pollution and is a major source of greenhouse gases and other pollutants that drive climate change.
➢ Children are at high risk of pollution-related disease, as exposures to even small amounts of certain chemicals in utero and in early infancy can result in disease, life-long disability and death.
➢ Pollution-related diseases reduce GDP in low- to middle-income countries by up to 2% per year.
➢ The lungs of children who grow up in polluted environments like Delhi are 10% smaller compared to the lungs of children who grow up in the U.S.

Solving the crisis

1. Remodel the energy mix: Emissions can be curbed only if people are persuaded to move away from fossil fuels and adopt greener forms of energy.
2. Efficiency: Raise the level of energy efficiency through investments in building retrofits, grid upgrades, and industrial efficiency.
3. Tax and finance: Carbon tax can be a key policy instrument in helping the country meets the challenges posed by Air pollution. A part of the carbon revenue thus generated can be used for a systemic overhaul of the energy mix. There is, however, a problem with carbon tax. It's regressive in nature — it affects the poor more than the rich.
4. 'Tax and dividend' policy: The revenue thus generated is distributed equally across its citizens and as a result, the poor are more than compensated for the loss, since in absolute amounts the rich pay more carbon tax than the poor. Such a policy of cash transfer, which might work in the West, however, has a problem in the Indian context.
5. Instead of a cash transfer, the other part of the carbon revenue can be used for an in-kind transfer of free electricity to the population that contributes less carbon than the economy average, and universal travel passes to compensate for the rise in transport costs and to encourage the use of green public transport.

Intended benefits that would accrue

  ➢ Carbon Tax policy not only curbs emissions but also delivers on providing more employment since the employment elasticity in greener forms of energy is higher than those in fossil fuel-based energy.
  ➢ Higher prices of commodities according to their carbon content will induce households, including the rich, to look for greener substitutes.
  ➢ Availability of free energy also addresses the issue of stealing of electricity, since there will be no incentive left for those who steal.
  ➢ Policy also will give more health benefits

In Conclusion

Reducing pollution and taxing carbon presents a powerful opportunity to save lives and grow economies.

  ✓ Governments also need to integrate pollution challenges and control strategies into planning processes.
  ✓ Collaborate on solving pollution with development agencies.

E-WASTE IN INDIA

Why in news?

The UN, in its latest report- Global E-waste Monitor 2017, has warned about the health and environmental dangers from the processing of e-waste — the discarded electronic and electrical material — by the informal sector in India without proper safeguards.

Observations

  • Over a million poor in India are involved in manual recycling operations with little awareness of the dangers of the operations.
  • The dangers come from "improper and unsafe treatment and disposal through open burning or in dumpsites.
  • The value of recoverable precious materials like gold, silver, copper, platinum and palladium contained in last year's e-waste was $55 billion and much of it was going to waste.

What is e-waste?

E-waste includes a whole variety of small and large appliances, and electronic equipment including cell phones, TVs, refrigerators, air conditioners, computers and lamps, small appliance and large appliances, lamps.

Backgrounder:

Domestically India produced 1.95 million tonnes of e-waste last year and it also imports it from developed countries. The per capita production of e-waste in India is far below that of the rest of the world. Only 20 per cent of total global e-waste was recycled.

Efforts by India:

A formal e-waste recycling sector is now being developed in major Indian cities and under the country's rules producers have extended responsibility for the handling the e-waste their products produce.

Challenges

- ✓ The producers/manufacturers do not have adequate information on their website regarding e waste management.
- ✓ Customer care representatives do not have inkling about any take back or recycling programme and even if they have set up collection centres, they are simply not enough for a geographically vast country like India.
- ✓ Improper enforcement of the existing laws is another hurdle.

In conclusion

In the near future, the problem could become more acute with cheaper cell phones and other equipment becoming affordable. Therefore, there is need for developing systems to safely handle the e-waste and recycle it.

SECURITY CHALLENGES

HAMESHA VIJAYEE

What is it?

It is an exercise by armed forces being conducted in the deserts of Rajasthan to evaluate the capability of the armed forces to strike deep into enemy territory in an integrated air-land battle.

Significance

The exercise being conducted in battle like conditions, aims at fine tuning surveillance and destruction mechanisms to support precision strikes and manoeuvres by network enabled forces, with emphasis on joint operations.

'EKUVERIN'

What is it?

It is a joint military exercise between India and Maldives. The eighth edition of the exercise was held in Belagavi, Karnataka.

Details

- The bilateral annual military exercise is held alternatively in India and Maldives since 2009.
- The focus of the exercise is to acquaint both armies with each other's operating procedures in the backdrop of a counter-insurgency or counter-terrorist operations in an urban or semi-urban environment under the United Nations (UN) Charter, with an overall aim to enhance interoperability between the two armies.
- 'Ekuverin' means 'friends' in the Maldivian language.

FOR A SAFE CYBERSPACE

The Indian government has embarked on a programme to turn the country into a digital economy. It has unveiled a series of initiatives—from introducing Aadhaar, MyGov, Government e-Market, DigiLocker, Bharat Net, Startup India, Skill India and Smart Cities to propel India towards technological competence and transformation.

The move towards a digital economy is likely to help trigger a fresh wave of economic growth, attract more investment, and create new jobs, across multiple

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India's recent Digital transformation

India is currently pursuing "an alternative and very exciting" route in which it is making the use of digital technology and digital records in public administration with new technologies.

- India is one of the key players in the digital and knowledge-based economy, holding more than a 50% share of the world's outsourcing market.
- India is already the third largest hub for technology-driven start-ups in the world.
- Digital India program seeks to launch a large number of e-governance services across different sectors. These include education, healthcare and banking.
- The number of mobile phone users in India is expected to rise to 73 cr. The number of smartphone users in India is predicted to reach 47 cr by 2021.
- India has made a few achievements in e-governance projects such as Digital Locker, ebastas, the linking of Aadhaar to bank accounts to disburse subsidies.
- Bharat Net (erstwhile National Optical Fiber Network), the country's digital infrastructure, has created a common service centre for each panchayat, for which all post offices and CSCs are to be upgraded.
- India's mobile wallet transactions were up nine-fold in two years to reach $9 billion.

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sectors. However, it also poses a big challenge, that of Cyber Security.

Growing threat of Cyber Security

The achievements in digital sector come with a problem: India is the fifth most vulnerable country in the world in terms of cyber security breaches, according to the Internal Security Threat Report of 2017 by Symantec.

1. *Increased no of cyber-attacks:* According to the Indian Computer Emergency Response Team's report, the increasing number of attacks coincide with rapid growth and innovation in the ICT sector.
2. *Cost of cyber-attacks:* The cost of reported and detected cyber-attacks in India currently stands in excess of $4billion.
3. *Nature:* The losses emanate from operational disruptions, loss of sensitive information and designs, customer churn and impact on brand image, as well as increase in legal claims and insurance premium.
4. *Limited awareness:* Many companies do not treat importance of cyber security as a strategic agenda, but rather as a small issue for their IT departments.

There is limited awareness of the need for specialized and customized industry-specific cyber security measures which are significantly different from IT security and need to be adapted by the industry. All this is underpinned by the

fact that there is low existing capability, or lack of skill sets, to drive cybersecurity agendas.

Cyber security should be an integral part of technological progress

The global community is increasingly embracing ICTs as key enabler for social and economic development. Governments across the world recognize that digital transformation has the power to further the prosperity and wellbeing of their citizens. In supporting this transformation, they also recognize that cyber security must be an integral and indivisible part of technological progress.

In 2017, a massive cyber-attack caused major disruptions to companies and hospitals in over 150 countries, prompting a call for greater cooperation around the world.

The good news, though, is that India recognises this. The second Global Cybersecurity Index, released by the International Telecommunication Union in July, which measured the commitment of nations to cybersecurity, found that

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Global Cybersecurity Index (GCI)

The Global Cybersecurity Index (GCI) is a survey that measures the commitment of Member States to cybersecurity in order to raise awareness.

- The GCI revolves around the ITU Global Cybersecurity Agenda (GCA) and its five pillars (legal, technical, organizational, capacity building and cooperation).
- The 2017 publication of the GCI continues to show the commitment to cybersecurity of countries around the world. The overall picture shows improvement and strengthening of all five elements of the cybersecurity agenda in various countries in all regions.
- However, there is space for further improvement in cooperation at all levels, capacity building and organizational measures. The gap in the level of cybersecurity engagement between different regions is still present and visible.
- This report also provides a set of illustrative practices that give insight into the achievements of certain countries.

India ranked 23 out of 165 nations.

Allay the misconceptions

One of the biggest misconceptions about cybersecurity is that cyber-attacks are restricted to the financial services and banking sector. It is important to note that industrial companies are equally vulnerable.

At the 15th Asia Pacific Computer Emergency Response Team conference in Delhi, the need for robust cybersecurity policies and frameworks has been highlighted. The government is keen to fund cybersecurity research and it has

announced that it will award a grant worth ₹ 5 crore to startups working on innovations in the field of cybersecurity.

The Need of the hour

India needs to quickly frame an appropriate and updated cybersecurity policy, create adequate infrastructure, and foster closer collaboration between all those involved to ensure a safe cyberspace.

- Companies in India need to be proactive to ensure they foster efficiency and efficacy in cybersecurity management. Companies also need to assess the assets that are most at risk.
- Tough laws are needed to be put in place for perpetrators of cybercrime to ensure such criminals are deterred effectively
- There must be enhanced cooperation among nations and reaffirmed a global call to action for all United Nations member nations to not attack the core of the Internet even when in a state of war.

GCCS(Global Conference on Cyber Space) platform should be utilised to establish internationally agreed 'rules of the road' for behaviour in cyberspace, and create a more focused and inclusive dialogue between all those with a stake in the internet (governments, civil society and industry) on how to implement them.

DISASTER MANAGEMENT

SENDAI FRAMEWORK

Why in news?

National Disaster Management Authority (NDMA) is conducting the first national-level Training of Trainers programme to sensitise various Central Ministries and Departments on utilisation of Sendai Monitor for developing action plans for Disaster Risk Reduction (DRR).

This training programme will build the capacity of the participants to utilise defined indicators to monitor the progress of the Sendai targets.

Backgrounder:

In 2016, India became one of the first countries to align its National Disaster Management Plan (NDMP) with the SFDRR, which clearly identifies regional, national and local targets along with short, medium and long-term timelines.

Various activities are being undertaken across the country to achieve the targets identified in the SFDRR.

What is Sendai Framework?

The Sendai Framework for Disaster Risk Reduction (SFDRR), 2015-2030, is the first major agreement of the post-2015 development agenda(SDG) and identifies targets and priority actions towards reducing disaster risks and implementing development that is both resilient and sustainable.

It is a voluntary, non-binding agreement which recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.

The Seven Global Targets:

*   Substantially reduce global disaster mortality by 2030.
*   Substantially reduce the number of affected people globally by 2030.
*   Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030.
*   Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.
*   Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.
*   Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030.
*   Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.

The Four Priorities for Action under the Framework:

*   Understanding disaster risk.
*   Strengthening disaster risk governance to manage disaster risk.
*   Investing in disaster risk reduction for resilience.
*   Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction.