

1.1. Student-Scientist Connect Programme: "JIGYASA"**In News**

- Council of Scientific and Industrial Research (CSIR), in collaboration with Kendriya Vidyalaya Sangathans (KVS), has launched a student-scientist connect programme 'JIGYASA'.
- The sole objective of this scheme is to extend the classroom learning and to focus on a well planned research laboratory based learning.

Key Highlights

- The Jigyasa programme is inspired by Government's vision of a new India and "Scientific Social Responsibility (SSR)" of scientific community and institutions.
- The Programme is expected to connect 1151 KVs with 38 National Laboratories of CSIR and will target 100,000 students and nearly 1000 teachers annually.
- The program will also enable the students and teachers to practically live the theoretical concepts taught in science by visiting CSIR laboratories and by participating in mini-science projects.
- The model of engagement includes student residential programmes, scientists as teachers and teachers as scientists, popular lecture series/demonstration programme at Schools, and student apprenticeship programmes among others,

Need For Such Programmes

- The government has established Indian Institutes of Technology, Indian Institutes of Science Education and Research, and Council of Scientific and Industrial Research laboratories to promote applied research. But they educate a tiny fraction of our students.
- Facilities and teaching at the universities that serve more than 29 million students are alarming. Most classrooms are equipped with poor-quality teaching laboratories, let alone research laboratories.
- Faculty appointments are often made on the basis of political connections, caste or bribes, and funds are misappropriated. The results are: many highly qualified young scientists refuse to take up faculty positions in these universities because of the lack of infrastructure, the hostile environment and bureaucracy.
- In India, researchers generally start being mentored only when they show promise as young principal investigators. Hence, grooming the child as scientists during their early ages is often overlooked.
- Also, Article 51-A of Indian Constitution makes it a fundamental duty to develop the scientific temper.
- Hence to change the attitude of young minds - who focus only on becoming doctors or engineers - and to ensure that these minds get an exposure to scientific environment with real labs, we need such programmes.

Scientific Social Responsibility (SSR):

- SSR is analogous to the scientist's work with corporate social responsibility (CSR).
- Just as companies are now expected to act responsibly in relation to energy and resource consumption, impact on animal and plant life, the environment, workers' rights, anti-corruption, etc., the Government wants researchers to be aware of the utility value of their research for

society.

Council of Scientific & Industrial Research (CSIR)

- The Council of Scientific & Industrial Research (CSIR), known for its cutting edge R&D knowledge base in diverse S&T areas, is a contemporary R&D organization.
- CSIR covers a wide spectrum of science and technology – from radio and space physics, oceanography, geophysics, chemicals, drugs, genomics, biotechnology and nanotechnology to mining, aeronautics, instrumentation, environmental engineering and information technology.
- It provides significant technological intervention in many areas with regard to societal efforts which include environment, health, drinking water, food, housing, energy, farm and non-farm sectors. Further, CSIR's role in S&T human resource development is noteworthy.
- Pioneer of India's intellectual property movement, CSIR today is strengthening its patent portfolio to carve out global niches for the country in select technology domains.
- CSIR is granted 90% of US patents granted to any Indian publicly funded R&D organization.
- CSIR has pursued cutting edge science and advanced knowledge frontiers. The scientific staff of CSIR constitutes only about 3-4% of India's scientific manpower, but they contribute to 10% of India's scientific outputs.
- CSIR has put in place CSIR@80: Vision & Strategy 2022 – New CSIR for New India. CSIR's mission is "to build a new CSIR for a new India".

1.2. No-Detention Policy In School To Be Scrapped From Next Academic Year

In News

- The government has decided to do away with the no-detention policy for students from 2018 academic session.
- The representation from most of the States had highlighted that the standard of education had deteriorated because of this policy. Following this, the Union government has taken this decision.

No Detention Policy (NDP)

- Under the Right to Education (RTE) Act, 2009, the no-detention policy was introduced.
- Section 16 of the RTE Act categorically lays down that "No child admitted in a school shall be held back in any class or expelled from the school till the completion of elementary education."
- Under this policy, the students up to class VIII are automatically promoted to the next class without being held back even if they do not get a passing grade.

Rationale Behind NDP Along With CCE

- Making a student repeat a grade adds to mental stress, lowers their self esteem, and could cause them to drop out altogether. Also, there is no research evidence to suggest that repeating a year helps children perform better rather it leads to more dropouts from the system.
- Examinations are often used for eliminating children who obtain poor marks. Compelling a child to repeat a class is demotivating and discouraging.
- Therefore, the tests were replaced by a system called Comprehensive and Continuous Evaluation (CCE). CCE is just a way of assessing the children using non-learning factors such as social, personality, attitudes and values displayed.

- The main aim of CCE is to evaluate every aspect of the child during their presence in the school. It was also done to reduce the workload of children by taking continuous tests of the students throughout the year.
- Under the new system, the student's marks will be replaced by grades which will be evaluated throughout the year through a series of curricular and extra-curricular activities. The grades will be awarded based on work experience skills, dexterity, innovation, steadiness, teamwork, public speaking, behavior, etc.
- From different surveys, it was revealed that the detention system led to increased dropouts among students, especially from economically and socially weaker sections, who cannot afford costly private education.
- The no-detention policy was brought in to provide such children an environment free from fear, anxiety and stress and allow them to learn and grown on their own pace.
- NDP and CCE are based on sound principles of pedagogy and assessment. These were introduced as a welcome change to the exam-centric education culture prevailed in India.

Arguments Against The NDP

- This policy led to students developing a lackadaisical attitude towards their studies as promoting all students to next class leaves very little incentive for students to learn and teachers to teach well.
- A large number of teachers have reported that some of the students do not even come for the exams as there is no fear of repeating the class.
- Indirectly, this policy is promoting the idea of coaching classes. The students who do not pay attention in classes go to the coaching classes to get the passing grade in the Board examinations.
- The student, their parents, their teachers do not know where the student stands. This system makes no difference between good and bad students.
- There is significant concern that Learning Level Outcomes have been poor. Annual Status of Education Report (ASER), brought by the NGO Pratham, has said that every second Class V student in rural India can't read the text of class three levels below.
- Many committees formed by Gol had presented a negative view on NDP.
 - In 2012, a sub-committee set up by the Central Advisory Board of Education (CABE) under then Haryana Education Minister Geeta Bhukkal, had come up with a conclusion that no-detention policy has had a "very bad" impact on the children.
 - In December 2015, a Centre-appointment panel, led by Rajasthan Education Minister Vasudev Devnani, has recommended revocation of the 'no-detention policy'.
 - The TSR Subramanian committee on Education had observed that the no detention policy in schools should be applicable till Class V and exams be held from Class VI onwards.

Way Forward

- There is significant merit to NDP at the primary school level and especially till class V. Learning focused on building key foundational blocks, this can help children develop an interest in learning and encourage them to study further without fear of failure or assessments.
- The middle school levels of class 6 to class 8 are the most critical. This is a stage where a strong knowledge block, if built, can help a child stay through the entire learning life cycle and also develop

skills which are very important for a sustainable livelihood. It is proposed that some form of evaluation is introduced in these classes.

- The 'no detention policy' along with the CCE is in itself good. However, it has failed to deliver because our country lacks the infrastructural support and awareness on the part of the guardians, low teacher-student ratio etc. Hence, there is urgent need to address these issues.
- Also, there is confusion among teachers on what their role is in implementation of CCE guidelines. Teacher training must be revised in line with the requirements of CCE.

Conclusion

- Although, the no detention policy might be aiming to ensure universal enrolment and retention but has certainly affected the quality of education and aim of education.
- However, revoking the policy in isolation and bringing back the old pass-fail system without drastically reforming the education system would only add more woes to the already overburdened lives of the poor Indian children.
- The prime objective of any such step should be to effect an all-round development of children and equipping them with life skills.

1.3. Action Against Video Films Of Jarawas On Youtube

In News

- Taking suo motu cognizance, the National Commission for Scheduled Tribes (NCST) has initiated action against objectionable video films and pictures of protected Jarawa and other tribal communities of Andaman and Nicobar Islands posted on YouTube.
- The commission has taken up the matter with relevant ministries for removal of these objectionable video films from YouTube and initiate action on those who uploaded these video clips on social media platform.

Protection Extended To These Tribes

- As per provisions of Andaman and Nicobar Island (Protection of Aboriginal Tribes) Regulation, 1956 dated 18.6.1956, the Andamanese, Jarawas, Onges, Sentinelese, Nicobarese and Shom Houses have been identified as '**Aboriginal tribes**'.
- The total population of tribes of Andaman and Nicobar Islands is about 28077. Out of these, five tribal communities have population of below 500.
- The PAT Regulation contains the provisions of protection of these communities from the outside snooping.
- In 2007, the UN Committee on the Elimination of Racial Discrimination Committee (CERD) expressed concern at the Andaman Trunk Road. It recommended the Gol to "protect tribes such as the Jarawa against encroachments on their lands and resources by settlers, poachers, private companies or other third parties and implement the 2002 order of the Indian Supreme Court to close the sections of the Andaman Trunk Road that run through the Jarawa reserve."
- In 2012, an amendment was made to provide for penalty for promoting tourism through advertisement relating to aboriginal tribes. According to this act, making any contact or shooting photos, videos with the protected aboriginal tribes is illegal and the offender may face imprisonment.

Jarawa Tribe

- The Jarawas are an indigenous people of the Andaman Islands in India. They live in parts of South Andaman and Middle Andaman Islands. They are believed to have lived in their Indian Ocean home for up to 55,000 years.
- Today, approximately 400 members of the nomadic Jarawa tribe live in groups of 40-50 people in chaddhas – as they call their homes.
- Like most tribal peoples who live self-sufficiently on their ancestral lands, the Jarawa continue to thrive, and their numbers are steadily growing.
- They do not interact much with the outsiders. However, in 1998, a few Jarawa started to emerge from their forest for the first time without their bows and arrows to visit nearby towns and settlements.

Problems Faced by Jarawa Community

- The principal threat to the Jarawa's existence comes from encroachment onto their land, which was sparked by the building of a highway through their forest in the 1970s.
- The road (Andaman Trunk Road) that cuts through their territory brings thousands of outsiders, including tourists, into their land. The tourists treat the Jarawas like animals in a safari park.
- They remain vulnerable to outside diseases to which they have little or no immunity. In 1999 and 2006, Jarawas suffered from outbreaks of measles – a disease that has wiped out many tribes worldwide following contact with outsiders.
- Jarawa women have been sexually abused by poachers, settlers, bus drivers and others. In the past many videos have surfaced in which females members of this tribe are being asked to dance in exchange of food.
- In 2014, two French filmmakers have been booked on the charge of trespassing into the protected Jarawa tribal reserve in the Andaman islands and filming a documentary on the threatened aboriginal tribe.
- Illegal hunting, fishing and gathering, from both local and foreign poachers, remains a serious threat to the Jarawa's survival. The theft of the food they rely on risks robbing them of their self sufficiency and driving the tribe to extinction.

Attempts To 'Mainstream' The Jarawa

- In 1990 the local authorities revealed their 'master plan' to settle the Jarawa in two villages with an economy based on fishery, suggesting that hunting and gathering could be their 'sports'. The plan was so prescriptive that it even detailed what style of clothes the Jarawa should wear.
- However, in 2004 the resettlement plan was abandoned with the announcement of a radical new policy that allowed them to choose their own future, and that outside intervention in their lives would be kept to a minimum.

Steps Taken To Protect Jarwa

- In 2002, the Supreme Court ordered closure of Andaman Trunk road, yet it still remains open.
- In 2013, the Supreme Court banned tourists from travelling along the ATR for seven weeks. After the Andaman Authorities changed their own rules in order to allow the human safaris to continue, the Supreme Court had no choice but to reverse the ban.
- The Andaman Authorities had opened an alternative sea route to Baratang. This sea route

would stop the human safaris, as tourists would no longer have an excuse to drive through the Jarawa's forest.

Death Of Fair-Skinned Child Among Jarawa Tribe: A Controversy

- The murder of a five-month-old infant in Andaman triggered a debate over the rule of law among one of the world's most primitive tribes.
- The incident took place among the Jarawa tribe in 2016. Since, the baby was fair skinned, it was assumed he had been fathered by an outsider, and killed according to a ritual custom of the tribe.
- Indian Government follows Nehru's Panchsheel policy pertaining to governance of aboriginal tribes. Local police are restricted from interfering in their lives, in the hopes of preserving their Paleolithic-era culture.
- This incident has started a debate on *Rule of Law Vs. Right to Maintain Purity Of Their Race*.

1.4. Push For e-Education With 4 Digital Initiatives

President Pranab Mukherjee has launched four digital initiatives to provide a push for e-education in India. These initiatives are

- **Swayam** — an indigenously designed massive open online course (MOOC) and will host all the courses taught in classrooms from 9th class till post-graduation.
- **Swayam Prabha** — Will provide high quality educational content through 32 Direct-to-Home channels with an aim to bring uniformity in standards of education. It will cover diverse disciplines of all levels of education in various languages. It will be available to all and will be having new content of 4 hours to be telecasted 6 times a day.
- **National Digital Library** – an online library containing 6.5 million books, and
- **National Academic Depository (NAD)** – for authenticating all certificates issued by institutions. NAD will directly integrate with Boards/Universities, which issue Certificates that will be verified, authenticated, accessed and retrieved in a digital depository for purpose of employment, higher education, and loans.

According to the government, these initiatives will increase the Gross Enrolment Ratio in the higher education from 24.5 (2015-16) to 30 by 2020.

1.5. The Commitment to Reducing Inequality Index**In News**

- India has been ranked 132nd among 152 nations in a new index, tracking commitment to reducing income inequality.
- Sweden led the index while Nigeria remained the worst performer.
- The index ranks nations on the basis of their welfare spending, the progressive nature of their tax system, and prevailing wage inequality in the labour market.
- It measures the efforts of sovereign governments which pledged to reduce inequality in 2015 as part of the Sustainable Development Goals.

Key Highlights

- According to the report, India fares badly as India's rank is 21st from the bottom and the country is ranked between Lebanon and Cameroon in its efforts to bridge the gap between the rich and the poor.
- It said that government spending on health, education and social protection is "woefully low" and that a majority of the labour force is employed in the agricultural and informal sectors, which lack union organization.
- It hailed the tax structure as reasonably progressive on paper, but also criticized it as in practice much of the progressive tax is not collected. India collects just 16.7% of GDP as taxes, while South Africa manages to collect over 27%.
- On labour rights and respect for women in the workplace, India also fares poorly. Women are often paid less than men for doing the same job, despite working longer hours. In India, the wage gap is 32.6%.
- The report calculated that if India were to reduce inequality by a third, more than 170 million people would no longer be classified as poor.
- India's spending on health, education and social protection is ranked 149; its taxation system is ranked 91 and its labour market policies are 86, giving it an overall rank of 132.
- Sweden comes out on top with the next four positions being filled by European countries: Belgium, Denmark, Norway and Germany. China's rank is 87 while the bottom slot is taken by Nigeria.

About Commitment to Reducing Inequality Index (CRI Index)

- The index measures efforts of Governments of countries which pledged to reduce inequality (gap between rich and poor) in 2015 as part of the Sustainable Development Goals.
- It has been prepared by Development Finance International, Inc. and international NGO Oxfam.
- The CRI Index focuses on policies that reduce economic inequality. The CRI Index measures government efforts in **three policy areas or 'pillars'**: social spending, taxation, and labour.
- Social spending on public services such as education, health and social protection has been shown to have a strong impact on reducing inequality.
- Progressive taxation, where corporations and the richest individuals are taxed more in order to redistribute resources in society and ensure the funding of public services, is a key tool for governments that are committed to reducing inequality.
- There is strong evidence that higher wages for ordinary workers and stronger labour rights, especially for women, are key to reducing inequality.

1.6. "Sohum"- An Innovative Newborn Hearing Screening Device

In News

- The government launched the indigenously developed newborn hearing screening device **SOHUM**.
- The technology was developed by the School of International Biodesign (SIB) start-up Sohumi Innovation Labs India Pvt. Ltd.
- As of now, this technology is prohibitively expensive and inaccessible to many. Start-up Sohumi has made the technology appropriate for the resource constrained settings and aims to cater to nearly 26 million babies born every year in India.

Features

- Sohum is a low cost, innovative and Made in India device, which uses brainstem auditory evoked response, the gold standard in auditory testing to check for hearing response in a newborn.
- The portable Sohum hearing screening device measures auditory brain waves via three electrodes placed on the baby's head.
- When stimulated, they detect electrical responses generated by the brain's auditory system. If there is no response, the child cannot hear.
- The battery-operated device is non-invasive, which means babies do not need to be sedated.
- Another key advantages over other testing systems is its in-built algorithm, which is patented, that filters out ambient noise from the test signal. This is important because health clinics can be incredibly crowded and noisy.

Background

- Congenital hearing loss is considered as one of the most common birth disorders—which can be a result of both genetic and non-genetic factors.
- In underdeveloped and developing countries like India, where healthcare is still considered a luxury, hearing impairment goes undiagnosed mostly till 4+ years.
- Till then it becomes too late to do damage control as it can lead to a lot of problems such as impaired communication skills and even possible mental illness in some cases.
- Nearly 100000 hearing impaired babies are born in India annually. Sohum can help facilitate timely treatment and rehabilitation for these hearing impaired babies.
- This innovative medical device has been developed under Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India supported School of International Biodesign (SIB) Programme.
- SIB is a flagship Program of the DBT aimed to develop innovative and affordable medical devices as per unmet clinical needs of India and to train the next generation of medical technology innovators in India. It is a valuable contribution to the Make in India campaign of the Government.
- This Program is implemented jointly at AIIMS and IIT Delhi in collaboration with International partners.

1.7. Pradhan Mantri Vaya Vandana Yojana (PMVVY)**In News**

- The Government has launched a pension scheme- Pradhan Mantri Vaya Vandana Yojana- for senior citizens aged 60 or above.
- The pension scheme is offered by Life Insurance Corporation of India (LIC).
- In the falling interest rate scenario, where banks are cutting their deposit rates and the interest rates on small saving schemes are at record low, it is believed that the scheme will provide social security to senior citizens by offering decent return.
- This scheme can be beneficial for the senior citizens who want a no risk investment and which is non-fluctuating.

Key Highlights

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- Under this scheme, there will be an assured return of 8 % over a tenure of 10 years. If there is a shortfall between the actual return earned under the scheme and the guaranteed return of 8 %, then the government will subsidise LIC for it.
- It provides for pension options of monthly, quarterly, half-yearly and yearly frequency, resulting in return of around 8.3 per cent.
- Premature withdrawal from the scheme is possible in case the money is required for the treatment of terminal or critical illness of the person or spouse. In this case, 98 per cent of the amount invested will be refunded.
- In case of the death of the pensioner during the policy term of 10 years, the purchase price will be refunded to the beneficiary.
- On the maturity, the pensioner will get back the amount invested along with the final installment of the pension.
- One can also avail a loan of up to 75 % of the amount invested after three years.

1.8. Pradhan Mantri Matru Vandana Yojana (PMMVY)

In News

- The Ministry of Women and Child Development has prepared the draft guidelines for implementation of Pradhan Mantri Matru Vandana Yojana (PMMVY).
- It provides for Aadhaar linkage, Direct Benefit Transfer of Rs. 5000 in beneficiary's bank/post office account in three instalments - at the time of early registration of pregnancy, after six months of pregnancy on at least one antenatal check-up, and registration of child birth & first cycle of immunisation of the child.

About PMMVY

- PMMVY is a maternity benefit program run by the Government of India. Previously, it was named as Indira Gandhi Matritva Sahyog Yojana (IGMSY).
- IGMSY was introduced in 2010 as a conditional cash transfer scheme for pregnant and lactating women of 19 years of age or above for first two live births. It provides a partial wage compensation to women for wage-loss during childbirth and childcare. It also provides conditions for safe delivery and good nutrition and feeding practices.
- In 2013, the scheme was brought under the National Food Security Act, 2013 to implement the provision of cash maternity benefit of Rs 6,000 stated in the Act.
- **Objectives:**
 - Promoting appropriate practice, care and institutional service utilization during pregnancy, delivery and lactation.
 - Encouraging the women to follow (optimal) nutrition and feeding practices, including early and Exclusive breastfeeding for the first six months; and
 - Providing cash incentives for improved health and nutrition to pregnant and lactating mothers.
- It is Centrally Sponsored Scheme under which the cost sharing ratio between the Centre and the States & UTs with Legislature is 60:40, for North-Eastern States & three Himalayan States, it is 90:10 and 100% Central assistance for Union Territories without Legislature.

1.9. National Strategic Plan for Malaria Elimination (2017-22)**In News**

- The Ministry of Health and Family Welfare has launched the National Strategic Plan for Malaria Elimination (2017-22).
- The Strategic Plan gives year wise elimination targets in various parts of the country depending upon the endemicity of malaria in the next 5 years.
- It has set a target to eliminate malaria by 2027 which is three years ahead of the deadline set by National Framework for Malaria Elimination (NFME).
- To be declared malaria-free, a country has to report zero incidence for at least three years.

Silent Features Of The Plan

- It aims to achieve universal case detection and treatment services in malaria endemic districts to ensure 100% diagnosis of all suspected cases, and full treatment of all confirmed cases.
- Division of districts into categories - It divides the country into four categories, from 0 to 3.
 - a) **Category Zero**, the first category, has 75 districts that have not reported any case of malaria for the last three years.
 - b) **Category 1** has 448 districts, in which the Annual Parasite Incidence (API or the number of positive slides for the parasite in a year) is less than one per 1,000 population.
 - c) In **Category 2**, which has 48 districts, the API is one and above, but less than two per 1,000 population.
 - d) **Category 3** has 107 districts, reporting an API of two and above per 1,000 population.
- The plan is to eliminate malaria (zero indigenous cases) by 2022 in all Category 1 and 2 districts.
- The remaining districts are to be brought under a pre-elimination and elimination programme.
- The NSP also aims to maintain a malaria-free status for areas where transmission has been interrupted.
- The plan has four components, based on WHO recommendations:
 - Diagnosis and case management;
 - Surveillance and epidemic response;
 - Prevention — integrated vector management;
 - Cross-cutting interventions, which include advocacy, communication, research and development, and other initiatives.
- According to the NSP, the finances would be managed from government sources, international donors, and the corporate sector as part of companies' corporate social responsibility.

The Need For Malaria Elimination In India

- Major Public Health Problem –
 - Malaria cases have consistently declined from 2 million in 2001 to 0.88 million in 2013, although an increase to 1.13 million cases occurred in 2014 due to focal outbreaks.
 - According to the World Malaria Report 2016, India accounts for 89% of the incidence of malaria and 69% of malaria deaths in the South-East Asia region.

- Presently, 80% of malaria occurs among 20% of people classified as “high risk”, although approximately 82% of the country’s population lives in malaria transmission risk areas.
- These populations at high-risk for malaria are found in some 200 districts of Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, West Bengal and seven north-eastern states.
- High Economic Burden –
 - Increased out of pocket expenditure, loss of productivity and many other indirect costs are associated with this disease. According to one estimate, the total economic burden from malaria could be around US \$ 1940 million.
 - Efforts to control and eliminate malaria are increasingly viewed as high-impact strategic investments that generate significant returns for public health, help to alleviate poverty, improve equity and contribute to overall development.
 - A malaria burden analysis inferred that every Rupee invested in malaria control in India (1994) produces a direct return of Indian Rupees 19.705.
- Threat Of Multi-Drug Resistant Variety – There is growing threat of the spread of malaria multi-drug resistance including resistance to artemisinin-based combination therapies from the neighbouring Greater Mekong Sub region countries, coupled with the shortage of new and effective anti malarials.
- Global Obligation –
 - WHO has recently developed the Global Technical Strategy for Malaria 2016–2030 which advocates global acceleration of malaria elimination efforts.
 - Similarly, the Asia Pacific Leaders Malaria Alliance (APLMA), of which India is a member, has set a target for malaria elimination in all countries of the Asia Pacific region by 2030 as per its Malaria Elimination Roadmap.
- Increased Globalization –
 - There are reports of artemisinin resistance emerging from bordering countries such as Myanmar. Due to frequent movement that takes place across international borders, moving towards malaria elimination will be a step in the right direction.
 - Any further delay in addressing the problem of P. falciparum malaria could lead to the deterioration of the malaria situation and the emergence of multi-drug resistance, including resistance to artemisinin-based combination therapies.

History Of Malaria Control In India

- In the early 1900s, malaria control operations in India were centred on vector control, particularly the use of anti-larval operations.
- Soon after the Second World War, when DDT was released for use in public health, several successful trials demonstrating the effect of DDT spraying on malaria control were conducted in the country.
- This was followed by the launching of the **National Malaria Control Programme (NMCP)** in 1953. Indoor residual spraying, monitoring and surveillance of cases, and anti-malarial treatment of patients were the key activities implemented under this programme.
- This programme achieved remarkable results in causing a decline in malaria-related morbidity

and mortality.

- **However**, reports of DDT resistance in anopheline mosquitoes started emerging from countries across the globe and as a result, the focus of the malaria programme was shifted from control to eradication and the **National Malaria Eradication Programme (NMEP)** was launched in India in 1958.
- However, an increasing trend of malaria was observed in some towns/cities which led the **Madhok Committee (1969)** to recommend implementation of effective anti-larval measures in urban areas. Accordingly, the **Urban Malaria Scheme (UMS)** was launched in 1971.
- Subsequently, a revised strategy named the Modified Plan of Operations (MPO) was launched in 1977.
- In the following years, malaria control projects were launched in selected high endemic areas of the country with funds from the World Bank and the Global Fund. Monovalent RDTs were reintroduced in 2005, followed by the introduction of LLINs in 2009 and bi-valent RDTs in 2013.

Challenges In Malaria Control:

- Population movements, often uncontrolled across states/UTs, and sharing of large international borders with neighbouring malaria endemic countries.
- Shortage of skilled human resources.
- Insecticide resistance.
- Poor Hygiene
- Low awareness among people regarding mosquito breedings.

1.10. Aajeevika Grameen Express Yojana

In News

- The government is to launch a new scheme, named Aajeevika Grameen Express Yojana (AGEY), to provide an alternative source of livelihood to members of Self Help Groups (SHGs).
- This scheme will be launched under Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM).
- The sub-scheme will be implemented in 250 blocks in the nation on a pilot basis for a duration of 3 years i.e. from the Financial Year 2017-18 to 2019-20.

Key Highlights

- The main objectives of AGEY are to provide an alternative source of livelihoods to members of SHGs by facilitating them to operate public transport services in backward rural areas.
- This will provide safe, affordable and community monitored rural transport services like e-rickshaws, 3 and 4 wheeler motorised transport vehicles to connect remote villages with key services and amenities including access to markets, education and health for the overall economic development of the area.
- There is a provision of providing some options under the sub-scheme; one of the options proposed to be given under the sub-scheme is that the Community Based Organisation (CBO) will provide an interest-free loan from its own corpus to Self Help Group member for purchase of the vehicle.

About DAY-NRLM

- It is a poverty alleviation mission under Ministry of Rural Development.
- Its aim is to reduce poverty by enabling the poor households to access gainful self-employment and skilled wage employment opportunities, resulting in appreciable improvement in their livelihoods on a sustainable basis, through building strong grassroots institutions of the poor.
- It is trying to organize the poor into SHG (Self Help Groups) groups and make them capable for self-employment. It has a special focus on women empowerment including a dedicated component for promoting farm and non-farm based livelihoods for women farmers in rural areas
- It is one of the world’s largest initiatives to improve the livelihood of poor and is supported by World Bank.



1.11. India Ranks 116 Out Of 157 Nations On SDG Index

In News

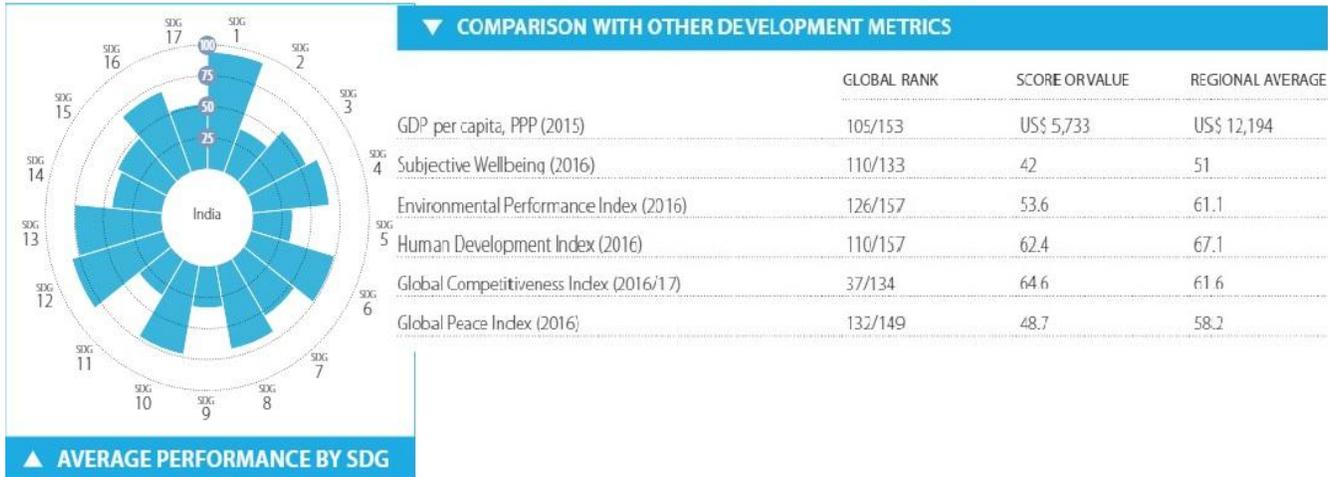
- India is ranked 116 out of 157 nations on a global index that assesses the performance of countries towards achieving the ambitious sustainable development goals (SDGs).
- The index has been prepared by collecting available data for 157 countries to assess where each country stands in 2017 with regard to achieving the SDGs.

Key Highlights

- India is ranked 116th on the index with a score of 58.1, behind countries such as Nepal, Iran, Sri Lanka, Bhutan and China. Pakistan is ranked 122.
- **Sweden** leads the list, followed by Denmark and Finland. Among the G7 countries, only Germany and France can be found among the top ten performers. The US ranks 42nd on the Index, while Russia and China rank 62nd and 71st respectively.
- It said that many of the richest countries in the world are nowhere near achieving the global policy objectives. They also deteriorate the implementation process for poorer countries because of negative spillover effects.

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- According to it, there is a rising **trend of nationalism and protectionism** that impedes the implementation of the goals.
- It further says that one of the greatest obstacles to achieving the global goals for high-income countries are poor performances regarding sustainable consumption and production. All countries that score lowest on electronic-waste generation, for example, are high-income countries.
- The report calls for urgent need for action on the part of G20 countries in making sustainable development goals a reality both within and beyond their borders.



About SDG Index

- The SDG Index and Dashboards Report provides a report card for country performance on the historic **Agenda 2030** and the **Sustainable Development Goals (SDGs)**.
- The SDG Index ranks countries based on their performance across the 17 Sustainable Development Goals.
- The annual report shows how leaders can deliver on their promise and it urges countries not to lose the momentum for important reforms.
- It is produced by the Sustainable Development Solutions Network (SDSN) and the Bertelsmann Stiftung.

Sustainable Development Goal (SDG)

- The SDGs, otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.
- It is a set of 17 "Global Goals" with 169 targets between them, which are to be achieved by 2030. It is spearheaded by the United Nations.



1.12. The Right of Children to Free and Compulsory Education (Amendment) Bill, 2017

In News

- The Lok Sabha gave its approval to The Right of Children to Free and Compulsory Education (Amendment) Bill, 2017.
- The Bill amends the Right of Children to Free and Compulsory Education Act, 2009 by extending the deadline for teachers to acquire the prescribed minimum qualifications for appointment.
- According to the RTE Act, 2009, which came into force on 1st April 2010, a teacher, who did not possess minimum qualifications, was required to acquire them in five years.
- The new Bill further extended this deadline by stating that those teachers who do not possess the minimum qualifications as on March 31, 2015 will acquire the minimum qualifications within a period of four years i.e. by March 31, 2019.

Benefits

- This will enable the in-service untrained elementary teachers to complete their training and ensure that all teachers at the elementary level in the country have a certain minimum standard of qualifications.
- This would ultimately result in improvement in overall quality of teachers, teaching processes and consequently learning outcomes of children.

1.13. Drug-resistant TB Higher Among Children Than Expected

In News

- According to a report by the Foundation for Innovative New Diagnostics (FIND) that conducted the tests in collaboration with the Central TB Division under the Revised National TB Control Programme (RNTCP), Multi-Drug Resistant (MDR) TB is higher among children than expected.
- While detection of tuberculosis (TB) in children remains a challenge, the new trend presented by the report is worrying.

Key Highlights

- As many as 5,500 of over 76,000 children tested in 9 cities have been diagnosed with TB. 9 % of these paediatric TB cases have been diagnosed to have MDR TB. In 2016, the proportion of children among new TB patients reported was 6%.
- Absence of appropriate samples coupled with decentralised capacity to get good samples from children to test for TB remains a challenge in paediatric TB case detection.
- TB diagnosis in children is complicated due to challenges associated with sample collection and poor sensitivity of tests like the Acid fast bacilli (AFB) smear.
- FIND, through this project, has collaborated with the Central TB Division to improve access to more sensitive diagnostic tools like the GeneXpert in the paediatric population.
- GeneXpert MTB/RIF is a cartridge-based test used with an automated molecular diagnostic platform that enables the diagnosis of TB and some drug-resistant TB (DR-TB) in less than two hours.

About Tuberculosis (TB)

- TB is a disease caused by bacteria “Mycobacterium tuberculosis” that most often affect the lungs.
- The disease is spread from person to person through the air. It commonly affects the lungs but can also affect other parts of the body.
- It is the second biggest killer disease worldwide next only to HIV/AIDS.
- It can be completely cured with proper and regular medication.

Indian Scenario

- India has continued to account for one fourth of the global TB burden for more than a decade despite implementing the WHO-backed Directly Observed Treatment, Short-Course (DOTS) programme nationwide.
- As per new estimates, the number of new cases every year has risen to 2.8 million and mortality is put at 4,80,000 each year. These figures may go up when the national TB prevalence survey is undertaken in 2017-18.
- Against this backdrop, the Ministry of Health and Family Welfare, in its *National Strategic Plan For Tuberculosis Elimination (2017-2025)*, has set a highly ambitious goal of “achieving a rapid decline in burden of TB morbidity and mortality while working towards elimination of TB by 2025.”

Efforts To Eliminate TB So Far

- The Revised National Tuberculosis Control Programme (RNTCP) has treated 10 million patients, however, the rate of decline has been slow.
- Providing universal access to early diagnosis and treatment and improving case detection were the main goals of the National Strategic Plan 2012-17.
- The government made three significant important policy decisions to improve disease surveillance: making TB a notifiable disease (May 2012); including anti-TB drugs under Schedule-H1 (August 2013); and developing a case-based, web-based TB surveillance system.
- Going by the current rate of decline, India is far from reaching the 2030 Sustainable Development Goals — reducing the number of deaths by 90% and TB incidence by 80% compared with 2015.

Why TB Still Persists In India

- Over 80 per cent of people with TB first knock on the doors of the private health sector where the standard of diagnosis and quality of TB care has always been contentious issues. There is no institutionalized mechanism to help private players update their knowledge and skills about changing diagnostic algorithms, even the use of anti-TB drugs in appropriate doses for the correct duration.
- As per norms, a private doctor or hospital has to inform the government about each TB case but this hardly happens.
- **Old diagnostic methods used:** In India both private and public sector heavily rely on smear microscopy method for the initial diagnosis of the TB. This method has the ability to detect only 50% of the positive cases.
- **Limited number of machines:** There are only 735 Xpert MTB/RIF molecular diagnostic machines available across the country. These machines are for high risk groups but unfortunately the machines are too less in number to even meet the need of target groups.
- **Daily drug regimen:** In India, drug is given as thrice a week, this regimen is not appreciated because even if one of the doses is missed, it can result in sub-therapeutic drug levels, and TB bacteria can mutate and become resistant.
- **Implementation of Shorter MDR-TB regimen:** The World Health Organisation (WHO) recommended a shorter (nine-month) regimen to treat MDR(Multi Drug Resistance)-TB. But India is yet to make the shorter MDR-TB regimen as part of India's national TB control policy.
- **Limited availability of drug:** WHO recommended use of Bedaquiline drug for adults with MDR-TB but the drug is currently available only in five cities — Ahmedabad, Delhi, Chennai, Mumbai and Guwahati. Delamanid is another drug used in treating MDR-TB but even its availability is not enough.
- **Paediatric TB:** Cases of paediatric TB (for children weighing less than 25 kg) is also increasing in number.
- 'Missing' cases: India has 41% gap between the estimated and detected cases.

Way Forward

- There is need to develop radical approaches to address the issue. Rather than the strategy of waiting for patients to walk in to get tested we need to engage in detecting more cases, both drug-sensitive and drug-resistant.
- The emphasis should be on using highly sensitive diagnostic tests, undertaking universal testing for drug-resistant TB, reaching out to TB patients seeking care from private doctors and targeting people belonging to high-risk populations.
- The other priority should be to provide anti-TB treatment — irrespective of where patients seek care from public or private — and ensure that they complete the treatment.
- Sending customized SMSes to improve drug compliance, incentivizing private doctors to notify cases and providing free medicines to patients approaching the private sector, facilitating nutritional support to TB patients, including financial support, rewarding States performing well in controlling TB, and using management information systems to monitor all aspects of TB control would help India to fight against this disease.

The Central TB Division has rightly planned to increase the number of Xpert machines to over 1,000 by 2019. Ministry of Health is planning to expand the availability of Bedaquiline in the rest of the

country. India has also introduced fixed-dose combination (FDC) drugs for paediatric TB. It was introduced in six States and will be extended to the remaining States by the end of this year.

1.14. Sexual Harassment Electronic Box (She – Box)

In News

- The Ministry of Women & Child Development has launched an online complaint management system titled Sexual Harassment electronic–Box (SHe-Box) for registering complaints related to sexual harassment at workplace.
- The complaint management system has been developed to ensure the effective implementation of Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act (the SH Act), 2013.

Key Highlights

- This portal will provide a platform to women working or visiting any office of Central Government to file complaints related to sexual harassment at workplace under the SH Act.
- Those who had already filed a written complaint with the concerned Internal Complaint Committee (ICC) constituted under the SH Act are also eligible to file their complaint through this portal.
- Once a complaint is submitted to the portal, it will be directly sent to the ICC of the concerned Ministry/Department/PSU/Autonomous Body etc. having jurisdiction to inquire into the complaint.
- This portal will enable WCD as well as complainant to monitor the progress of inquiry conducted by the ICC.
- It will help in providing speedier remedy to women facing sexual harassment at workplace.

The sexual harassment Act mandates that all workplaces with more than 10 workers constitute an internal complaints committee for receiving complaints of sexual harassment. The Union government has 30.87 lakh employees. According to the Census of Central Government Employees 2011, women constitute 10.93 per cent of the total force.

1.15. Jiyo Parsi Publicity Phase-2

In News

- The government has launched Jiyo Parsi Publicity Phase-2, under Jiyo Parsi Scheme.
- It aims at containing the declining trend of population of the Parsi community and reverses it to bring their population above the threshold level.

Background

- Jiyo Parsi” scheme had been launched with an aim to reverse the declining trend of Parsi population by adopting a scientific protocol and structured interventions, stabilize their population and increase the population of Parsis in India.
- Lunched by Ministry of Minority Affairs, the scheme has two components: Medical Assistance and Advocacy/Counselling.
- The scheme has been successful and so far 101 babies have been born in Parsi community through “Jiyo Parsi” scheme.
- Jiyo Parsi Publicity Phase-1” was initiated in 2013.

2.1. Minimum Qualifications for Cooperative Societies' Polls

In News

- Rajasthan became the first State in India to lay down the minimum educational qualifications for contesting elections to various other cooperative bodies including village cooperative societies.
- The State Cooperative Societies Rules, 2003, were amended for this purpose.

Key Highlights

- The required educational qualifications will range from Class V to Class VIII for election as members of governing boards of various cooperative boards.
- The minimum qualifications for the primary committee members would be class VIII, class X for district-level committees, and graduation for the state level committee.
- In order to ensure that the management is in good hand, the minimum educational qualification would be compulsory for the members of the Directorate of Board.
- It will be the first state in the country to establish Recruitment Board by the Cooperative Committees, which will recruit personnel for the cooperative committees.
- This move will ensure more employment in the field of cooperatives.

Laws Prescribing Educational Qualifications For Contesting an Election: Analysis

Background

- In March 2015, the Rajasthan Panchayati Raj Amendment Act stipulated minimum educational qualifications for citizens who wanted to contest elections at the local level. It required candidates contesting for zila parishads and panchayat samitis to have passed Class X.
- Similarly, in Haryana, a new law makes it mandatory for a general male candidate to pass Class X and a general woman candidate to pass Class VIII. For a Dalit male candidate passing Class VIII is mandatory and for a Dalit woman passing Class V is required.
- Additionally - in few states such as Rajasthan, Haryana and Bihar - candidates can contest only if they have functional toilets at home.

Constitutional Position

- Article 40 - State shall take steps to organize village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government.
- Article 246 –Empowers State governments to legislate on the matters pertaining to state list.

Argument In Favour Of Prescribing Educational Criteria

- Education will “enable the candidates to effectively discharge duties of the panchayat” as it is precondition for efficiency. Social audit, paper work optimization etc. are duties, which can be effectively discharged if the leader has some educational qualification.
- It is only education which gives a human being the power to discriminate between right and wrong, good and bad”. Hence, it has some moral validity as well.
- Many activities like sanitation campaign, women empowerment in rural area, breaking caste barriers etc. require the local leaders to go beyond the prevailing cultural norm in order to bring the required change. Educated background will sensitize the leaders towards these issues and

thereby bringing more commitment.

- Such laws will promote able leadership at the local level, which can then act as a role model for many youths.

Argument Against Prescribing Educational Criteria

- These new norms are in contradiction with the philosophy of the Indian Constitution, which allowed every Indian to contest elections in 1952 while the literacy rate was 11 %.
- It would lead to exclusion of vulnerable communities such as women, SC/ST etc. as the literacy rate is quite low among them. For example, In Haryana, these criteria deprive 68 % of the Dalit women and 41 % of the Dalit men from the right to contest panchayat elections.
- It is against the basic premise of democracy, which talks about equal opportunity to all as these laws create “two classes of voters,” that is, “those who are qualified by virtue of their educational accomplishment to contest the elections to the panchayats and those who are not.”
- Due to fast pace of urbanization and associated migration, there may be certain pockets in the region where there might not be any candidate fulfilling the required criteria.
- Also the argument that only education which gives a human being the power to discriminate between right and wrong, good and bad” is not necessarily true as this means that educated persons cannot be dishonest.
- It might lead to accumulation of bogus degrees and certificates.
- These laws are also somewhat incoherent. For instance, if a Class V qualification is enough to discharge a member’s function in the case of a Dalit woman, why has a higher qualification been imposed on others?

Conclusion

- In an era of globalization and technological revolution, this step can be termed as a progressive one only if it does not lead to exclusion.
- Hence, the first step should be to carry out Literacy Survey in all the regions so as to point out the pockets where low rate of literacy is prevalent.
- These pockets must see some relaxation compared to other regions.
- We must focus on revamping our educational system to educate each and every one.

2.2. Separate State Flag

Karnataka has constituted a nine-member committee to study and submit a report to the government on the possibility of “designing a separate flag for Karnataka and providing it a statutory standing.”

Constitutional Position And Some Analysis

- So far, Jammu and Kashmir is only state having separate flag of its own due to special status granted under Article 370 of the Constitution.
- There is no separate Central or State law to deal with this issue. In addition, the Indian Constitution does not prohibits States to have their own flag.
- National Flag Code is silent about the separate State Flag. Although, it specifically authorizes use of flags subject to court regulation.

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- In **S.R. Bommai v/s Union of India (Supreme Court 1994)** case, the Supreme Court has declared that federalism is a basic feature of the Constitution and States are supreme in their sphere.
- This being the Constitutional position, there is no prohibition in the Constitution for the State to have its own flag.
- However, the manner in which the State flag is hoisted should not dishonour the national flag. It has to be always below the national flag.
- Thus, there is nothing illegal or unconstitutional in having separate State flag. However, we must take into account the various other dimensions before deciding on such issue. These are:
 - Symbol of Unity – Indian Tricolour is representative of unity among diversity as the three colours represent the idea of India. Having separate flag can run contrary to the notion “One Nation, One Constitution, One Flag”.
 - Representative of Freedom Struggle – The national flag is a result of our struggle against colonialism. It tells us to cherish and follow the noble ideas that inspired the national struggle for freedom.
 - It signifies the historical process of integration – During national integration of princely States, barring J&K, each princely states decided to surrender their State flags and accepted the Indian Tri-Colour.
 - Many a times separate State flags are representative of rebellion. At a time when we are dealing with separatist movements in many States and cultural alienation among North-Eastern States, separate State flags would do more harm than good.

2.3. Ministries Of Urban Development, Housing And Urban Poverty Alleviation Merged

In News

- The government has merged Ministry of Urban Development, and Ministry of Housing & Urban Poverty Alleviation -- involved in policy making in urban areas -- to form the **Ministry of Housing and Urban Affairs**.
- With this merger, the government now has 51 ministries. In 2004, the number was 42. The first government in independent India had just 17 ministries.
- In 2016, the Ministry of Overseas Indian Affairs (MOIA) was merged with the Ministry of External Affairs (MEA).

Background

- A panel of Secretaries in February 2017 had recommended merger of the two ministries to increase efficiency in governance. It had also recommended to bring the Pharmaceuticals and AYUSH ministries under the Health Ministry.
- The two ministries, headed by Union minister VenkaiahNaidu, have a long history of mergers and de-mergers.
- In 1952, they were one ministry which was known as the Ministry of Works, Housing and Supply. They were demerged in 1999, merged the next year and bifurcated again in 2004.

Implications

- It will help in rightsizing the government. It would also promote the idea of “**Minimum Government, Maximum Governance**”.

- It would help to **avoid duplication of works** as the MoUD is mandated to implement programmes to make cities liveable, while MoHUPA formulates policies to improve the socio-economic condition of the urban poor.
- This step would lead to **optimum distribution of staffs** as many departments under these Ministries were understaffed.
- This step is in line with the 91st Constitutional amendment which says that “The total number of Ministers, including the Prime Minister, in the central council of ministers shall not exceed 15% of the total strength of Lok Sabha”.

2.4. New Training Programme ‘COMMIT’ for State Government Officials

In News

- The Union Government has launched a new training programme called “**Comprehensive Online Modified Modules on Induction Training (COMMIT)**” for State Government officials.
- The objective is to improve the public service delivery mechanism and provide citizen centric administration through capacity building of officials who interact with the citizens on day-to-day basis.

Highlights

- The COMMIT programme is developed by DoPT in collaboration with United Nations Development Programme (UNDP).
- It will supplement the existing 12-Day Induction Training Programme (ITP) launched in 2014-15 for newly recruited state Government officials to develop in them generic & domain specific competencies.
- It will be of 28 hours duration, which will include e-Modules for 20 hours and face-to-face training for 8 hours. The modules on soft skills will be delivered as e-Modules & through face-to-face training. The domain modules will be covered through e-Modules only.
- The COMMIT allows translating the content in local/regional languages.
- State Administrative Training Institutes (ATIs) will be implementing the programme.

Importance Of This Scheme

- Rapid economic growth; devolution of funds, functions and functionaries to the Panchayats and Municipalities; enhanced transparency through the right to information; globalization; climate change; and extremism have created a complex and challenging environment. It requires the capacity building of government officials to deal with the situation effectively.
- In this context, it will help to develop skills within state government departments in different areas.
- Public service delivery mechanism will be improved and it will help in creation of citizen-centric administration.
- To achieve maximum Governance, it is necessary to equip the officials with the best possible tools to perform best to their ability. COMMIT is one among several tools to achieve this purpose.

2.5. Government e-Marketplace

In News

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- In a spirit of cooperative federalism, 6 States/Union Territories (UT) formally adopted the Centre's initiative called the Government e-Marketplace (GeM).
- It aims to ensure that public procurement of goods and services in India is carried out in a transparent manner.
- GeM is a completely paperless, cashless and system driven e-market place that enables procurement of common use goods and services with minimal human interface.

Benefits of GeM

- Transparency
 - Minimises human interface in vendor registration, order placement and payment processing.
 - Offers no entry barriers to bonafide suppliers who wish to do business with the Government.
 - At every step, SMS and e-Mail notifications are sent to all the stakeholder involved in the process.
 - Online time-bound payment has given confidence to the vendors and reduced their 'administrative' cost involved in pursuing officers for timely payment.
- Efficiency
 - Direct purchase can be done in a matter of minutes.
 - Online tools for assessing price reasonability help in better price discovery.
 - The reasonability of price would be further strengthened by way of integration with GSTN and ICEGATE that will enable the buyer to ascertain the price of an item when it exited the factory gate or when it got imported into the country.
- Secure and Safe
 - Completely secure platform as all the documents on GeM are e-Signed at various stages by the buyers and sellers.
 - Antecedents of the suppliers are verified online and automatically through MCA21, Aadhar and PAN databases.
- Potential to Support Make in India: The filters for selecting goods which are Preferential Market Access (PMA) compliant and those manufactured by Small Scale Industries (SSI), enables the Government buyers to procure Make in India and SSI goods very easily.
- Savings to the Government
 - The transparency, efficiency and ease of use of the GeM portal has resulted in a substantial reduction in prices.
 - The average prices on GeM are lower by atleast 15-20%, and in some cases even upto 56%.

Conclusion

- With the joining of more and more States, the GeM would eventually emerge as the National Public Procurement Portal, keeping in tune with the Global best practices.
- Most of the OECD countries, like USA, South Korea, UK, Singapore etc, have a single NPPP and as a result annual savings of billions of dollars are made in public procurement, besides giving a fillip to the domestic industry.

2.6. Election Commissioners' Appointment**In News**

- The Supreme Court has asked the Union Government to formalize a law on the appointment of election commissioners.
- **Article 324** of the Constitution provides that the appointments of the CEC and the ECs be made as per the enabling law, but the law has not been enacted so far.
- According to the Supreme Court, at present due to lack of a parliamentary law, there is no transparency in the eligibility criteria of Election Commissioner.
- The bench was hearing a PIL seeking various reliefs including that there should be a fair and transparent procedure for appointment of CEC and ECs.

Article 324

- Article 324 creates the office of Election Commission. It has following provisions regarding the composition of election commission:
 - The Election Commission shall consist of chief election commissioner and such number of other election commissioners, if any, as the president may from time to time fix.
 - The appointment of the chief election commissioner and other election commissioner and other election commissioners shall be made by the President.
 - The President may also appoint after consultation with the election commission such regional commissioners as he may consider necessary to assist the election commission.
 - The Condition of Service and tenure of office of election commissioner and regional commissioners shall be determined by the President.
- Pursuant to Article 324, the Government passed an act titled as ***The Chief Election Commissioner and Other Election Commissioners (Conditions of Service) Act, 1991***. It was enacted with an aim and object to determine the conditions of service of the Chief Election Commissioner and other Election Commissioners and for connected matters.
- Later, it was amended to specifically deal with the powers, salary and allowances of the Chief Election Commissioner and other Election Commissioners which should be similar to the powers, salary, allowances and other perquisites payable to a Judge of the Hon'ble Supreme Court of India.
- According to this act, the chief election commissioner or an election commissioner shall hold office for a term of 6 years or age of 65 years, whichever is earlier.
- However, it is silent on the criteria based on which election commissioners can be selected.

2.7. Mahadayi River Water Sharing**In News**

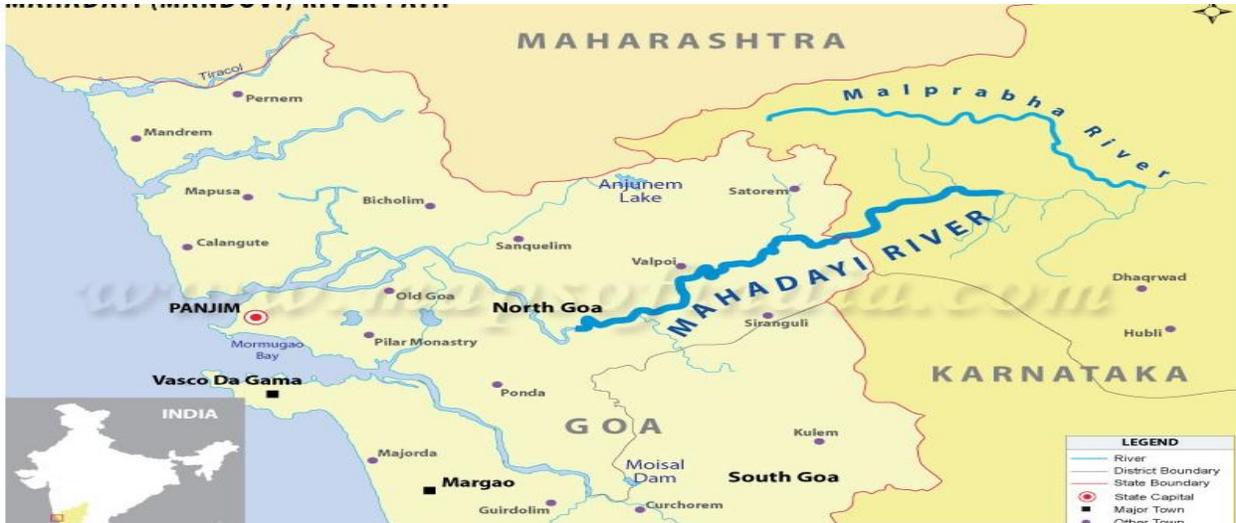
- Goa has said that it is open to talks with Karnataka and Maharashtra to explore an out-of-tribunal settlement on Mahadayi issue.
- Earlier in 2016, Mahadayi Water Disputes Tribunal (MWDT) had rejected the Karnataka's plea for diversion of 7.6 thousand million cubic feet (tmcft) of water from the river to the Malaprabha Basin.

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- It had pointed out various grounds for rejection, including ecological damage the project might cause.

Background

- The dispute over the sharing of the water of the **Mahadayi or Mandovi river** between the States of **Maharashtra, Karnataka and Goa** is over 30 years.
- In 2002, Karnataka government decided to implement a long pending drinking water project by building a canal across two tributaries of the Mahadayi – **Kalasa and Banduri**.
- Goa approached the centre in 2002 with a request for a Mahadayi Water Dispute tribunal.



Facts

- Article 262 of the constitution provides for the adjudication of inter-state water dispute.
- In pursuant of this Article, centre enacted the Inter-State Water Dispute Act (1956).
- This act empowers Central government to set up an ad hoc tribunal for the adjudication of a dispute between two or more states.
- The decision of tribunal would be final and binding on the parties of the dispute.
- Neither Supreme Court not any other court have jurisdiction with respect to disputes referred to such tribunal under this act.

2.8. Maharashtra Prohibition of Social Boycott Act

The outgoing President Pranab Mukherjee gave his assent to the Maharashtra Prohibition of People from Social Boycott (Prevention, Prohibition and Redressal) Act, 2016. After this Maharashtra became the first state in India to bring a law making social boycott a crime.

Key Highlights Of The Act

- Under the Act, social boycott is a punishable criminal offence, which includes a fine of up to Rs 1 lakh and imprisonment of up to three years or both.
- Either the victim or any family member can file a complain directly to the police, or to a magistrate.

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- The Act views any organisation that delivers a judgment or issues a fatwa, as a caste panchayat, even if it is unregistered.
- The Act provides for 15 examples of social boycott, including expulsion from the community; stopping an individual from taking part in a family function or religious, social community-based activities or ceremonies; stopping children from playing in certain areas; or disallowing access to educational institutions, burial grounds, crematoria, and other public conveniences, among others.
- Freedom, in this case, includes freedom to marry outside one's caste, visit places of worship, wear clothes of one's choice and use any specific language.
- It even makes it an offence to create cultural obstacles by forcing people to wear a particular type of clothing or use a particular language.
- The Act makes provisions for six-month long speedy trials, and also provides for state government-appointed Social Boycott Prohibition Officers to assist the police and the magistrate.

Background

- The movement, initiated by late Narendra Dabholkar, gained momentum after he was shot dead and the Maharashtra legislature passed the law unanimously in 2016.
- After that, it was pending with the central government for the President's nod, as it needed clearances from six central ministries and a nod from the President.
- Recently the Maharashtra police has registered its first case under the Maharashtra Prohibition of People from Social Boycott (Prevention, Prohibition and Redressal) Act in which a family belonging to Ghadshi community has been boycotted.
- This is not the first law of its type. Bombay enacted a law against excommunication in 1949, but it was struck down by the Supreme Court in 1962 after the Dawoodi Bohra community successfully argued that it violated the community's constitutional right to manage its own religious affairs.

Analysis

- The prohibition of the social boycott of individuals, families or any community by informal village councils is a progressive step, given the pervasive nature of the problem.
- In a caste ridden society, this law targets the pernicious practice of informal caste panchayats or dominant sections which uses ostracism as a means of enforcing social conformity. It will check the growing incidents of atrocities on individuals by jati panchayats wielding extra-judicial powers.
- Prevailing laws are frequently challenged in the court, or loopholes are used to escape punishment. The new act facilitates framing of charges under different section of IPC if there is concrete evidence thereby removing these loopholes.
- It can serve as a template for many states such as Haryana, Uttar Pradesh etc. where Khap Panchayats are promoting honour killing and social boycotting of families.
- However, many analysts believe that a law against social boycott might increase conflict between the victim who has filed a complaint and the rest of the community.
- They further contend that it is the first law to deal with social boycott; a complex concept where discrimination based on caste, religion and gender intertwines with community. Hence they raise the question about the ability of law to deal with the issue of mindset.
- Finally, the government officials implementing these laws are also members of their respective community and they often fail to see such practices as discriminating. Many a times they protect the

culprits belonging to their own community. In this case, the implementation of such laws will be a challenge.

Conclusion

The law recognizes the human rights dimension to issues of social boycott, as well as the varied forms in which it occurs in a caste-based society. Drawing its strength from Article 17 of the Indian Constitution, this law is a legislative assault on abhorrent social practices and is a welcome step.

2.9. SC Allows Government To Replace MCI Oversight Committee

In News

- The Supreme Court has allowed the central government to replace the oversight committee set up to supervise the functioning of the Medical Council of India (MCI) with a fresh panel of five eminent doctors.
- It also gave the government liberty to replace any doctor in the list with another if he does not wish to be a part of the oversight committee.

Background

- The Supreme Court, using its powers under the Article 142 of the Constitution, had set up the oversight committee in May 2016 to oversee the MCI's functioning for a period of one year or till a suitable mechanism was brought in by the Government to substitute it.
- The Oversight committee was led by former Chief Justice of India R.M. Lodha.
- Earlier in 2016, the Government presented a draft **National Medical Commission Bill, 2016** that would pave the way for replacing the Medical Council of India (MCI) with a more transparent body to be called as the National Medical Commission (NMC).
- The establishment of NMC was also suggested recently by **Ranjit Roy Chaudhary Committee**.

Issues with MCI in Current Format

- **Composition**- Presently, the MCI is largely an elected body and contains only medical doctors. Due to this there has been a **disproportionate private representation**. Also the **diversity** in the composition of MCI is missing due to high representation of medical doctors.
- **Conflict of Interest**- The functioning of the MCI leads to conflict of interest as it gives permission to establish medical colleges and also ensures quality of education.
- **Shift in Focus** - The present focus of the MCI is only on licensing of medical colleges. There is no emphasis given to the regulation of medical ethics.
- **Corruption** – Lack of transparency in granting license to the colleges has led to several incidents of corruption, nepotism etc. In 2010, its president Ketan Desai was arrested on charges of accepting huge bribe for recognizing one of the private medical colleges
- It has **failed to create a curriculum** that produces doctors suitable for Indian context, especially in rural / poor urban areas. It has **failed to maintain uniform standards** of medical education.
- **Failed to maintain Indian Medical Register** - Presently, the Indian Medical Register also contains the names of registered medical practitioners who are dead or retired from active practice. This has led to inflated data on doctor-population ratio in India. This hinders healthcare human resource planning.

About MCI

- MCI is a statutory body established in 1934 in British India via the Indian Medical Council Act, 1933 with twin mandate to regulate medical practice and medical education in the country.
- Functions of MCI
 - Maintains uniform standards of UG as well as PG medical Courses in India.
 - Recognizes / derecognizes medical degrees of India / foreign countries for India.
 - Maintains register of doctors in the country.
 - Reciprocity with foreign countries in the matter of mutual recognition of medical qualifications.
 - Upholding the ethics in medical education and profession in India.

National Medical Commission Bill

- The draft bill which seeks to replace the MCI with a new commission to steer medical education in the country has been approved by a Group of Ministers (GoM).
- The GoM was constituted to have a "relook" at the National Medical Commission Bill which was drafted by a four-member committee, headed by vice chairman of NITI Aayog, to examine all options for reforms in the Medical Council of India (MCI).

Key Highlights Of The Bill

- It seeks to end the much-criticised inspector raj, presenting a major reform of the medical education system and the profession.
- It has proposed a new system in which the members of the commission would be selected on merit by a high powered search-cum-selection panel and would not be elected, as in the past, by MCI.
- Under the proposed bill, the committee has also suggested forming a National Medical Commission (NMC) as a policy-making body for medical education comprising a chairperson, nine ex-officio members and 10 part-time members.
- The bill creates another parallel body — the Medical Advisory Council — which would have representatives of all states and two union territories. The council will be advisory in nature and shape the overall agenda in medical education and training.
- The proposed bill permits “for-profit organizations” to establish medical colleges as against the present norm where only not-for-profit organizations are permitted to do so.

Criticism

- Permitting “for profit” colleges will severely damage the stated objective of providing a cadre of medical professionals able and willing to work in small towns and villages. Private colleges which charge huge amounts for medical education exacerbate this unhappy situation by producing a group of doctors who begin their careers under pressure to earn very high incomes so that they can recover the cost of expensive medical education.
- The proposed bill seeks a rapid expansion of medical colleges which is unattainable as there is severe shortage of suitably qualified teachers in certain absolutely essential specialties (for example, in forensic science, community medicine, tuberculosis and radio diagnosis).

- Bodies with only nominated members tend to become narrow-minded with all members overly concerned with pleasing the government of the day and being unable or unwilling to speak truth to power. In this context, the proposal of forming a body with nominated member alone will not serve the required purpose.

Way Forward

- At least a section of the membership of the commission should be elected. A mix of nominated and elected members will encourage a healthy tension between various points of view and is more likely to ensure thoughtful debate.
- Rapid expansion of medical colleges must be supplied with quality teachers. The proposed bill must look into this aspect.

Conclusion

- The proposals to streamline the administrative functions, create four verticals to oversee undergraduate and postgraduate education, and establish a medical assessment and rating board as also a board for medical registration all have the potential to produce major positive changes.
- The fundamental objective, however, should not be forgotten: creating a cadre of medical professionals trained and equipped to work effectively given the social conditions of the country. Opening the door to expensive private education is directly opposed to this objective.

2.10. Indian Institutes of Management (IIM) Bill 2017

In News

- The Lok Sabha has passed the Indian Institutes of Management (IIM) Bill 2017 to allow them greater autonomy and empower them to grant degrees instead of diplomas as is the practice now.
- IIMs till now had been registered as societies and unable to grant degrees, including PhD, to their students.

Key Highlights

- IIMs would become institutes of national importance with power to grant degrees.
- The boards of the institutes are proposed to be vested with full autonomy including the power to appoint chairperson as well as the director.
- Power to review the performance of each IIM is also vested with the board.
- Board to be the principal executive body of each institute.
- Chairperson of the board will be appointed by the board for a period of four years.
- 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 also 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.

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- 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 a eminent person.
- All rules and regulations framed either by the central government or the IIM Boards will need to be tabled in parliament.

Criticism

- Many private B-schools may lose the market value of their postgraduate diploma in management (PGDM) once the bill becomes an act. There has been parity between the IIMs and other private and semi-private PGDM schools for the last 68 years as none of them were allowed to offer a degree.
- Some B-school authorities also fear that students, recruiting companies and foreign universities could question the legal validity of the diploma conferred by them.
- Indian management education is an amalgam of half-a-dozen types of MBA programmes. Each kind of programme has a different set of problems. Rather than providing holistic solution, the bill focuses only on 20 IIMs.
- There is the peril of replacing the "external powers (government power)" with "new internal powers". This is worrisome because the government represents the people and the institute board does not.
- The representatives of the government are accountable to people vis-à-vis Parliament, CAG, CBI, CVC, CIC among others The self-appointing board as proposed in the Bill is not.
- The bill provides greater autonomy which includes financial, organisational, and staffing autonomy. Many believe that greater financial autonomy in the backdrop of opaqueness in how IIMs deal with their finances is worrisome. A few IIMs have not made their annual reports available in public domain for multiple years in a row.
- Also the bill is more or less silent on academic freedom. Most IIMs administrators direct their faculty to publish in narrow lists dominated by North American research journals, where publishing with Indian data is usually an unsurmountable task.
- While there is definite merit in publishing in these well-established North American journals in the initial stages of the career but most IIMs administrators direct faculty into narrow pigeon holes research even for promotions. This is not academic freedom and the bill overlooks this aspect.
- The bill is not clear on the reservation policy in teacher recruitment at the IIMs. It vaguely mentions "enabling provision allowing reservation in employment".

Way Forward

- We need to have a Management Education Bill covering all segments and stakeholders in management education while providing level playing field for each.
- Management education in India needs a separate, independent identity and a great deal of attention from policy makers. For the last 50 years, management discipline has been treated as a technical subject similar to engineering, architecture, pharmacy etc.
- For this, setting up of the Council for Management Education (CME) and the National Management University (NMU) can be considered.

- For example - in 1997, the Government of Singapore mooted the idea of setting up of the Singapore Management University (SMU). The SMU was supported by the Singapore government to become a focal point for management education.
- In the last 16 years, it has achieved a respected position not only in Asia but also among the top universities in the world.

Conclusion

Great institutions are faculty led, administratively supported and technology enabled. It promotes faculty governance in the true spirit of academic freedom. We must focus on management education as a whole to create great institutions.

2.11. India Tops Global Index Of Countries With The Most Confidence In Their Government

The latest edition of the OECD's **Government at a Glance report** states that 73 per cent Indians have faith in the current government led by Prime Minister Narendra Modi, the highest in the world.

Key Highlights

- India is followed by the Canadian government headed by Prime Minister Justin Trudeau, which has the confidence of 62 per cent citizens.
- Turkey, which witnessed a failed coup attempt in 2016, is in third place with 58 per cent of the populace placing its trust in the Erdogan government.
- Russia and Germany rounded off the top 5, with confidence levels at 58 per cent and 55 per cent respectively.
- On the other hand, the United States government led by President Donald Trump secured only 30 per cent of the peoples' confidence.
- In the United Kingdom, which is in the midst of a bitter 'Brexit' following a divisive referendum last year, trust in the Theresa May government stands at 41 per cent
- Government trust levels are generally determined by whether or not people consider their government stable and reliable, if it's able to protect its citizens from risk and whether it can effectively deliver public services.

About OECD

- Founded in 1961, OCED is an international economic organisation of 34 countries to stimulate economic progress and world trade.
- The OECD provides a forum in which governments can work together to share experiences and seek solutions to common problems.
- The mission is to promote policies that will improve the economic and social well-being of people around the world.
- Its stated goals include fostering economic development and cooperation; fighting poverty; and ensuring the environmental impact of growth and social development is always considered.
- Over the years, it has dealt with a range of issues, including raising the standard of living in member countries, contributing to the expansion of world trade and promoting economic stability.

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3. ECONOMY AND INFRASTRUCTURE

3.1. IBBI Notifies Rules For Bankruptcy Probe

- The Insolvency and Bankruptcy Board of India (IBBI) has powers to start probe against service providers registered with it without intimating them, according to new regulations.
- IBBI, which is implementing the Insolvency and Bankruptcy Code (IBC), has notified the regulations for inspection and investigation of service providers registered with it.
- Insolvency professional agencies, professionals, entities and information utility are considered as service providers under the Code.
- The Code, which provides for a market-determined and time-bound resolution of insolvency proceedings, became operational in December 2016.
- As per the regulations, the investigation authority has to serve a notice intimating the entity concerned about the probe at least ten days in advance. However, the requirement could be done away with on grounds such as apprehensions that the records of the particular service provider might be destroyed before the probe starts.

Bankruptcy Code: NDA's Biggest Reform

The Insolvency and Bankruptcy Code, 2015, passed by Parliament is possibly the single biggest reform by the NDA government—one that could be a panacea for NPA-ridden banks. ET takes a look

ONE LAW TO DEAL WITH BANKRUPTCY

- 2 laws repealed
- 11 amended

TIME-BOUND PROCESS

- 180 days to resolve insolvency
- 270 days in some circumstances

EVERYONE GETS THEIR DUE

Order of priority

- Cost of insolvency process
- Workers, secured creditors
- Employee wages
- Unsecured creditors
- Government dues
- Any remaining debt
- Shareholders

COMPREHENSIVE COVERAGE

- Companies
- Partnerships
- Limited liability partnerships
- Individuals
- More can be included

NO DEADLOCK

- Bankruptcy resolved in prescribed time
- If not resolved in time—assets to be sold to pay debtors

REGULATOR TO PROTECT EVERYONE

- The Insolvency and Bankruptcy Board of India to keep watch
- 10-member board to have RBI and government representation

WHY THE NEW CODE TO RESOLVE BUSINESS FAILURES

LONG TIME TAKEN TO RESOLVE BANKRUPTCY
in years

| | |
|---------------|-----|
| Finland | 0.9 |
| Japan | 0.6 |
| United States | 1.5 |
| India | 4.3 |
| China | 1.7 |
| Brazil | 4 |

all figs in percentage

LENDERS GET LITTLE

Recovery rate, cents to a dollar

| | |
|---------------|------|
| India | 25.7 |
| Finland | 90.1 |
| China | 36.2 |
| Japan | 92.9 |
| Germany | 83.7 |
| United States | 81.5 |

Source: World Bank Doing Business, 2016

HIGH COST OF THE PROCESS
% of estate

| | |
|---------|-----|
| Finland | 3.5 |
| Japan | 3.5 |
| Germany | 8 |
| Korea | 3.5 |
| India | 9 |
| Brazil | 12 |

THE BIG GAINS

- India will improve its ease of doing business ranking
- Banks and asset reconstruction companies immediate gainers
- Lift lender comfort
 - This will lead to greater investments
 - Corporate bond market will develop
- Locked-up assets will be freed

NO ASSET STRIPPING

- Insolvency professionals to hold charge of assets during resolution

INFORMATION BACKBONE

- The code establishes multiple information utilities
- Collect, collate and disseminate financial information related to a debtor

NEW DEDICATED INSTITUTIONS

- Licensed professionals to guide the insolvency process
- Agencies to regulate these professionals

FUND FOR THE FUTURE

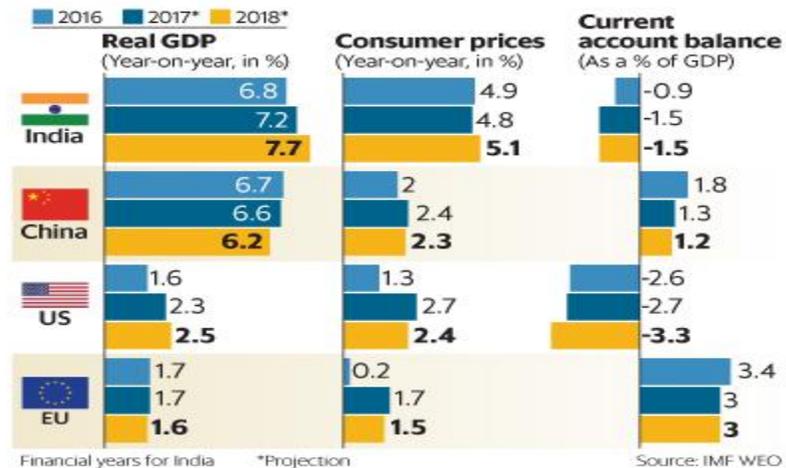
- Insolvency and Bankruptcy Fund
- Voluntary contributions from any person
- Fund available to contributors if they face bankruptcy proceedings

3.2. India Growth Forecast kept At 7.2% for 2017-18

- The International Monetary Fund’s (IMF) July *World Economic Outlook* Update retained India’s projected GDP growth rate for 2017-18 at 7.2%, and at 7.7% for 2018-19.
- The IMF added that while activity slowed following demonetisation, growth for 2016-17 was higher than anticipated on the back of government spending and stronger momentum in the first part of that year, as revealed by data revisions.
- While the IMF has retained India’s growth estimate as provided in the World Economic Outlook (WEO) in April, in the case of China, the forecast has been marginally raised to 6.7 % in 2017 and 6.4 % in 2018 from earlier projections. India, however will continue to grow faster than China in 2017 as well as 2018.
- The pick up in global growth anticipated in the April World Economic Outlook remains on track, with global output projected to grow by 3.5% in 2017 and 3.6% in 2018.
- The unchanged global growth projections mask somewhat different contributions at the country level. U.S. growth projections are lower than in April, primarily reflecting the assumption that fiscal policy will be less expansionary going forward than previously anticipated. On the other hand, the growth outlook was revised upwards for Japan, the euro area, and China.
- Inflation in advanced economies remains subdued and generally below targets; it has also been declining in several emerging economies, such as Brazil, India, and Russia.

IMF RETAINS INDIA’S FY18 GROWTH PROJECTION AT 7.2%

The International Monetary Fund (IMF) on Tuesday called for accelerated economic reforms for India to achieve a higher growth trajectory, while retaining its growth projection of 7.2% for 2017-18. In its biannual World Economic Outlook (WEO), IMF raised India’s growth estimate for 2016-17 to 6.8% from 6.6% estimated in January, even as it maintained that economic activity had slowed primarily due to the effects of demonetization. IMF’s projection makes India the fastest growing major economy in 2016-17, with China estimated to have grown at 6.7% during 2016.



3.3. India-EU Trade Facilitation Agreement

India and European Union (EU) have established Investment Facilitation Mechanism (IFM) for EU Investments in India.

About The Agreement

- The IFM builds on the Joint Statement of the 13th EU-India Summit held in Brussels in March 2016 where the EU had welcomed India’s readiness to establish such a mechanism.

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- The key objective of IFM is to pave the way for identifying and solving problems faced by EU companies and investors with regard to their operations in India.
- Invest India, the official Investment Promotion and Facilitation Agency of India, will also be part of the mechanism.
- The Department of Industrial Policy & Promotion (DIPP), Union Ministry of Commerce & Industry will also facilitate participation of other relevant ministries and authorities on a case-to-case basis.
- It will also include identifying and putting in place solutions to procedural impediments faced by EU companies and investors in establishing or running their operations in India.

Significance

- The mechanism will allow for a close coordination between EU and India with an aim to promote and facilitate EU investment in India and strengthening the trade and investment ties between the EU and India.
- It will cover both new investors as well as those already present in India. It will also serve as a common platform for discussing general suggestions from the point of view of EU investors and companies with regard to ease of doing business in India.
- It will create a single-window entry point for EU companies that need assistance for their investments at the central/state level.
- The establishment of the IFM is considered as a right step in the direction of
- This initiative will help ensuring a more robust, effective and predictable business environment for the EU investors.

Economic Relation Between India and EU

- India is currently the fastest growing economy in the world and a strategic partner for the EU representing a sizable and dynamic market of 1.25 billion people.
- For these reasons, the EU and India are committed to further increase their bilateral trade and investment through the Free Trade Agreement negotiations that were launched in 2007.
- The EU is India's number one trading partner (13.5% of India's overall trade with the world in 2015-16) well ahead of China (10.8%), USA (9.3%), UAE (7.7%) and Saudi Arabia (4.3%).
- India is the EU's 9th trading partner in 2016 (2.2% of EU's overall trade with the world) after South Korea (2.5%) and ahead of Canada (1.9%).
- Trade and Investment are key elements of the EU-India Strategic Partnership launched in 2004.
- The EU is the India's first trade partner in goods and services and also largest foreign investor with a stock exceeding US\$ 81.52 billion as of March 2017.
- There are more than 6,000 EU companies currently present in India, providing direct and indirect employment to over 6 million people.

Q. India and European Union (EU) have established Investment Facilitation Mechanism (IFM) for EU Investments in India. How do you think this will help strengthen India –EU relationship?

3.4. NPCI gets RBI nod to operate Bharat Bill Payment System

- National Payments Corporation of India (NPCI), the umbrella organization for all retail payment systems in the country, has received the final nod from the Reserve Bank of India (RBI) to function as the Bharat Bill Payment Central Unit and operate the Bharat Bill Payment System (BBPS).
- There is a specific direction from RBI to operate the central unit as a strategic business unit of NPCI. Nearly 45 crore bills which comprise of electricity, telecom, DTH, water and gas are permitted under BBPS.
- This initiative will provide a major push to digital payments as it is a big step forward in formalizing the bill payment system in the country.
- The total number of Bharat Bill Payment Operating Units certified by NPCI now stands at 24. The certified units include three public sector banks (Bank of Baroda, Union Bank of India and Indian Overseas Bank), 10 private sector banks, five cooperative banks and six non-bank biller aggregators.
- As per the framework, a customer will be able to pay several bills such as electricity, telephone, water, gas, and direct-to-home television at a single location—physical or electronic—and receive instant confirmation once the payment is made.
- Payments through BBPS may be made using cash, transfer cheques and electronic modes. Bill aggregators and banks, who will function as operating units, will carry out these transactions for the customers.
- Currently, 42 large billers in five utility sectors have been on-boarded. Major public sector banks including State Bank of India (SBI) are still under certification.
- At present the bulk of transactions on BBPS are towards payment of electricity bills. The power sector potentially contributes to about 180 million bills per month out of which only 10% is digital. The likelihood of meeting the target of generating 25 billion digital transactions during the current fiscal year depends critically on the power sector getting on-boarded on BBPS system, added the statement.

3.5. New App “Aarambh” Launched To Monitor Rural Roads More Efficiently

- The Union Government has launched a new mobile app called “Aarambh” for performance based maintenance contracting and community contracting for maintenance of rural roads.
- The app “Aarambh” will help for Road inventory. It will also help to capture data for maintenance of the road condition.
- This Mobile Phone App aims at the use of GIS based mapping for making road inventories, condition surveys, and producing cost estimates and other relevant data for preparation and monitoring of annual road maintenance plans.
- Its usage would greatly enhance the service delivery of the state level institutions in planning and implementing performance based rural roads maintenance contracts.

3.6. Forex Kitty At Record-High Of \$386.53 Bn

- The country's forex reserves touched a record high of \$386.539 billion after it rose by \$4.007 billion in the week to June 30, due to an increase in the foreign currency assets (FCAs), the Reserve Bank of India (RBI) said.
- In the previous week, the reserves had surged by \$576.4 million to \$382.53 billion.
- FCAs, a major component of overall reserves, rose \$3.724 billion to \$362.388 billion in the reporting week, the RBI data showed. Expressed in dollar terms, FCAs include the effects of appreciation/depreciation of non-US currencies, such as the euro, pound and the yen, held in the reserves.
- Gold reserves also increased \$252.8 million to \$20.348 billion. The special drawing rights with the International Monetary Fund were up \$11.8 million to \$1.479 billion.
- The special drawing rights with the International Monetary Fund (IMF) were up by USD 11.8 million to USD 1.479 billion. The country's reserve position with the IMF, too, rose by USD 18.9 million to USD 2.322 billion.

4.1. ISIS Defeated In Mosul

The terrorist organization ISIS faced defeat in Mosul city of Iraq by coalition forces fighting against it.

About The Mosul Battle

- Iraqi Prime Minister Haider al-Abadi declared the city of Mosul liberated from Islamic State control as a watershed moment in the U.S.-backed Iraqi military campaign against the extremist group.
- The primarily Sunni city with an original population of more than 2.5 million was the biggest prize claimed by the Islamic State in its violent fight across northern and western Iraq in 2014.
- Islamic State leader Abu Bakr al-Baghdadi declared a caliphate from Mosul's Great Mosque of al-Nuri. Mosul was the main centre of ISIS in which for three years they had an army, administration and territory making it more powerful.

Challenges After ISIS Defeat

- The fight between **Kurdish forces and Iraqis** to gain dominance in the area is one of the major challenges.
- In the early months of the struggle to prevent the group from moving on to seize Erbil, the capital of the Kurdish regional government, Kurdish resistance forces occupied vast areas of the Nineveh plain east of Mosul which had long been disputed between Arabs and Kurds.
- The same happened in the oil-rich province of Kirkuk. The issue will only exacerbate already existing divisions over how Iraq is to share its oil revenues and the federal budget between the Kurdish region and the rest.
- The risk of violence between **Arab Sunnis and Shias** is also a big challenge. In 2014, ISIS was able to seize Mosul relatively easily because the city's largely Sunni population felt neglected by Baghdad. The Iraqi government has to end the sense of alienation among the Sunni population to establish harmony and peace in the society.
- **Repairing the damage** will be a huge task. The government's record in other liberated cities is not satisfactory. Falluja and Ramadi were both freed from ISIS rule more than a year ago yet not much has been done for their reconstruction.
- **Humanitarian crisis:** ISIS faces defeat in Mosul in northern Iraq but a growing humanitarian crisis looms for survivors of the battle between the occupying terrorist group and members of Iraq's Special Forces. For many newly liberated refugees, the food and fluids they receive from first-aid stations set up outside ISIS-held territory is the first nutrition they have received in a long time and children are treated for dehydration and undernourishment.

What It Meant For ISIS?

- Without Mosul, by far the largest city to fall under ISIS's control, the terror group's territory in Iraq is reduced to mainly rural, desert areas west and south of the city where tens of thousands of people live.
- Islamic State loses the oppressed population that has eked out a life of bare survival under its rule subjected to every whim of a system of power. They are still regionally dangerous, still able to inspire the occasional attack in the West but without the territory that gave ISIS practical power.

- ISIS named Abu Bakr al-Baghdadi as Caliph Ibrahim and demanded allegiance from Muslims worldwide from Mosul. Hence, their defeat from Mosul is a defeat for their idea to establish Caliphate.

What The Iraqi Government Needs To Do

- Reconstruction and resettlement will be the key factors for the citizens of Mosul in reconciling with the central government.
- The Iraqi state has to articulate a plan that will guarantee the meaningful inclusion of marginalized groups which include the Arab Sunnis in Mosul and Ninawa province as well as its minorities Christians and Yezidis.
- The state has to demonstrate beyond mere rhetoric how it will tackle structural inequalities including corruption and the abuse of power of state security forces and paramilitary actors, in addition to the justice sector institutions.
- International aid can be made contingent on trust-building measures that foster social cohesion in Mosul and other formerly ISIL-held territories. Such measures include the establishment of grievance mechanisms that create spaces for dialogue between the communities in Mosul and the security forces.
- The ISIL fighters are still holding out in Mosul districts and are likely to have sleeper cells in liberated areas of the city hence local cooperation is needed to handle the looming threats.
- The pace of reconstruction, resettlement and political inclusion, on the municipal and national level is needed to ultimately determine the peace.
- On the national level the Iraqi government has yet to develop a compelling strategic narrative of how a political process can address the underlying conditions which led to the emergence of ISIL in the first place.

Q. What is the battle of Mosul? How do you think the defeat of ISIS in this battle will impact the war against ISIS?

4.2. Global Treaty To Ban Nuclear Weapons

In News

- During the United Nation's resolution process, over 120 countries in the United Nations voted to adopt the first-ever global treaty to ban nuclear weapons.
- India and eight other nuclear armed nations including the US, China and Pakistan did not participate in the negotiations for the legally binding instrument to prohibit atomic weapons.

About The Treaty

- The Treaty on the Prohibition of Nuclear Weapons is the first multilateral legally-binding instrument for nuclear disarmament to have been negotiated in 20 years.
- The Netherlands was the only country who voted against the treaty and Singapore abstained from voting.
- The treaty would be opened for signature on September 20 2017. It will enter into force once 50 countries ratified it.
- The treaty represents an important step and contribution towards the common aspirations of a world without nuclear weapons.

- The impetus for the treaty reflects growing concerns over the risk posed by the continued existence of nuclear weapons as well as awareness of the catastrophic humanitarian consequences that would result if nuclear weapons were ever used again.
- The new treaty will promote inclusive dialogue and renewed international cooperation aimed at achieving the long overdue objective of nuclear disarmament.

Basic Obligations Under The Treaty

- All of the ratifying countries should never under any circumstances develop, test, produce, manufacture, otherwise acquire, possess or stockpile nuclear weapons or other nuclear explosive devices.
- The treaty bans any transfer or use of nuclear weapons or nuclear explosive devices.
- States Parties cannot allow the stationing, installation, or deployment of nuclear weapons and other nuclear explosive devices in their territory.
- In addition to the Treaty's prohibitions, States Parties are obligated to provide victim assistance and help with environmental remediation efforts.

Opposition

- The nine nuclear powers namely the United States, Russia, Britain, China, France, India, Pakistan, North Korea and Israel neither took part in the negotiations nor cast their vote.
- Even Japan the sole sufferer of atomic attack refrained from taking part in the negotiations. Most of the NATO countries too boycotted the negotiations.
- The nuclear powers view the treaty as unrealistic and argue that it will not have any impact on reducing the global stockpile of 15000 atomic weapons.
- According to the nuclear powers their nuclear arsenals serve as a deterrent against nuclear attacks and they remain committed to the nuclear Non-Proliferation Treaty (NPT).
- The NPT seeks to prevent the spread of nuclear weapons and puts the onus on nuclear states to reduce their stockpiles. But the non-nuclear states are increasingly worried about the slow pace of disarmament and are concerned that weapons of mass destruction may fall into the wrong hands.

Why India Abstained

- India had abstained from voting on the resolution regarding the global treaty of banning nuclear weapons.
- India had said that it was not convinced that the proposed conference could address the long standing expectation of the international community for a comprehensive instrument on nuclear disarmament.
- India also maintained that the **Geneva-based Conference on Disarmament (CD)** is the single multilateral disarmament negotiation forum. It had further said that it supports the commencement of negotiations in the Conference on Disarmament on a Comprehensive Nuclear Weapons Convention, which in addition to prohibition and elimination, also includes verification.
- Underlining that international verification was essential to the global elimination of nuclear weapons; India had said it feels that the current process did not include the verification aspect.
- In line with its position, the country had decided not to participate in the negotiations for the treaty.

Nuclear Disarmament And The Efforts of U.N.

- Nuclear weapons are the most dangerous weapons on earth. One can destroy a whole city, potentially killing millions and jeopardizing the natural environment and lives of future generations through its long-term catastrophic effects. The dangers from such weapons arise from their very existence.
- Although nuclear weapons have only been used twice in warfare in the bombings of Hiroshima and Nagasaki in 1945, about 22,000 reportedly remain in our world today and there have been over 2,000 nuclear tests conducted to date.
- Disarmament is the best protection against such dangers but achieving this goal has been a tremendously difficult challenge.
- The United Nations has sought to eliminate such weapons ever since its establishment. The first resolution adopted by the UN General Assembly in 1946 established a Commission to deal with problems related to the discovery of atomic energy among others.
- The Commission was to make proposals for inter alia the control of atomic energy to the extent necessary to ensure its use only for peaceful purposes. The resolution also decided that the Commission should make proposals for the elimination from national armaments of atomic weapons and of all other major weapons adaptable to mass destruction.
- A number of multilateral treaties have since been established with the aim of preventing nuclear proliferation and testing while promoting progress in nuclear disarmament. These include the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the Treaty Banning Nuclear Weapon Tests In The Atmosphere, In Outer Space And Under Water, also known as the Partial Test Ban Treaty (PTBT), and the Comprehensive Nuclear-Test-Ban Treaty (CTBT) which was signed in 1996 but has yet to enter into force.
- A number of bilateral and plurilateral treaties and arrangements seek to reduce or eliminate certain categories of nuclear weapons to prevent the proliferation of such weapons and their delivery vehicles.
- These range from several treaties between the United States of America and Russian Federation as well as various other initiatives, to the Nuclear Suppliers Group, the Missile Technology Control Regime, the Hague Code of Conduct against Ballistic Missile Proliferation, and the Wassenaar Arrangement.

Geneva Based Conference on Disarmament

- The Conference on Disarmament (CD) was established in 1979 as the single multilateral disarmament-negotiating forum of the international community. It was a result of the first Special Session on Disarmament of the United Nations General Assembly held in 1978.
- The terms of reference of the CD include practically all multilateral arms control and disarmament problems.
- Currently the CD primarily focuses its attention on the following issues: cessation of the nuclear arms race and nuclear disarmament; prevention of nuclear war including all related matters; prevention of an arms race in outer space; effective international arrangements to assure non-nuclear-weapon States against the use or threat of use of nuclear weapons; new types of weapons of mass destruction and new systems of such weapons including radiological

weapons; comprehensive programme of disarmament and transparency in armaments.

- It reports to the General Assembly annually. Its budget is included in that of the United Nations.
- The CD has negotiated major multilateral arms limitation and disarmament agreements as the Treaty on the Non-Proliferation of Nuclear Weapons, the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, the seabed treaties, the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction and Comprehensive Nuclear-Test-Ban Treaty.

Q. What is Treaty on the Prohibition of Nuclear Weapons? Why India not signed this treaty?

4.3. China's First Overseas Military Base



China is constructing its first overseas military base in Djibouti which is few miles away from Camp Lemonnier, one of America's largest foreign installations.

About The Military Base

- China, having invested huge amounts in East Africa, especially in Ethiopia one of the world's fastest growing economies, wants to protect its interests and investments throughout sub-Saharan Africa.
- In addition, China wants to shield its heavy dependence on imports from the Middle East that pass through the Gulf of Aden into the Indian Ocean and then on to the South China Sea.
- China wants to create a network of man-made islands to bolster its force projection in the region.
- The completion and operation of the base will help China better fulfill its international obligations in conducting escorting missions and humanitarian assistance. It will also help promote economic and social development in Djibouti.
- The base gives China its first forward presence in the region.

Strategic Importance Of Djibouti

- A former French colony, Djibouti was once known little but the diminutive nation has turned itself into a geostrategic linchpin with political clout far outstripping its size and population of just 900,000.
- It overlooks the southern gateway to the Red Sea on the way to the Suez Canal, one of the world's biggest shipping lanes. Major militaries want a presence there both to shore up regional stability and to counter piracy threatening that key trade route.

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- Since the US wound down its presence in Afghanistan, the US military's African headquarters in Djibouti has been at the forefront of US strategy and national security policy in countering global terrorism. US President Barack Obama described the camp as extraordinarily important not only to our work throughout the Horn of Africa but throughout the region.
- In addition to the US and China several European countries and Japan have all staked global military interests on Djibouti. Foreign military personnel stationed in Djibouti already number around 25,000 according to some estimates.

Impacts on India

- Situated on the northwestern edge of the Indian Ocean, Djibouti could become another major strategic point of China's "*string of pearls*" military alliances and assets worrying India and its neighbours such as Bangladesh, Myanmar and Sri Lanka.
- The Indian Ocean shipping lanes carry 80% of the world's oil and a third of the global bulk cargo. China is looking to secure its energy and trade transportation links along the vital shipping route. The Indian Ocean is also emerging as the playground for countries eyeing a bigger role in world affairs. China is looking to generate goodwill and influence in the Indian Ocean countries by investing in projects such ports, roads and railways.
- Positioned on the northwestern edge of the Indian Ocean, the naval base represents the first pearl of a necklace unfolding along the sea route that connects China to the Middle East.
- The establishment of an active Chinese naval base would act as a deterrent to pirate attacks on the crucial trade routes between the Indian Ocean and the South China Sea.

Q. China is constructing its first overseas military base in Djibouti which is few miles away from Camp Lemonnier, one of America's largest foreign installations. How do you think this impacts India?

4.4. U.S. New Travel Ban

The United States implemented a modified version of Donald Trump's travel ban on some people from six Muslim-majority countries namely Iran, Libya, Somalia, Sudan, Syria and Yemen and refugees citing security concerns.

About The Ban

- U.S. president Donald Trump first announced a temporary travel ban in January 2017 by calling it a counterterrorism measure to allow time to develop better security vetting.
- The order caused chaos at airports as officials scrambled to enforce it and was blocked by federal courts with opponents arguing the measure discriminated against Muslims and that there was no security rationale for it.
- A revised version of the ban issued in March 2017 was also halted by courts. In its current decision the Supreme Court allowed the ban which bars people from the designated six countries for 90 days and refugees for 120 days to go partially into effect until the top court can take up the case during its next term starting in October.
- Because of that people from six mainly Muslim nations and refugees will be temporarily barred from the US unless they have a credible claim of a bona fide relationship with a person or entity in the country.

- This provides a major exception to the ban that experts say will substantially reduce the number of people who can be denied entry.

Who Will Be Affected

- People from Iran, Libya, Somalia, Sudan, Syria and Yemen unable to demonstrate the bona fide connection.
- For individuals, a close familial relationship is required. As for entities, the relationship must be formal, documented and formed in the ordinary course rather than for the purpose of evading the order.
- The administration's interpretation of close familial relationship was limited and did not include grandparents, grandchildren, brothers-in-law, sisters-in-law, uncles, aunts, nephews, nieces and cousins
- This means a student registered at a US university or a worker who had accepted an offer of employment in the US (or someone invited to, for example, deliver a lecture) would be allowed to enter.
- Those coming in on tourist visas are expected to face particular scrutiny, as they - unlike those on work, student or family visas where the connection will be more evident will have to clearly demonstrate a US relationship.
- Refugees without US connections are also expected to face particular difficulties. However the US Committee for Refugees and Immigrants, a non-profit group, told the Associated Press it was confident it had an existing relationship with incoming refugees, certified and arranged through the Department of State.

Why Were Those Countries Chosen

- The second executive order states that each of the six countries is either considered a state sponsor of terrorism by the US or has been significantly compromised by terrorist organisations or contains active conflict zones. This diminishes the foreign government's willingness or ability to share or validate important information about individuals seeking to travel to the United States the order says.
- Critics have noted that major attacks such as the 9/11 New York attacks, the Boston marathon bombing and the Orlando nightclub attack were carried out by people from countries not on the list such as Saudi Arabia, Egypt and Kyrgyzstan or by US-born attackers.

4.5. U.S. Sanctions On Iran

In News

- The Trump administration announced new sanctions targeting Iran's ballistic missile program and support for terrorists, citing the failure of the Iran nuclear deal to contribute to the stability of the Middle East.
- The U.S. State Department said that Iran's testing and development of ballistic missiles is in direct defiance of UN Security Council Resolution 2231 which endorsed the nuclear agreement.
- The U.S. and its regional allies in the Middle East have long worried about Iran's influence in Iraq as well as its actions in Syria where it supports President Bashar al-Assad; its backing of Hezbollah, the Lebanese Shia movement; its role in the Yemeni civil war where Tehran is engaged in a proxy

war with its main rival, Saudi Arabia and its influence over Shia minorities throughout the majority-Sunni Arab world. These sanctions are in response of those worries.

- The sanctions freeze any assets whose targets may have in the US and prevent Americans from doing business with them. It will have impacts on economic stability of Iran.

Issues In Nuclear Deal

- The nuclear deal which bans weapons development in return for the lifting of international sanctions was signed by President Obama and leaders of Russia, Britain, France, China and Germany.
- The new political establishment in the U.S. wants to cancel the deal but the other countries want to keep the deal in force. The parties believed the agreement would positively contribute to regional and international peace and security.
- Under the deal struck by Obama and other world leaders, Iran agreed to roll back its nuclear program long suspected of being aimed at developing atomic weapons in return for billions of dollars in sanctions relief.
- The U.S. have problem because the deal does not address global concerns about Iran's non-nuclear activities and also doesn't prevent the US and others from punishing Iran for those activities. Iran remains on the state department's list of state sponsors of terrorism.
- Congress requires regular notification from the administration that Iran is complying with the agreement it reached two years ago with the United States and five other world powers to limit its nuclear program to peaceful purposes.

4.6. Venezuelan Crisis

In News

- Venezuela is in the midst of an unprecedented economic and political crisis marked by severe food and medicine shortages, soaring crime rates and an increasingly authoritarian executive.
- After more months of almost daily mass demonstrations organised across the country by the opposition Democratic Unity (MUD) alliance, the situation in Venezuela is worsening.

About The Crisis

- The crisis erupted after the Venezuelan President Hugo Chávez and his successor Nicolás Maduro have systematically eroded constitutional checks and balances over nearly two decades.
- Venezuela has ceased to be a democracy. The government has suspended democratic elections and stripped the opposition-led National Assembly of virtually all its powers. It intends to rewrite the 1999 constitution.
- According to the protestors, the new constitution will install a communal state.
- In March 2017, the Supreme Court (TSJ) issued two resolutions that would trigger new conflict, uniting and reinvigorating the opposition. Most controversially, Resolution 156 transferred legislative powers of the National Assembly to the court, a move the MUD condemned as a coup.
- The resolutions also accused MPs of treason, virtually eliminated their parliamentary immunity and threatened them with trial by military tribunals.
- The opposition legislators called the first in a series of demonstrations to demand early general elections and dismissal of justices responsible for the rulings as these rulings were court rulings incompatible with democratic practice and a violation of constitutional order.

Current Status

- Maduro has convened a national vote to elect a Constituent Assembly to redraft the country's constitution. 364 members of the assembly will be chosen by local polls open to all registered voters. The remaining 181 members will be elected by members of seven social sectors including pensioners, indigenous groups, businesspeople, peasants and students.
- The opposition has vowed to boycott the 30 July vote, which means voter turnout will be exclusively pro-government.

Humanitarian Crisis

- Observers have characterized the situation in Venezuela as a humanitarian crisis. It is estimated that 85 % of basic medicines were unavailable or difficult to obtain.
- Poverty has also spiked. In 2016, a local university study found that more than 87 percent of the population said it did not have enough money to buy necessary food.
- Another study by a local nutrition organization found that 30 percent of school-aged children were malnourished.
- According to a 2016 report from Human Rights Watch, the Maduro administration has vehemently denied the extent of the need for help and has blocked an effort by the opposition-led National Assembly to seek international assistance.
- Poverty and lack of opportunity are exacerbating Venezuela's high rates of violence.
- Maduro's administration has deployed the military to combat street crime but rights groups and foreign media have reported widespread abuses including extrajudicial killings.

Global Response

- Mercosur, an economic and political bloc comprising Argentina, Brazil, Paraguay, Uruguay and Venezuela suspended Venezuela in 2016.
- The Organization of the American States (OAS) recommended suspending Venezuela from the bloc unless the Maduro administration moved to hold elections.
- Most recently, the Trump administration has threatened sanctions if Maduro goes ahead with the constituent assembly though what those might entail has not been spelled out.
- US is now reportedly considering an oil embargo something that some experts warn could backfire. Venezuela relies on oil exports for 95% of its income. Revenue from those exports are used to import vital food and medicines so while such sanctions would put a chokehold on the government, they would also further exacerbate the already critical humanitarian situation perhaps provoking a mass exodus of refugees with serious implications for the region

About Mercosur

- MERCOSUR/MERCOSUL is a common market (Southern Common Market) established based on the Treaty of Asuncion signed by the four countries of Argentina, Brazil, Paraguay and Uruguay on March 26, 1991.
- Venezuela had joined Mercosur in 2012.
- It aims at promoting free trade of goods, services, and production inputs.
- Mercosur functions as a customs union and free-trade area and has ambitions to become a common market along the lines of the European Union. However more than 20 years after its

founding the group still struggles to achieve that goal.

About Organisation of American States

- The OAS came into being in 1948 with the signing in Bogotá, Colombia, of the Charter of the OAS, which entered into force in December 1951.
- The Organization was established in order to achieve among its member states an order of peace and justice, to promote their solidarity, to strengthen their collaboration and to defend their sovereignty, their territorial integrity, and their independence.
- Today, the OAS brings together all 35 independent states of the Americas and constitutes the main political, juridical, and social governmental forum in the Hemisphere.
- In addition, it has granted permanent observer status to 69 states as well as to the European Union (EU).
- The Organization uses a four-pronged approach to effectively implement its essential purposes, based on its main pillars: democracy, human rights, security, and development.

4.7. 20TH Anniversary Of Hong Kong Handover



- Recently 20th anniversary of Hong Kong handover to the China was celebrated.
- Hong Kong marked 20 years since the territory was handed from Britain to China, bringing an end to more than 150 years of colonial rule.

History

- Hong Kong is strategically located on the southeast coast of China, Pearl River Delta and South China Sea .It is one of the world's most thriving and cosmopolitan cities.
- Hong Kong, as we know it today, was born when China's Qing dynasty government was defeated in the First Opium War in 1842 and was forced to cede Hong Kong Island to Britain.
- Parts of Hong Kong were ceded to Britain in perpetuity as a prize in the wake of the Opium Wars but the majority of its territory was leased to the UK in 1898, for a period of 99 years.
- In the turbulent years of the early 20th century the city's population was bolstered by refugees, mostly from China. The arrival of immigrants in large numbers helped launch a new role for Hong

Kong as a major manufacturing hub. It also brought economically stimulating energy and industry to the city's character. From its earliest days as a British colony, Hong Kong served as a centre of international trade.

- All of Hong Kong was handed to China at midnight on 1 July, 1997 with the promise that the city could maintain its unique way of life and separate government and laws for a period of 50 years.
- Under the principle of **One Country -Two Systems**, Hong Kong became a Special Administrative Region of the People's Republic of China on 1 July 1997. This arrangement allows the city to enjoy a high degree of autonomy including retaining its capitalist system, independent judiciary and rule of law, free trade and freedom of speech.
- In recent decades, as the economy of Mainland China has undergone a process of opening up, Hong Kong has transformed yet again this time into a service-based economy as well as an important gateway to the world's largest market.

Why Does China Want To Exert Control Over Hong Kong

- Since the Communist party took power in China in 1949 it has consistently decried the century of humiliation that China was subjected to at the hands of western powers and Japan.
- The return of Hong Kong was a point of national pride and former leader Deng Xiaoping famously threatened to take the city by force in discussions with Margaret Thatcher if a deal could not be reached for a peaceful transition.
- Hong Kong was also a key conduit for Chinese businesses as the country slowly transitioned to a more market-based economy and remains a vital financial hub.
- In the past few years, a small but vocal group of mostly young people have begun advocating for Hong Kong to become independent, a movement that was non-existent 20 years ago.

Umbrella Revolution

- In January 2013 the Chinese government's reluctance to grant Hong Kong the political independence it had promised, called on residents to join a massive act of civil disobedience in Central, Hong Kong's business and financial center.
- Joined by sociology professor Chan Kin-Man and the Rev. Chu Yiu-Ming, the trio sought to model the movement, they called **Occupy Central**, on Mahatma Gandhi and Martin Luther King Jr.
- The push for greater autonomy and independence began after the United Kingdom transferred sovereignty over Hong Kong to the People's Republic of China in 1997. Under British rule, Hong Kong became a wealthy manufacturing center with limited democratic freedoms unseen in mainland China.
- As part of the transfer-of-power negotiations, China agreed to a "**one country, two systems**" deal.
- The Basic Law states that even though Hong Kong is an "inalienable" part of the People's Republic, China's parliament authorises it to exercise a "high degree of autonomy" to enjoy executive, legislative and independent judicial power.
- The central government is banned from interfering in Hong Kong's affairs, and the Communist Party has no official presence.
- China is responsible for defence and foreign affairs but Hong Kong runs its own internal security.
- Freedom of speech, press, religion and protest are all defended by law.
- Under those terms, Hong Kong can develop its own democracy without interference from the

central government and in 2017, Hong Kong citizens are permitted to democratically elect their top leader who is currently appointed by Beijing.

- The Chinese government however has repeatedly reinterpreted this agreement. It released a White Paper reaffirming its complete jurisdiction over Hong Kong, adding that “the high degree of autonomy of Hong Kong is not an inherent power, but one that comes solely from the authorization by the central leadership.
- Beijing announced that while citizens would be allowed to vote for the chief executive, the candidates for the election would have to be approved by a special committee just like the pro-Beijing committee that currently appoints the chief executive.
- On Sept. 26, 2014, the Hong Kong police confronted a group of mostly young people who had gathered at a government complex to demand greater citizen input in elections than Beijing would allow.
- The campaign became known as the Umbrella Revolution or Umbrella Movement referring to the shield of choice used to fend off police pepper spray.

4.8. Panama Paper Case : Nawaz Sharif Verdict

In News

- Pakistan's Supreme Court has removed the prime minister, Nawaz Sharif from office in a unanimous verdict over corruption allegations unleashed by the 2016 Panama Paper leak.
- Shahid Khaqan Abbasi, a U.S. educated minister (minister for petroleum) of Sharif's Cabinet, replaced Nawaz Sharif as an interim prime minister.
- A huge leak of documents has unleashed how the rich and powerful use tax havens to hide their wealth. The files were leaked from one of the world's most secretive companies - a Panamanian law firm called Mossack Fonseca. The files show how Mossack Fonseca clients were able to launder money dodge sanctions and avoid tax.
- The records were obtained from an anonymous source by the German newspaper Süddeutsche Zeitung which shared them with the International Consortium of Investigative Journalists (ICIJ). The ICIJ then shared them with a large network of international partners, including the Guardian and the BBC.
- Among national leaders with offshore wealth are Nawaz Sharif, Pakistan's prime minister; Ayad Allawi, ex-interim Prime Minister and former Vice-President of Iraq; Petro Poroshenko, President of Ukraine; and the Prime Minister of Iceland, Sigmundur Davíð Gunnlaugsson.
- In India the big names revealed were of Amitabh Bachchan, Aishwarya Rai Bachchan and DLF owner KP Singh. So far the government has not taken action against any of those named in the papers.

About Mossack Fonseca

- It is a Panama-based law firm whose services include incorporating companies in offshore jurisdictions such as the British Virgin Islands. It administers offshore firms for a yearly fee. Other services include wealth management.
- Mossack Fonseca operates in tax havens including Switzerland, Cyprus and the British Virgin Islands, and in the British crown dependencies Guernsey, Jersey and the Isle of Man.

About ICIJ:

- The International Consortium of Investigative Journalists is a global network of more than 200 investigative journalists in 70 countries who collaborate on in-depth investigative stories.
- It was founded in 1997 by the respected American journalist Chuck Lewis, ICIJ was launched as a project of the Center for Public Integrity, focusing on issues that do not stop at national frontiers: **cross-border crime, corruption, and the accountability of power.**
- In February 2017, **ICIJ was established as a fully independent news organization** with the goal of extending our global reach and impact even farther. In July 2017, ICIJ was granted its own nonprofit status from U.S. tax authorities.
- ICIJ is governed by three committees - a traditional board of directors with a fiduciary role; an Advisory Committee made of supporters and some of the biggest names in journalism and an ICIJ Network Committee.

5.1. India-America

The Prime Minister of India Mr. Narendra Modi visited United States of America after the establishment of new political system under the presidency of Mr. Donald Trump.

Key Highlights Of The Visit

- In accordance with India's **Think West policy**, Prime Minister Modi at his first meeting with President Trump resolved to increase cooperation, enhance diplomatic consultations, and increase collaboration in all sectors.
- Both the leaders strongly condemned continued provocations by the Democratic People's Republic of Korea (DPRK) emphasizing that its destabilizing pursuit of nuclear and ballistic missile programs poses a grave threat to regional security and global peace.
- The Leaders stressed that terrorism is a global challenge that must be fought and terrorist safe havens rooted out in every part of the world. They committed to strengthen cooperation against terrorist threats from groups including Al-Qaida, ISIS, Jaish-e-Mohammad, Lashkar-e-Tayyiba, D-Company and their affiliates.
- India appreciated the United States designation of the Hizb-ul-Mujahideen leader as a Specially Designated Global Terrorist as an evidence of the commitment of the United States to end terror in all its forms. In this spirit, the leaders welcomed a new consultation mechanism on domestic and international terrorist designations listing proposals.
- The leaders called on Pakistan to ensure that its territory is not used to launch terrorist attacks on other countries. They further called on Pakistan to expeditiously bring to justice the perpetrators of the 26/11 Mumbai, Pathankot and other cross-border terrorist attacks perpetrated by Pakistan-based groups.
- President Trump and Prime Minister Modi pledged to deepen defense and security cooperation based on the United States recognition of India as a Major Defense Partner.
- The United States and India decided to work together on advanced defense equipment and technology at a level commensurate with that of the closest allies and partners of the United States.
- Reflecting the partnership, the United States has offered for India's consideration regarding the sale of Sea Guardian Unmanned Aerial Systems, which would enhance India's capabilities and promote shared security interests.
- Resolving to expand their maritime security cooperation the leaders announced their intention to build on the implementation of their White Shipping data sharing arrangement, which enhances collaboration on maritime domain awareness.
- President Trump welcomed Prime Minister Modi's strong support for the United States to join as an Observer in the Indian Ocean Naval Symposium.
- Noting the importance of the upcoming MALABAR naval exercise the leaders determined to expand their engagements on shared maritime objectives and to explore new exercises.

Current Burning Issues Ahead Of Indo-American Bilateral Ties

- The issue of job losses in the United States has consistently surfaced as a contentious and divisive issue. President Trump has mostly targeted China and Mexico for taking away American manufacturing jobs and blamed them for shutdown of industries.

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- He has criticised the off-shoring of software and IT jobs to India. Indian companies particularly in the IT sector like Infosys, WIPRO and TCS etc., which are active in the USA, have already started taking corrective measures by increasingly hiring local professionals.
- An immediate concern for India would be Trump's campaign to reform the H1B system and pause the issuance of green cards which will keep Indian IT firms and their lobbyists burning the midnight oil over the next four years.
- America's decision to withdraw from the landmark Climate change agreement alleging that it favors developing countries is another contentious issue. India has a contrary view on the issue and wholeheartedly supports the Paris climate change agreement.
- The trade imbalance between India and U.S. which is favoring India is also worrying U.S. and it is thinking to reduce this trade deficit by curbing investments in India.
- Under the new changing "America first policy" of the current political dispensation, there has been a rise in the racist attacks on the Indians living there which is a major issue and needs to be resolved as early as possible.

India-America Relations

- India-U.S. bilateral relations have developed into a global strategic partnership based on shared democratic values and increasing convergence of interests on bilateral, regional and global issues.
- The emphasis placed by the Government in India on development and good governance has created opportunity to reinvigorate bilateral ties and enhance cooperation under the motto "**Chalein Saath Saath: Forward Together We Go**" and "**Sanjha Prayas, Sab ka Vikas**" (Shared Effort, Progress for All).
- Regular exchange of high level political visits has provided sustained momentum to bilateral cooperation. Today the India-U.S. bilateral cooperation is broad-based and multi-sectoral, covering trade and investment, defence and security, education, science and technology, cyber security, high-technology, civil nuclear energy, space technology and applications, clean energy, environment, agriculture and health.

Economic Relations

- The bilateral trade between India and America is in the favour of India having trade surplus. India's merchandise exports to the U.S. stood at \$ 34.57 billion during the period January - September 2015 while US exports of merchandise to India was worth \$ 16.54 billion in the same period.
- The U.S. is the sixth largest source of foreign direct investments into India.
- Indian investments into the US have been a novel feature of bilateral ties. More than 65 large Indian corporations including Reliance Industries Limited, Essar America, Tata Consultancy Services, Wipro and Piramal have together invested about US\$ 17 billion in the U.S.
- There are several dialogue mechanisms to strengthen bilateral engagement on economic and trade issues including a Ministerial level Economic and Financial Partnership and a Ministerial Trade Policy Forum.
- For greater involvement of private sector in discussion on issues involving trade and investment there is a bilateral India-US CEO's Forum and the Strategic & Commercial Dialogue forum.

Civil Nuclear Cooperation

- The bilateral civil nuclear cooperation between both the countries is strong. The U.S.A. is providing a state of art technology to India to bolster the civil nuclear energy.
- During Prime Minister Modi's visit to the US in September 2014, the two sides set up a Contact Group for advancing the full and timely implementation of the India-US Civil Nuclear Cooperation Agreement and to resolve pending issues.
- The Group has reached agreement on the compatibility of India's nuclear liability law with relevant international conventions and creation of an insurance pool drawing experience of best practices to take care of nuclear liability risk.
- Currently company-level discussions are going on with two U.S. companies M/s Westinghouse and GE Hitachi regarding techno-commercial viability of their reactors in sites in Gujarat and Andhra Pradesh respectively.

Defence Cooperation

- Defence relationship has emerged as a major pillar of India-U.S. strategic partnership with the signing of New Framework for India-U.S. Defense Relations in 2005 and the resulting intensification in defence trade, joint exercises, personnel exchanges, collaboration and cooperation in maritime security and counter-piracy and exchanges between each of the three services (Army, Navy and Air-force).
- The ***Defence Framework Agreement*** was updated and renewed for another 10 years in June 2015. The two countries now conduct more bilateral exercises with each other than they do with any other country.
- There are many bilateral dialogue mechanisms in the field of defence such as Defence Policy Group (DPG), Defence Joint Working Group (DJWG), etc.
- In 2016, India and the U.S signed the bilateral ***Logistics Exchange Memorandum of Agreement (LEMOA)*** that will give the militaries of both countries access to each other's facilities for supplies and repairs. It will facilitate additional opportunities for practical engagement and exchange.
- India and the United States have launched a ***Defence Technology and Trade Initiative (DTTI)*** aimed at simplifying technology transfer policies and exploring possibilities of co-development and co-production to invest the defence relationship with strategic value.

Counter-Terrorism and Internal Security

- Cooperation in counter-terrorism between India and U.S.A. has seen considerable progress with intelligence sharing, information exchange, operational cooperation, counter-terrorism technology and equipment.
- India-US Counter-Terrorism Cooperation Initiative was signed in 2010 to expand collaboration on counter-terrorism, information sharing and capacity building.

Energy and Climate Change

- The U.S.-India Energy Dialogue was launched in May 2005 to promote trade and investment in the energy sector.
- There are six working groups in oil & gas, coal, power and energy efficiency, new technologies & renewable energy, civil nuclear co-operation and sustainable development under the Energy Dialogue.

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- Investment by Indian companies like Reliance, Essar and GAIL in the U.S. natural gas market is ushering in a new era of India-U.S. energy partnership.
- As a priority initiative under the **PACE (Partnership to Advance Clean Energy)** the U.S. Department of Energy (DOE) and the Government of India have established the Joint Clean Energy Research and Development Center (JCERDC) designed to promote clean energy innovations by teams of scientists from India and the United States with a total joint committed funding from both Governments of US\$ 50 million.

People to People Ties

- The 3.5-million-plus strong Indian American community is an important ethnic group in the U.S. accounting for about 1% of the total population in the country.
- Indian American community includes a large number of professionals, business entrepreneurs and educationalists with increasing influence in the society.
- With two Indian Americans occupying high level posts of Governor and several representatives of the people, the Indian Diaspora has assimilated into their adopted country and is acting as a catalyst to forge closer and stronger ties between India and USA.

Q. India-America relation is undergoing the transformation under the new political dispensation in both the countries. Critically analyse.

5.2. India-Israel

In News

- Prime Minister of India Narendra Modi visited Israel in July 2017 at the invitation of Prime Minister Benjamin Netanyahu of Israel marking the 25th anniversary of the establishment of diplomatic relations between the two countries.
- This historic first-ever visit by an Indian Prime Minister to Israel solidified the enduring friendship between their people and raised the bilateral relationship to that of a strategic partnership.

Key Highlights of The Visit

- Reviewing the development of the relationship after a quarter century of diplomatic ties, the two leaders agreed on initiatives and policies that would reflect the goals and aspirations of both nations and widen their collaborative endeavours in a broad range of areas.
- They visualized that the two countries will become close partners in development, technology, innovation, entrepreneurship, defence and security.
- Recognizing its centrality for development, India and Israel agreed to establish a **Strategic Partnership in Water and Agriculture**.
 - This will focus on water conservation, wastewater treatment and its reuse for agriculture, desalination, water utility reforms, and the cleaning of the Ganges and other rivers using advanced water technologies.
 - It will also include the reinforcement and expansion of the existing Centres of Excellence (COE) under the stewardship of the Israeli Ministry of Foreign Affairs and the Ministry of Agriculture of India to promote commercially viable business models involving Farmer Producer Organizations (FPOs), the provision of quality planting material and the transfer of

post-harvest technical know-how and market linkages involving the private sector through PPP, B2B & other models.

- The two Prime Ministers noted the importance of realizing the full potential of bilateral trade and investment. They tasked the India-Israel CEO Forum to come up with early recommendations in this regard.
- Both leaders underlined the need to boost bilateral cooperation in innovation and entrepreneurship and called for greater collaboration in the field of start-ups.
- Recognizing the importance of facilitating movement of businessmen, India and Israel underlined their expectation that the granting of multiple entry visas to business people for up to five years will encourage greater economic and commercial exchanges.
- The two Prime Ministers agreed that negotiations would be conducted on an agreement for the Protection of Investments in order to encourage bilateral investments from both sides.
- Recognising the importance of fostering wide-ranging knowledge-business partnership for industries, R&D institutions and government agencies from both countries, Israel warmly welcomed India's offer to be the Partner Country for the annual Technology Summit to be held in India in 2018.
- Both leaders welcomed the ongoing cooperation between the Israel Space Agency (ISA) and the Indian Space Research Organisation (ISRO). The two leaders acknowledged that the recent launching by ISRO of an Israeli nano satellite is an important milestone in this arena.
- The Prime Ministers noted with satisfaction that both sides have agreed to upgrade their scientific and technological collaboration by supporting joint research and development projects in the cutting edge areas including Big Data Analytics in Health Care. They directed the India-Israel Joint Committee on Science and Technology to explore the possibility of further advancement of scientific collaboration including setting up of Networked Centres of Research Excellence in the cutting edge areas of mutual strength and interest.
- Recognizing the significance of cyber security for both the nations during the meeting, India and Israel committed to promote security and stability in cyberspace on both the governmental and private levels.
- The two Prime Ministers underlined the importance of enhanced collaboration in the field of Higher Education and Research and agreed to promote this through relevant agreements and the Joint Research Grant Programme.
- Appreciating the contribution of the Jewish community in India and Jews of Indian origin in Israel in bringing the two societies closer, Prime Minister Modi announced the opening of an Indian Cultural Centre in Israel. This was warmly welcomed by Prime Minister Netanyahu who expressed his deep respect for Indian culture and recalled Israel's strong support and sponsorship of PM Modi's initiative to promote the practice of Yoga by designating June 21 as International Yoga Day.
- The two Prime Ministers discussed the developments pertaining to the Israeli-Palestinian Peace Process. They underlined the need for the establishment of a just and durable peace in the region. They reaffirmed their support for an early negotiated solution between the sides based on mutual recognition and security arrangements

India-Israel Relation

- India and Israel established full diplomatic relations in 1992 and since then the bilateral relationship between the two countries has blossomed at the economic, military, agricultural and political levels.

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- Both countries see themselves as isolated democracies threatened by neighbors that train, finance and encourage terrorism therefore both countries also view their cooperative relationship as a strategic imperative.
- Relations between Jerusalem and New Delhi were not always warm. Although both countries gained their independence from the United Kingdom they found themselves headed in pointedly different directions for nearly four decades. India as a leader in the Non-Aligned Movement maintained close relations to the Arab world and the Soviet Union while Israel linked its future to close ties with the United States and Western Europe.
- Although India publicly kept a distance from Israel until the late 1980's there was in fact a great deal of bilateral activities between the two countries in the preceding years.
- India extended de-jure recognition to Israel in 1950 and allowed Israel to maintain a consulate in Mumbai to facilitate the voluntary immigration of thousands of Indian Jews to Israel. Thousands of Indians have also traveled to Israel for special courses and training in agricultural technology and community development.
- Israel supplied weapons aided India in winning the Kargil War against Pakistan in 1999. Israel also provided humanitarian relief to India. Following a devastating earthquake in 2001, Israel sent an emergency response delegation to India for two weeks to provide humanitarian relief and treatment for the victims.

Economic and Commercial Relations

- Since firmly establishing diplomatic ties, both countries have benefited immensely. India has become one of Israel's largest trading partners many of the world's leading high-tech companies in Israel and India are forging joint ventures that are successfully competing in the tough international marketplace.
- From US\$ 200 million in 1992 (comprising primarily trade in diamonds), bilateral merchandise reached US\$ 5.19 billion in 2011. It has stagnated around US\$ 4.5 billion since then.
- Israeli companies have invested in India in energy, renewable energy, telecom, real estate, water technologies and are also setting up R&D centres or production units in India.
- Trade and cooperation between the countries now centers primarily on security-related deals and aid in areas such as agriculture and water desalination.

Cultural Relations

- Both the nations have strong cultural relations since ages. India is known in Israel as an ancient nation with strong cultural traditions.
- Young Israelis perceives India as an attractive, alternative tourist destination. Every year 30-35 thousand Israelis visit India for tourism business and other purposes. Over 40,000 Indians visit Israel every year. They are mostly pilgrims who visit holy sites.

Indian Community

- There are approximately 80,000 Jews of Indian-origin in Israel. The majority is from Maharashtra (Bene Israelis) with relatively smaller numbers from Kerala (Cochini Jews) and Kolkata (Baghdadi Jews).
- In recent years some Indian Jews from North Eastern states of India (Bnei Menashe) have been immigrating to Israel. While the older generation still maintains an Indian lifestyle and their cultural links with India, the younger generation is increasingly assimilated into Israeli society.

- However, Know India Programme and Study India Programmes have been received well by the younger generation.

Defence and Security Relations

- Israel is a major defence partner of India and it is set to topple the US as the chief exporter of arms and ammunitions to India with Barak missiles, surveillance drones and other big league defence deals. Although Israel does not produce entire military systems, it is a crucial supplier and maker of parts of arms and ammunitions.
- India and Israel are boosting up the counter-terrorism cooperation and sharing real-time intelligence on issues crucial to national security.

Agricultural Cooperation

- India has benefited from Israeli expertise and technologies in horticulture mechanization, protected cultivation, orchard and canopy management, nursery management, micro-irrigation and post-harvest management particularly in Haryana and Maharashtra.
- Israel's drip irrigation technologies and products are now widely used in India. Israel has become one of the foremost technology superpowers in areas such as rainwater harvesting, use of oceanic water and using that for irrigation in the most dry land.
- Israel has transitioned from a water-deficit state to a water-surplus state and has pioneered the water desalination technique something that is absolutely significant in the era of climate change, rapid loss of fresh water bodies and rise in seawater levels.
- Some Israeli companies and experts are providing expertise to manage and improve dairy farming in India through their expertise in high milk yield.

Shift In Approach With Palestine

- For Israel, the visit from the Indian Prime Minister was in itself a major diplomatic victory as India was one of the first countries to recognise the state of Palestine in 1988.
- Given India's consistent support to Israel, Mr. Modi's visit signified even more than the visit of a close ally, like the U.S. and its importance was underscored in the way Israel's Prime Minister Benjamin Netanyahu dropped all plans for the three days Mr. Modi was in Israel.
- Earlier every dignitary who visited Israel went to Palestine also. However, this time it was not followed. Even the U.S. President Trump had visited Palestinian territory during his visit in May.
- The decision to skip the visit to Palestine reflected India's desire to "de-hyphenate" relations with Israel and Palestine.
- India's stand on Israel – Palestine issue is not changed. Now the current political establishment in India wants to separately manage the relations with Israel and Palestine.

Q. India- Israel relationships have changed significantly and there is a shift in India's policy towards Israel. Explain with reasons.

5.3. India-Netherlands

Prime Minister of India Shri Narendra Modi paid a working visit to Netherlands on 27 June 2017. The visit marked 70 years of the establishment of diplomatic relations between India and The Netherlands.

Key Highlights

- During the visit, the two Prime Ministers expressed satisfaction at the longstanding and historical bonds of friendship between the two countries spanning over four centuries. Political, economic, institutional and people-to-people exchanges and cooperation have clearly gained further momentum.
- Both Leaders strongly condemned the use of double standards in addressing the menace of terrorism and agreed to strengthen cooperation in combating terrorism both at the bilateral level and within the multilateral system. In this regard, they called for early conclusion of negotiations on the Comprehensive Convention on International Terrorism.
- Both leaders resolved to continue their efforts to strengthen global non-proliferation objectives. Prime Minister Modi thanked the Netherlands for its role in India's accession to the Missile Technology Control Regime in June 2016.
- The Netherlands expressed its support for India's early membership to the Nuclear Suppliers Group and the Wassenaar Arrangement. For the Australia Group, Netherlands welcomed India's recent application for membership.
- The Prime Ministers agreed to continue their joint efforts to strengthen a free, open and secure cyberspace. They stressed the importance of the Global Conference on Cyberspace (GCCS) as a unique platform where strategic cyber issues are discussed in a representative high-level multi-stakeholder setting. In this context, India's decision to host the next GCCS on 23-24 November 2017 after the Netherlands hosted the 2015 edition was welcomed.
- In the context of the upcoming Dutch membership of the United Nations Security Council in 2018, both leaders expressed their intention to closely collaborate on global and regional challenges. They discussed their shared desire to make the United Nations including the Security Council, more broadly representative, efficient and transparent. Prime Minister Rutte confirmed the Dutch support for a permanent seat for India in the Security Council.
- The Prime Ministers also noted with satisfaction that more Dutch companies are planning significant investments in India, supporting the Make in India campaign.
- The two leaders welcomed the ongoing cooperation in the field of science and technology, particularly in biotechnology. They appreciated the joint collaborations in the field of water and waste management, big data, crop sciences, public health and medical technology.
- They commended the ongoing projects in the field of water and waste management under the **Dutch Indo Water Alliance Leadership Initiative (DIWALI)** in Vadodara and **Local Treatment of Urban Sewage Streams for Healthy Reuse (LOTUS)** in Delhi.
- Prime Minister Modi called for concerted efforts to mobilize Dutch and European private capital for investing in infrastructure opportunities in India. Prime Minister Rutte called for more Indian companies and financial institutions to strengthen their presence in the Netherlands.
- Prime Minister Modi encouraged the Dutch Pension Funds to participate in India's National Infrastructure Investment Fund.
- Prime Minister of India invited the Netherlands to join the International Solar Alliance [ISA]. Prime Minister Rutte appreciated the lead taken by India to galvanise global action on Climate Change through the initiative and declared that the Netherlands would consider the invitation positively.

- With 20% of India's exports to Europe entering through the Netherlands, the Prime Ministers discussed the role of the Netherlands as India's 'Gateway to Europe'.
- As a step towards forging deeper bonds, the two Prime Ministers welcomed the signing of agreements on cooperation in the field of water management, culture and social security.
- The two countries signed three MoUs in the fields of social security, water cooperation and cultural cooperation.

India-Netherland Relation

- Since 1947, Indo-Dutch relations have been excellent marked by strong economic and commercial ties, based on foundation of shared democratic ideals, pluralism, multiculturalism and rule of law.
- In light of convergence of economic and political interests, both countries see value in enhanced dialogue and have constantly striven to strengthen bilateral relations by leveraging each other's strengths and are currently collaborating in strengthening and expanding the framework of cooperation in various areas like trade and investment, science and technology, information and communication technology, education and culture

Economic Significance of India-Netherland Relation

- Trade and investment cooperation is a key component of India-Netherlands relationship and has shown satisfactory growth.
- In terms of trade and investment, India has strong economic interests in the Netherlands which in the financial year 2015-16 was the fourth largest investor of FDI into India and 6th largest trading partner in the EU after Germany, U.K., Belgium, France and Italy.
- Tourism flows are strong and have received new impetus due to improvement in ease-of-travel and connectivity. India's unilateral introduction of electronic tourist visa (eTV) for Dutch passport holders since August 15, 2015 has been a resounding success with 30,000 Dutch passport holders having availed of the facility up to December, 2016.
- A vast array of natural synergies provides ample opportunities for complementarity. In many sectors, India's needs match Dutch strengths and vice versa. In Agriculture, Life Sciences and Healthcare, Ports and Logistics and Renewable Energy promising partnerships have already been established.
- A key ingredient in the Indo-Dutch cooperation is the use of innovation and technology to improve water and waste management thus contributing to the Clean India campaign. Dutch agro-experts are involved in exploring ways to shift to crops that are less water intensive and will generate higher income for the farmer.
- In this context, the Netherlands has created a consortium of fruit chain companies mainly working in hilly regions, creating a win-win situation, as India can develop its fruit sector in a faster pace with opportunities for Dutch companies and knowledge.

Indian Diaspora In Netherlands

- The Netherlands has the second largest population of people of Indian origin in Europe, next only to the UK. A 225,000-strong Indian Diaspora is an important element that helps foster closer ties with the Netherlands.
- The decision to implement the e-Tourist Visa scheme from August 15, 2015 as well as Government of India schemes such as Know India Programme, Tracing the Roots Programme, India Corporate

Internship Programme etc. are some significant initiatives to enhance and deepen people-to-people contacts.

- The Surinami-Hindustani community in the Netherlands evinces keen interest in different aspects of Indian culture, which helps in strengthening people-to-people contact. Indian Film Festivals, Food Festivals, Music and Dance Shows organized by local organizers are very popular and attended in large numbers by both the Indian and Surinami-Hindustani community.

Netherland As A Gateway to EU

- The Netherlands could serve as an excellent gateway to the European market for Indian businesses and the two nations have lots to offer each other as Netherlands does not want protectionism in the world.
- Ranked among the top 20 most competitive economies of the world, the Netherlands is an affluent country. Despite Europe registering an average growth rate in the last decade and a half, the Netherlands' economy has managed to hold steady.
- Hugely reliant on foreign trade, an important benchmark of the Dutch economy has been its fairly stable relations with other countries, low rates of unemployment and critical role as a key European transport hub.

India-Netherlands relations have acquired a *new momentum* today. The Netherlands has identified India as a *priority country* for economic engagement. India and the Netherlands are uniquely placed to be *preferred partners* in key sectors. The objective is to take the Indo-Dutch relations to the *next level*. Political commitment on both sides is clear and manifest. In fact, the bilateral relations today are perhaps the best they have ever been.

5.4. Delhi Dialogue 9

The annual meeting of India and ASEAN members Delhi Dialogue 9 was organized in Delhi in July 2017.

Background

- Global patterns are changing fast. Regional geopolitics is shaped by global patterns of inter-state relations and geo-economics for the Asia–Pacific region does not exist in a vacuum.
- Against the backdrop of considerable change since 2008 (global financial crisis) and especially since 2012 (eruption of South China Sea as a key issue), the past year from mid-2016 to mid-2017 has generated much instability and uncertainty.
- It heralds transition to a new phase in regional geopolitics with two key features:
 - i) polarization between those who can live with a China-dominated region and those who are inclined to push back, and
 - ii) growing realisation that mere rhetoric to respect international law and its violation in actual practice would bring more tensions and turbulence.

Key Highlights

- During the session, the discussion was held on the topic of **Regional Geopolitics: Great Power Politics in Asia -Pacific**.

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- The leaders discussed the significance of ASEAN as a regional multilateral organisation and a principal agent shaping the outcome of the power struggles in the larger Asia-Pacific.
- Deliberations were held on the change in the regional political-strategic scene by the changing equations among four powers – U.S., China, India and Japan by other members of the East Asia Summit that include the ten members of ASEAN.
- The U.S., which ensured stability and security in the region, is now a cause of uncertainty and instability for its new administration is yet to craft a clear and coherent policy towards the region.
- Greater attention has been paid to the North Korean issue than the South China Sea question and China's generally assertive behavior in the region.
- Discussions were held on the economic factors that are relevant.
- The U.S. exit dealt a grievous blow to Trans Pacific Partnership. Current feeble efforts to reestablish TPP minus U.S. are uncertain of success and the pulls and pressures regarding negotiations are set to delay its launch.

India-ASEAN

- The Association of South-East Asian Nations (ASEAN) comprises of Indonesia, Singapore, Philippines, Malaysia, Brunei, Thailand, Cambodia, Lao PDR, Myanmar and Vietnam.
- India's focus on a strengthened and multi-faceted relationship with ASEAN is an outcome of the significant changes in the world's political and economic scenario since the early 1990s and India's own march towards economic liberalisation.
- India-ASEAN relations stepped up a notch towards the end of 1990s and the beginning of 2000. In 1998 the then Indian Prime Minister, Mr. Atal Bihari Vajpayee intended to accelerate India's Look East Policy.
- India's search for economic space resulted in the 'Look East Policy'. The Look East Policy has today matured into a dynamic and action oriented 'Act East Policy'. India's relationship with ASEAN is a key pillar of our foreign policy and the foundation of our Act East Policy.
- The concept of extended neighbourhood was popularized by Indian leaders such as I.K. Gujral and Jaswant Singh.
- Given its size, geographical location, trade links and the EEZ (Exclusive Economic Zone) India's security environment faces many challenges. Therefore potential concerns range from the Persian Gulf to the Straits of Malacca in the West, South and East, Central Asia in the Northwest, China in the Northeast and South Asia. Thus, India is looking to develop associations with countries beyond its immediate neighbourhood perceiving countries in East and Northeast Asia as its far eastern neighbours and the ASEAN countries as its near eastern neighbours.
- One of the first concrete steps taken by India was the setting up of the Mekong Ganga Cooperation Project in 2000 which includes India and the five ASEAN countries (including the four newer ASEAN members – Vietnam, Lao, Cambodia, Myanmar and Thailand).
- India was aware that economic cooperation with ASEAN would depend on how fast the new ASEAN countries could catch up with the rest of ASEAN and intended to provide them with economic and technical assistance.
- The up-gradation of the relationship into a Strategic Partnership in 2012 was a natural progression to the ground covered since India became a Sectoral Partner of the ASEAN in 1992, Dialogue Partner in 1996 and Summit Level Partner in 2002.

ASEAN-India Centre (AIC)

- At the Commemorative Summit held in 2012, the Heads of the Government recommended establishment of ASEAN-India Centre (AIC) to undertake policy research, advocacy and networking activities with organizations and think-tanks in India and ASEAN with the aim to promote the ASEAN-India Strategic Partnership.
- The AIC has been serving as a resource centre for ASEAN Member States and India since its establishment in 2013 for strengthening ASEAN-India strategic partnership and promoting India-ASEAN dialogue and cooperation in the areas of mutual interests.

Security Cooperation

- The main forum for ASEAN security dialogue is the ASEAN Regional Forum (ARF was set up in 1993 as a regional security cooperation and dialogue platform). India has been attending annual meetings of this forum since 1996 and has actively participated in its various activities.
- The ASEAN Defence Ministers' Meeting (ADMM) is the highest defence consultative and cooperative mechanism in ASEAN. The ADMM+ brings together Defence Ministers from the 10 ASEAN nations plus Australia, China, India, Japan, New Zealand, Republic of Korea, Russia, and the United States on a biannual basis. Defense Minister attended the 3rd ADMM Plus held from 4-5 November 2015 in Kuala Lumpur.
- Expanded ASEAN Maritime Forum (EAMF) is an avenue for track 1.5 diplomacy (a diplomacy channel in which official and non-official actors work together to resolve conflicts) focusing on cross cutting maritime issues of common concern. India participated in the 4th EAMF held in Manado, Indonesia on 10-11 September 2015.

Trade and Investment

- India-ASEAN trade and investment relations have been growing steadily with ASEAN being India's fourth largest trading partner.
- The annual trade between India and ASEAN stood at approximately US\$ 76.53 billion in 2014-15. It declined to US\$ 65.04 billion in 2015-16 essentially due to declining commodity prices amidst a general slowing down of the global economy.
- Investment flows are also substantial both ways, with ASEAN accounting for approximately 12.5% of investment flows into India since 2000.
- The ASEAN-India Free Trade Area has been completed with the entering into force of the ASEAN-India Agreements on Trade in Service and Investments on 1 July 2015.
- ASEAN and India have been also working on enhancing private sector engagement. ASEAN India-Business Council (AIBC) was set up in March 2003 in Kuala Lumpur as a forum to bring key private sector players from India and the ASEAN countries on a single platform for business networking and sharing of ideas.

Connectivity

- ASEAN-India connectivity is a matter of strategic priority for India as also the ASEAN countries. In 2013, India became the third dialogue partner of ASEAN to initiate an ASEAN Connectivity Coordinating Committee-India Meeting.
- While India has made considerable progress in implementing the India-Myanmar-Thailand Trilateral Highway and the Kaladan Multimodal Project, issues related to increasing the maritime and air

connectivity between ASEAN and India and transforming the corridors of connectivity into economic corridors are under discussion.

- A possible extension to India-Myanmar-Thailand Trilateral Highway to Cambodia, Lao PDR and Viet Nam is also under consideration.
- A consensus on finalising the proposed protocol of the India-Myanmar-Thailand Motor Vehicle Agreement (IMT MVA) has been reached. This agreement will have a critical role in realizing seamless movement of passenger, personal and cargo vehicles along roads linking India, Myanmar and Thailand.

Cultural Relations

- India and Southeast Asian countries share longstanding civilizational ties. The impact of this cross-fertilisation of cultures and traditions is evident in aspects such as religion, language, literature, beliefs, customs, cuisine, and architecture of the two regions.
- These commonalities are an integral part of the economic and security pillars of the ASEAN community. The cultural linkages have evolved over the centuries through the exchange of people, cultural values, education, trade and commerce.
- Existing archaeological evidence shows ancient ties between India and Southeast Asia, including ceramic and boat-building traditions and marine links.
- The presence of the Shivalinga has been found in Vietnam which was the stage for many scenes of the Indian epic Mahabharata within the 12th-century temples of Angkor Wat in Cambodia are further proof of the deep cultural bonds between South East Asia and India.
- Indian merchants had facilitated the spread of religion and culture in different parts of the region. Indian and Southeast Asian languages have common sources like Sanskrit and Pali, and traditional dance and other art forms of the two regions also exhibit many similarities.
- The Indian epics, Ramayana and Mahabharata, are hugely popular in Thailand and Indonesia and have had influence on popular art forms in those countries such as shadow puppetry.
- The Arjuna statue near the National Monument in the heart of Jakarta is also a striking symbol of a common cultural heritage. Indian film stars are also quite popular in many ASEAN countries. In fact, most Indonesian television channels regularly show Hindi-language films.

People to People Contact

- The large Indian diaspora in many of the Southeast Asian countries, especially Malaysia and Singapore, help strengthen diplomatic, economic and security relations between India and ASEAN as they have contributed to deepening of bonds.
- The Indian diaspora comprise an important instrument of India's soft power and they help congeal a highly organic relationship between the two regions.
- It can be claimed that India's increasing political and economic engagement with ASEAN-led institutions such as the ASEAN Regional Forum and East Asia Summit is partially influenced by the possibility of leveraging on the presence of the Indian diaspora in Southeast Asia.
- Indian communities contribute towards shaping the culture of the Southeast Asian country that they reside in. For example, the Indian language, Tamil is one of the official languages of Singapore for the sheer size of the Indian diaspora in the city state.

- In Malaysia almost 1.6 million Indians who are either immigrants or descendants of immigrants call it their second home.

ASEAN-India Projects

- India has been cooperating with ASEAN by way of implementation of various projects in the fields of Agriculture, Science & Technology, Space, Environment & Climate Change, Human Resource Development, Capacity Building, New and Renewable Energy, Tourism, People-to-People contacts and Connectivity etc.
- Space Project envisaging establishment of a Tracking, Data Reception/Data Processing Station in Ho Chi Minh City, Vietnam and upgradation of Telemetry Tracking and Command Station in Biak, Indonesia are initiated.
- Setting up of Centres of Excellence in Software Development & Training in CLMV (Cambodia, Laos, Malaysia and Vietnam) countries; e-Network for provision of tele-medicine and tele-education in CLMV countries, Quick Impact Projects in CLMV etc. are other significant projects.
- Apart from the above projects, India has been supporting ASEAN especially CLMV countries under the Initiatives for ASEAN Integration such as projects on Training of English Language for Law Enforcement Officers and Training of professionals dealing with capital markets by National Institute of Securities Management Mumbai, scholarships for ASEAN students for higher education at Nalanda University, Training of ASEAN Civil Servants in drought management, disaster risk management, sustainable ground water management etc.
- To boost People-to-people Interaction with ASEAN, India has been organising various programmes including Training Programme for ASEAN diplomats, Exchange of Parliamentarians, Participation of ASEAN students in the National Children's Science Congress, ASEAN-India Network of Think Tanks, ASEAN-India Eminent Persons Lecture Series, ASEAN-India Students Exchange programme, ASEAN-India Media Exchange programme etc.

Delhi Dialogue (DD)

- India has an annual Track 1.5 event Delhi Dialogue for discussing politico-security and economic issues between ASEAN and India.
- Since 2009, India has had nine editions of this event.
- The 8th edition of Delhi Dialogue was hosted by the MEA in partnership with IDSA, FICCI and other selected Indian and ASEAN partners on 17-19 February 2016 in New Delhi.
- DD VIII had 'ASEAN-India Relations: A New Paradigm' as its theme and included an Inaugural Business Session, a Ministerial Session and an Academic Session.

5.5. Australia-India Cyber Policy Dialogue

The second Australia-India Cyber Policy Dialogue was held in Canberra in July 2017. The Dialogue was held in a spirit of collaboration, openness, and common purpose to strengthen cooperation on cyber issues.

Highlights

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- In the joint statement Australia and India reaffirmed their commitment to an open, free, secure, stable, peaceful and accessible cyberspace enabling economic growth and innovation and reiterated their support for the multi-stakeholder approach to internet governance.
- Both the countries reaffirmed their commitment to the rules-based order and to enhancing their understandings of how these rules applied to state behaviour in cyberspace. They reaffirmed their commitment to act in accordance with the UNGGE's (United Nations Group of Governmental Expert) previous reports.
- Australia and India reaffirmed that responsible behaviour of states in cyberspace is subject to the UN Charter in its entirety and existing international law. They further reaffirmed that such behaviour includes respect for human rights and fundamental freedoms.
- Australia and India resolved to work together to deepen common understandings on these important issues, including at the upcoming Global Conference on Cyberspace in New Delhi in November 2017.
- The two sides discussed the full range of cyber issues including cyber threat perceptions, respective visions of the future of the internet and cyberspace, updates on domestic cyber governance and policy, developments in regional and international fora and growth of the digital economy.
- Further, the two sides also agreed on a Plan of Action, which identified Points of Contacts on various issues of mutual interest in the area of Cyberspace.
- The two countries agreed to hold the next round of the Dialogue in India in 2018.

India- Australia Cyber Cooperation

- The first India-Australia Cyber Policy Dialogue was held in New Delhi on 24 August 2015.
- The Dialogue was held in accordance with the Framework for Security Cooperation, which was agreed between Prime Minister Abbott and Narendra Modi during the latter's visit to Canberra in November 2014.
- To strengthen the relationship between CERT-India and CERT-Australia, they signed a framework for operational cooperation on cyber security to promote greater cooperation in exchanging information on cyber threats and in responding to incidents.
- The two sides also identified opportunities to work together to exchange information on cybercrime and on law enforcement measures.
- The delegations agreed that further dialogue would be fruitful to deliberate on the application of international law to cyberspace and the development of norms including the work of the UN Group of Governmental Experts, the work of regional bodies.
- The regional bodies included the ASEAN Regional Forum on confidence building and the Asia-Pacific CERT community in supporting the development of regional CERT capacity and on the role of different stakeholders in supporting the multi-stakeholder approach to internet governance.

About CERT-India

- CERT-In is operational since January 2004. It is the national nodal agency for responding to computer security incidents as and when they occur.
- In the recent Information Technology Amendment Act 2008, CERT-In has been designated to serve as the national agency to perform the following functions in the area of cyber security:

- Collection, analysis and dissemination of information on cyber incidents.
- Forecast and alerts of cyber security incidents.
- Emergency measures for handling cyber security incidents.
- Coordination of cyber incident response activities.
- Issue guidelines, advisories, vulnerability notes and whitepapers relating to information security practices, procedures, prevention, response and reporting of cyber incidents.
- Such other functions relating to cyber security as may be prescribed

5.6. India-Japan Agreement For Cooperation In The Peaceful Uses Of Nuclear Energy

The India-Japan Agreement for Cooperation in the Peaceful Uses of Nuclear Energy, signed in Nov 2016, entered into force on July 20, 2017.

About The Agreement

- A landmark civil nuclear cooperation deal between India and Japan provides for collaboration between their industries in the field came into force after the eight months of final agreement. The deal took over six years of negotiations to finally see the light of day.
- Under the agreement Japanese firms will supply nuclear materials, equipment and technologies to India for peaceful and non-explosive purposes.
- The companies also provide support services for designing, building and operating reactors.
- *According to the agreement*, Japan will also assist India in nuclear waste management and will undertake joint manufacturing of nuclear power plant components under the 'Make in India' initiative.
- The memorandum signed on civil nuclear energy cooperation is more than just an agreement for commerce and clean energy. It is a shining symbol of a new level of mutual confidence and strategic partnership in the cause of peaceful and secure world.
- The deal allows Japan to export nuclear technology to India, making New Delhi the **first non-NPT signatory** to have such a deal with Tokyo.
- Japan is a major player in the nuclear energy market and an atomic deal with it will make it easier for US-based nuclear plant makers Westinghouse Electric Corporation and GE Energy Inc. to set up atomic plants in India as both these conglomerates have Japanese investments.

Significance

- This agreement is a reflection of the strategic partnership between India and Japan and will pave the way for enhanced cooperation in energy security and clean energy.
- The agreement seeks to promote full cooperation between the two countries in the development and uses of nuclear energy for peaceful purposes on a stable, reliable and predictable basis.
- India signed a landmark nuclear deal with the US in 2008, clearing the path for the country to source nuclear power plants and technology from international markets. But with Japanese companies in possession of critical technologies, an accord with Japan was pivotal for India.
- The deal is significant as it will help guarantee Japan's continued support to India's civil nuclear programme.

- The deal is also likely to revitalize Japanese nuclear majors that are yet to recover from the setback of the Fukushima accident.
- The nuclear issue in many ways was a constraint. It was preventing India and Japan from engaging in a more robust and wide spectrum manner. The deal will bring Japan into the Indian nuclear market where France and Russia have already have a strong presence.

Need for Nuclear Power in India

- In the face of surging power demand due to rapid economic and population growth, India is seeking to build more nuclear reactors.
- India currently has 5.7 gigawatts (GW) of nuclear power generation capacity. India's Department of Atomic Energy's target is to have 63 GW of nuclear power capacity by 2032. Also, New Delhi aims to boost nuclear power generation nationwide so that it accounts for nearly 25% of all electricity in the country by 2050.
- The cost of coal power would be some 30 to 50 per cent higher in coming days. Then there is also a threat of climate change and the concern for environmental pollution.
- The hydropower is unevenly distributed across months. Solar power is available only when the sun is shining unless it is stored in some way. Thus, to provide power when the sun is not shining, a balancing power is needed.
- In India, more than 70% of petroleum products are based on imports. India's known extractable coal reserves will run out in about 40 years.
- For India, renewable energy is inevitable and nuclear option should be retained as insurance. Nuclear power also helps diversify the system and adds to energy security.

India-Japan Nuclear Agreement: A Termination Clause

- Like in the India-US civil nuclear cooperation agreement, a termination clause is built into the agreement with Japan.
- According to the clause the countries reserve the right to terminate cooperation if India conducts a test as it would violate the September 2008 statement. But it won't be easy as termination would be a politically and commercially cumbersome process as:
 - A joint security assessment would have to be made on the reasons leading up to any such provocative action. It would also be taken into account whether there was a provocation by another country's action for such a move.
 - A safety assessment would have to be carried out on the impact of any cessation of cooperation. This means a determination on whether any facility's safety would be compromised by stopping supplies.
 - Finally, there is a **right to return clause**, which essentially means if all material supplied under the cooperation, would have to be returned. While this right is recognized, the cost would have to be borne by Japan.
- India currently has a moratorium on nuclear testing and intends to foster stronger commercial ties with these countries in sector. Deeper the connect, more complicated the termination.

India and Nuclear Tests

- India conducted tests of nuclear explosions in 1974 and 1998 and declared a moratorium on

further testing on September 5, 2008.

- India and the International Atomic Energy Agency (IAEA) concluded agreements for the application of safeguards to civilian nuclear facilities in 1971, 1994 and 2009.
- Indian nuclear reactors were divided between those for civilian and military uses, and 22 civilian reactors were placed under the IAEA safeguards by the end of December 2014.
- India needs more electric power in coming years. To that end, the Indian government approved construction of ten pressurized heavy water reactors in May 2017.
- As India is not a signatory to either the Treaty on the Non-Proliferation of Nuclear Weapons or the Comprehensive Nuclear Test Ban Treaty, some opposition parties in Japan argued that the accord would damage the credibility of the nuclear proliferation treaty system.

Q. What was the India--Japan Agreement for Cooperation in the Peaceful Uses of Nuclear Energy? How it will help India?

5.7. 11th India Australia Foreign Ministers Framework Dialogue

Minister for Foreign Affairs of Australia visited India in July 2017 to attend the 11th India-Australia foreign ministers framework dialogue.

Key Highlights

- During the visit, Australia joined the International Solar Alliance (ISA) as its 35th member. Australia's presence in view of its economic strength and extensive experience in solar technology will further strengthen the Alliance.
- Earlier External Affairs Minister Smt. Sushma Swaraj and Australian Finance Minister co-Chaired the 11th India Australia Foreign Ministers Framework Dialogue (FMFD) which is the main institutional bilateral mechanism between the two countries
- During the Dialogue, cooperation in bilateral and multilateral issues of common interest including defence, security, counter-terrorism, trade and investment, education and consular matters were reviewed.
- She denounced all forms of terrorism and affirmed Australia's resolve to fight terrorism in all its forms. Both sides reiterated their desire and determination to work together for a rules-based system, to maintain peace, stability, growth and prosperity in the Indo-Pacific including safety and freedom of navigation, over-flight and unimpeded commerce based on principles of international law.

India-Australia Relations

- India and Australia have several commonalities, which serve as a foundation for closer co-operation and multifaceted interaction. Both are strong, vibrant, secular and multicultural democracies. They both have a free press and an independent judicial system. The English language and Cricket are an important link between India and Australia.
- India is increasingly becoming a factor in Australian analysis and policymaking. Our growing economic profile and commercial relevance to the Australian economy is recognized both at the state and federal level in Australia

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- Australia has placed India at the forefront of its international partnerships. Both governments recognise there is significant potential for further cooperation across a broad range of areas.
- Two-way Prime Ministerial visits in 2014 built significant momentum in the relationship and affirmed the Strategic Partnership agreed to in 2009.
- Australian and Indian Foreign Ministers meet annually for the Foreign Ministers' Framework Dialogue (FMFD) alternately held in Australia and India.
- Similarly, Australian and Indian Trade Ministers meet annually for the Joint Ministerial Commission (JMC) and Education Ministers meet for the India-Australia Ministerial Dialogue on Education Cooperation.
- Australia's Industry Minister also holds an annual Energy Security Dialogue with his or her Indian counterpart. Australian and Indian Defence Ministers meet regularly.

Economic and Trade Relations

- The Australia-India economic relationship has grown significantly in recent years. Australia's strength in exporting primary products, particularly minerals and energy as well as services such as education, positions us well to supply growing Indian industrial and consumer demand.
- Both the nations are seeking to further deepen trade and investment links through the conclusion of a Comprehensive Economic Cooperation Agreement (CECA).
- India is Australia's tenth-largest trading partner and our fifth-largest export market. Two-way goods and services trade between Australia and India totaled \$18 billion in 2014-15.

Defence Relations

- Building on a long history of cooperation including our shared experience in the trenches of World War I in Gallipoli and along the Western Front Australia and India have a positive defence relationship underpinned by the 2006 Memorandum on Defence Cooperation and the 2009 Joint Declaration on Security Co-operation.
- In recent years, our defence relationship has grown to include a range of forums for strategic dialogue, as well as regular interactions between our respective services through senior visits, staff talks and training exchanges.
- Key platforms for strategic dialogue include the annual Defence Policy Talks (hosted most recently in 2015 in Australia) and the annual 1.5 Track Defence Strategic Dialogue.
- Senior visits also occur on a regular basis. In September 2015, the then Australian Minister of Defence visited India, resulting in agreement to deepen our defence cooperation ties, including through establishing a Joint Working Group on Defence Research and Materiel Cooperation.
- Australia and India build robust defence ties through regular personnel and training exchanges, such as short specialist courses and longer-term positions.
- Every year, Australia sends two officers to attend Indian military educational institutions: one officer attends India's Defence Services Staff College, while another attends its National Defence College.
- India also sends two officers to study in Australia annually, with one attending Australia's Command and Staff College and the other attending the Centre for Defence and Strategic Studies.
- Australia and India are committed to working together to enhance maritime cooperation, with our first formal bilateral naval exercise (AUSINDEX) held off the coast of Visakhapatnam in 2015.

Australia-India Council

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- The Australia-India Council (AIC) established on 21 May 1992 advances Australia's interests concerning India by initiating and supporting activities designed to enhance awareness and understanding between the peoples and institutions of Australia and India.
- The Council initiates or supports a range of activities designed to promote a greater awareness of Australia in India and a greater awareness of India in Australia, including visits and exchanges between the two countries, development of institutional links, and support of studies in each country of the other.
- The Council offers support, in the form of funding, for projects likely to contribute to the development of the relationship, within the context of AIC objectives and guidelines.

6.1. 40th FAO Conference

The Food and Agriculture Organisation's governing Conference convened a week-long session to approve the UN agency's biennial programme for the achievement of the Sustainable Development Goals and the 2030 Agenda for Sustainable Development.

Key Highlights Of The Conference

- Participants discussed a number of pressing issues including how to turn commitment into action to achieve the Global Goal of Zero Hunger; water scarcity, food security and a changing climate in the Near East and North Africa; sustainable solutions to prevent famine in conflict-affected countries; an action plan on food security and nutrition for Small Island Developing States; and the role of rural development in mitigating pressures that drive migration.
- **Climate Change:**
 - The Conference endorsed FAO's proposed 2018-2019 **Biennial Theme - Climate Change and its impact on the work activities of FAO.**
 - The Biennial Theme was based on the adoption of the FAO Strategy on Climate Change and the launch of the Global Action Programme on Food Security and Nutrition in Small Island Developing States.
 - The Conference noted that the FAO has to play an important role in supporting countries to implement the nationally determined contributions under the Paris Agreement and in their efforts to adapt and increase resilience to climate change while contributing to mitigation.
- **FAO priorities:**
 - It appreciated FAO's progress in the decentralization process that has enabled the Organization to strengthen coordination with national partners and the development of strategic partnerships with other stakeholders especially the private sector, academia and key civil society development actors.
 - The Conference also indicated its appreciation for the mainstreaming of gender across FAO's activities.
 - The focus has been given to the achievement of the Sustainable Development Goals and the realization of a Zero Hunger world is at the heart of FAO's work.

About FAO

- It is a **specialized agency** of the United Nations established in 1945. Headquartered in Rome, it has a number of regional, sub-regional and liaison offices around the world.
- It has 194 Member Nations, two associate members and one member organization (the EU).
- It reports to the Economic and Social Council (UN's specialized body) annually. Managed by a Director General, it carries out about one third of the programs of other UN development agencies.

Goals and Objective

- The objective of the FAO is to lead international efforts to defeat hunger, contributing to an expanding world economy by promoting sustainable rural development with emphasis on the poorest farmers, promoting food production and self-reliance and raising nutrition levels.
- FAO's three main goals are:
 - 1) The eradication of hunger, food insecurity and malnutrition;

- 2) The elimination of poverty and the driving forward of economic and social progress for all
 - 3) The sustainable management and utilization of natural resources including land, water, air, climate and genetic resources for the benefit of present and future generations.
- FAO has no mandatory powers but seeks to accomplish its purposes by making investigations, publishing reports and organizing conferences. It offers technical aid, improves seeds, develops serums and vaccines and aids in increasing forestry yields.
 - Achieving food security for all is at the heart of FAO's efforts – to make sure people have regular access to enough high-quality food to lead active, healthy lives.

About Codex Alimentarius Commission

- Codex Alimentarius Commission (Codex) is the international food standards setting body established by the United Nation's FAO and WHO.
- Codex develops international food standards, guidelines and codes of practice for an international food code that contributes to the safety, quality and fairness of food trade.
- It coordinates input from 187 member countries and European Union. It has a mandate to protect the health of consumers, ensure fair international food trade, and develop standards based on sound scientific principles.
- Codex standards are recognised by the WTO. They are not imposed on member countries. But the member countries give their full efforts to harmonise their domestic regulations with Codex standards such as food additives, pesticide residues and veterinary drugs.

6.2. SDG Report By UNESCAP

The report regarding the implementation of the Sustainable Developing Goals (SDG) in the Asia and the Pacific region was released by United Nations Economic and Social Commission for Asia and the Pacific.

About The SDG Report

- The report presented the SDG baseline for the Asia and the Pacific both at the regional and sub-regional levels for selected targets of each SDG.
- The Report highlighted critical gaps and challenges of the region in achieving the SDGs and informed the governmental and regional agencies regarding the steps needed in support of implementing the 2030 development agenda in the region.
- The Asia-Pacific Sustainable Development Goals Baseline report is the first regional measurement methodology of its kind. The report establishes a baseline for the SDGs through an innovative method that assesses regional progress since 2000 to illustrate which development gaps still need to be addressed to achieve the 2030 Agenda.
- The SDG 2017 report highlighted that while this region is making progress towards achieving the SDGs on poverty, education, economic growth, industry and infrastructure and life but there is a slow progress towards ending hunger, achieving food security, delivering agricultural sustainability, ensuring good health and achieving gender equality.
- **The report has three parts:**

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1. Part I provides a regional snapshot of progress since 2000 (starting of the Millennium Development Goals) and acceleration that is required in order for the region to achieve the 16 goals by 2030 and the required pace of progress by 2030.
2. Part II then sets out a more detailed goal by goal baseline for the region for selected targets.
3. Part III concludes by highlighting key findings of the baseline report and the regional vision for transforming official statistics to tackle challenges in meeting the statistics and data requirements for the follow-up and review of the 2030 agenda. It also emphasize critical role of data disaggregation for achieving the leave-no-one-behind ambition of the SDGs.

About UNESCAP

- The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) is the regional development arm of the United Nations for the Asia-Pacific region.
- UNESCAP was established in 1947 in Shanghai, China as the Economic Commission for Asia and the Far East (ECAFE) to assist in post-war economic reconstruction. Its headquarter was moved to Bangkok in January 1949.
- The name was changed to ESCAP in 1974 to reflect both the economic and social aspects of development and the geographic location of its member countries.
- It consists of 53 Member States and 9 Associate Members with a geographical scope that stretches from Turkey in the west to the Pacific island nation of Kiribati in the east, and from the Russian Federation in the north to New Zealand in the south.
- The region is home to 4.1 billion people or two thirds of the world's population. This makes ESCAP the most comprehensive of the United Nations five regional commissions and the largest United Nations body serving the Asia-Pacific region.
- The ultimate challenge lies in bringing the region's 680 million poor into the economic mainstream, enabling everybody to achieve a better standard of life as envisaged in the Charter of the United Nations.
- ESCAP works to overcome some of the region's greatest challenges by providing results oriented projects, technical assistance and capacity building to member States in the following areas:
 - Macroeconomic Policy, Poverty Reduction and Financing for Development.
 - Trade, Investment and Innovation.
 - Transport.
 - Environment and Development.
 - Information and Communications Technology and Disaster Risk Reduction.
 - Social Development.
 - Energy.
- In addition, ESCAP gives stronger participation to the smaller and often left out voices of the region, the least developed countries, the small island developing States and landlocked developing States.

Q. Asia and the Pacific is a region with an impressive development track record and will need to step up its overall development reform efforts to achieve the Sustainable Development Goals (SDGs) by 2030. In the light of above statement critically analyse the gaps and challenges of the region in achieving the SDGs.

6.3. G-20 Summit

The annual meeting of G-20 was held in July 7-8, 2017 at Hamburg, Germany.

Highlights of 2017 Summit Meeting

- During the meeting on the issue of energy and climate, leaders took note of the United States' withdrawal from the Paris Agreement. The leaders of the other G20 members stated that the Paris Agreement is irreversible and they endorsed the *G20 Hamburg Climate And Energy Action Plan For Growth*.
- Prime Minister of India asked BRICS nations to be a voice for stability, reform, progress and governance at the world stage and raised concern about the geopolitical situation in the Gulf, West Asia and in the Korean Peninsula.
- On the migration and refugee crisis, leaders agreed to step up coordination and act against people smugglers and traffickers. Addressing the root causes of migration and supporting countries of origin and transit are also priorities for the leaders.
- Global leaders stressed the need to better help people seize the opportunities and benefits of economic globalisation. They also discussed how to continue building an open and resilient financial system.
- Leaders committed to increase international tax cooperation and financial transparency, as well as to address the issue of excess steel capacity.
- Africa's development remained a high priority for the G20. Leaders launched the G20 Africa partnership to boost growth and jobs in the continent. This includes the G20 initiative for rural youth employment which will contribute to creating 1.1 million new jobs by 2022.
- Leaders stressed the importance of harnessing digitalization to achieve inclusive and sustainable growth. Promoting digital literacy and skills is essential to better prepare people for the future.
- Leaders also agreed to take further action to achieve gender equality. They stressed the role of digitalisation and ICT to support women's empowerment.
- In addition, leaders emphasised the value of international health cooperation in particular to better combat antimicrobial resistance.
- The leaders did not agree to pursue United Nations sanctions such as asset freezes and travel bans against criminals smuggling people from Africa and the Middle East to Europe. A European Union push for such sanctions ran into opposition from several countries.
- The 13th edition of the G20 summit will be hosted by Argentina in 2018.

Hamburg Action Plan

- The action plan aims to address major global challenges including climate change, harnessing digitalisation and to contribute to prosperity and well-being.
- In Hamburg plan the G20 members resolved to tackle common challenges to the global community including terrorism, displacement, hunger, poverty and health threats, job creation, climate change, energy security and inequality including gender inequality, as a basis for sustainable development and stability.
- They also underlined importance to boost employment by improving sustainable global supply chains, as an important source of job creation and balanced economic growth.

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- G20 members promised to use all policy tools such as monetary, fiscal and structural- individually and collectively to achieve the goal of strong, sustainable, balanced and inclusive growth, while enhancing economic and financial resilience.
- G-20 members are committed to increase innovation on sustainable and clean energies and energy efficiency, work towards low greenhouse-gas emission energy systems and harness digitalisation to achieve the goals of the 2030 Agenda for Sustainable Development.
- G-20 members called for strengthening health systems and safeguarding against health crises. The leaders called on the UN to keep global health high on the political agenda and strive for cooperative action to strengthen health systems worldwide, including through developing the health workforce. The leaders also stressed on combatting Anti-Microbial Resistance (AMR) which is a growing threat to public health and economic growth.

About G-20

- The G-20 was formed in 1999 as a forum for member nations to discuss key issues related to the global economy. It is an international forum for the governments and central bank governors from 20 major economies.
- The mandate of the G-20 is to promote global economic growth, international trade and financial market regulation.
- The Group of Twenty is comprised of 19 countries and the European Union. They are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom and the United States of America.
- The G20 countries produce around 80 percent of global economic output in terms of gross domestic product (GDP) adjusted for purchasing power parity.
- G20 countries account for three-quarters of global trade. China, United States, Germany and Japan are the four largest exporting countries in the world. Of the 20 countries with the largest volume of exports worldwide, 15 are members of the G20.
- Around two-third of the global population live in the G20 member countries.

Welcome To Hell Protest During G-20 Summit:

- During the G-20 summit, Welcome to Hell protest was organised to give a combative message and to symbolise that G20 policies worldwide are responsible for conditions like hunger, war and the climate disaster.
- During the summit the activists block the access to the summit venue and had to face the resistance from the police.
- It was an autonomous and anti-capitalist alliance against the G20 Summit in Hamburg.
- The demonstration on the eve of the G20 summit's eve expressed the protest and resistance, radical critique and practice against the patriarchal and capitalist state of affairs.

6.4. 41ST Session Of World Heritage Committee

In News

- The World Heritage Committee concluded its 41st session and inscribed 21 new sites on the UNESCO's World Heritage List.

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- The committee met in Krakow, Poland and completed the addition of 18 cultural and 3 natural significant sites to the List.
- It also extended or modified the boundaries of five sites already on the List.

The New List

- The UN Educational, Scientific and Cultural Organization (UNESCO) regard these inscribed sites as having great significance to the collective interest of humanity.
- The Committee, which monitors implementation of the 1972 World Heritage Convention, decides about inscriptions on the World Heritage List and the List of World Heritage in Danger, monitors the state of conservation of the World Heritage properties, defines the use of the World Heritage Fund and allocates financial assistance upon requests from States Parties.
- The new natural sites are:
 - Los Alerces National Park (Argentina)
 - Qinghai Hoh Xil (China)
 - Landscapes of Dauria (Mongolia/Russian Federation)
- The new cultural sites are:
 - MbanzaKongo, Vestiges of the Capital of the former Kingdom of Kongo (Angola)
 - Valongo Wharf Archaeological Site (Brazil)
 - Temple Zone of Sambor Prei Kuk, Archaeological Site of Ancient Ishanapura (Cambodia)
 - Kulangsu: a Historic International Settlement (China)
 - Venetian Works of Defence between 16th and 17th centuries: Stato da Terra – western Stato da Mar (Croatia, Italy, Montenegro)
 - Kujataa Greenland: Norse and Inuit Farming at the Edge of the Ice Cap (Denmark)
 - Asmara: a Modernist City of Africa (Eritrea)
 - Taputapuātea (France)
 - Caves and Ice Age Art in the Swabian Jura (Germany)
 - **Historic City of Ahmadabad (India)**
 - Historic City of Yazd (Islamic Republic of Iran)
 - Sacred Island of Okinoshima and Associated Sites in the Munakata Region (Japan)
 - Hebron/Al-Khalil Old Town (Palestine)
 - Tarnowskie Góry Lead-Silver-Zinc Mine and its Underground Water Management System (Poland)
 - Assumption Cathedral and Monastery of the town-island of Sviyazhsk (Russian Federation)
 - Khomani Cultural Landscape (South Africa)
 - Aphrodisias (Turkey)
 - The English Lake District (United Kingdom)

About UNESCO

- It is a **specialized agency** of the United Nations (UN), founded on 16 Nov' 1945.
- It has 195 Members and eight Associate Members.

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- Its purpose is to contribute to peace and security by promoting international collaboration through education, science and culture in order to further universal respect for justice, the rule of law and human rights along with fundamental freedom.
- UNESCO has five major themes to its programs which include 1) education, 2) natural sciences, 3) social and human sciences, 4) culture and 5) communication and information.
- UNESCO was actively working to achieve the United Nations Millennium Development Goals. Now it will contribute to the implementation of the SDGs through its work on education, natural science, social and human science, culture, communication and information, sustainable development goals for ocean.

About World Heritage Convention

- The World Heritage Convention was adopted by the UNESCO General Conference in 1972. Currently 187 countries (known as States Parties) have ratified the Convention including Ireland in 1991.
- The Convention established the World Heritage List as a means of identifying that some places either natural or cultural are of such significance as to be the responsibility of the international community as a whole.
- The aim of the Convention is to ensure the proper identification, protection, conservation and presentation of cultural and natural heritage with outstanding universal value to all mankind.
- By signing up to the Convention States Parties pledge to conserve not only the World Heritage Sites in their territory but also to avoid deliberate measures that could damage World Heritage Sites in other countries. The World Heritage List serves as a heritage conservation tool.
- Examples of better-known World Heritage Sites include Chartres Cathedral in France, the site of the Temple of Angkor Wat in Cambodia, the Taj Mahal in India, Machu Picchu in Peru, the site that includes the Valley of the Kings in Egypt and the Grand Canyon in the United States.

How Are World Heritage Sites Designated

- Sites can only be nominated by the country in which they are located but in the United States the nomination of the heritage site is done with the concurrence of all private land owners (most U.S. sites are on Federal land).
- Areas nominated by their own countries are evaluated by the Intergovernmental Committee for the Protection of the World Cultural and Natural Heritage, known as the World Heritage Committee.
- The World Heritage Committee upon determining that a site meets the criteria for inclusion on the World Heritage List, inscribes the site on the List. It receives assistance from expert international groups in its evaluations.
- The Committee is composed of representatives of 21 nations elected by the independent General Assembly of States Party to the Convention—the 180 countries that are party to the Convention.

What Benefits Does World Heritage Listing Confer

- The World Heritage Committee awards funding to assist Sites although such funding is limited.
- Moreover, because World Heritage Sites are recognized as internationally important, international organizations often give priority to World Heritage Sites in making financial grants and providing technical assistance.

- When a country nominates an area for World Heritage designation it commits to protecting that site in the future as a result, national governments and foundations also emphasize World Heritage Sites in their own allocations of funding and assistance.
- An international designation further conveys upon sites a stature that announces to the world how precious and important and worth visiting a country's heritage resources are.
- Perhaps most important, international cooperation recognizes that no country has the intellectual or financial resources to address all its conservation and preservation concerns alone.
- Through voluntary cooperation, all countries and land managers can do a better job of stewarding their own heritage resources.

6.5. World Customs Organisation

The World Customs Organisation's Secretary General appreciated the various initiatives taken by the Indian Customs to facilitate trade particularly the release of the National Trade Facilitation Action Plan (NTFAP) and appreciated the reforms undertaken by the government in the taxation system including implementation of GST.

About Trade Facilitation Action Plan

- The National Committee on Trade Facilitation (NCTF) has adopted a 76-point National Trade Facilitation Action Plan (NTFAP) which is a reflection of the government's commitment to implement the Trade Facilitation Agreement.
- The NCTF comprises stakeholders from the government and the private sector, including trade community.
- The NTFAP would be monitored by the steering committee (the operational arm of the National Committee on Trade Facilitation) chaired by the revenue secretary and the commerce secretary.
- The national action plan aims to transform cross border clearance ecosystem through efficient, transparent, risk based, coordinated, digital, seamless and technology driven procedures which are supported by state-of-the-art sea ports, airports and land borders.
- It covers many activities in the areas of infrastructure augmentation, particularly the road and rail infrastructure leading to ports that cuts across all stakeholders for which various ministries like shipping, civil aviation, railways, road transport and highways, home affairs, finance and commerce have been assigned specified targets.

Trade Facilitation Agreement (TFA)

- TFA is the WTO's (World Trade Organisation) first-ever multilateral accord that aims to simplify customs regulations for the cross-border movement of goods. It was outcome of WTO's 9th Bali Ministerial Conference of 2013.
- The agreement includes provisions for lowering import tariffs and agricultural subsidies. It will make it easier for developing countries to trade with the developed world in global markets.
- It helps to abolish hard import quotas on agricultural products imposed by developed countries on the developing world, reduction in red tape at international borders to facilitate trade by reforming customs bureaucracies and formalities.

About World Customs Organisation

- The WCO is an international intergovernmental organization first established in 1952 as the Customs Co-operation Council (CCC).
- In recognition of its global membership, the CCC was renamed the World Customs Organization in 1994. Its headquarters are in Brussels.
- Today the WCO has 179 Members drawn from all continents and representing all levels of socio-economic development, responsible for processing more than 98% of international trade.
- It is governed by a Council representing all Members, which meets once a year.
- It is the only intergovernmental organisation exclusively focused on Customs matters.
- Throughout the year, the WCO's many committees and working groups meet to develop global standards, exchange best practices and seek solutions to Customs-related problems. Global and regional forums covering various topical issues are also held when necessary.
- It is particularly noted for its work in areas covering the development of global standards, the simplification and harmonisation of Customs procedures, trade supply chain security, the facilitation of international trade, the enhancement of Customs enforcement and compliance activities, anti-counterfeiting and piracy initiatives, public-private partnerships, integrity promotion and sustainable global Customs capacity building programmes.
- The WCO also maintains the international Harmonized System goods nomenclature and administers the technical aspects of the WTO Agreements on Customs Valuation and Rules of Origin.

6.6. 19th Round Of RCEP Negotiation

The 19th round of the Regional Comprehensive Economic Partnership (RCEP) Trade Negotiating Committee (TNC) meetings were held from 17 to 28 July 2017 in Hyderabad, India.

Key Highlights

- It highlighted the significance of RCEP that offers a positive and forward looking alternative in the face of growing protectionism across the world.
- This round of negotiations expressed confidence about concluding discussions on a trade agreement next year provided a consensus is reached on some contentious issues.
- The proposed elements for the Terms of Reference for negotiations included domestic regulatory frameworks for market access, customs duties on electronic transmission, non-discriminatory treatment of digital products, paperless trading, electronic signatures, digital certificates and online consumer protection issues such as storage and transfer of personal data protection and spam.
- Controversial issues such as prohibition on requirements concerning the location of computing facilities and allowing cross-border transfer of information by electronic means were also discussed.
- Further countries including Australia and Japan have proposed making a permanent commitment to zero duties on digital transmissions and prohibiting rules requiring on compulsory disclosure of source codes.

About RCEP

- Since Nov 2012, sixteen countries {ASEAN+6} have been engaged in the negotiations for a Free Trade Agreement called Regional Comprehensive Economic Partnership.

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- The objective is to attain a modern, comprehensive economic partnership that covers not only goods but also trade in services, investments, technical cooperation, intellectual property, dispute settlement and other related matters.
- The negotiations aim to achieve high level of tariff liberalization inclusion of services trade in constancy with WTO rules and based upon four pillars of ***promotion, protection, facilitation and liberalization***.
- If this is negotiated successfully RCEP would be world's largest trading block and will have major implications for global and regional economy.
- The countries include 10 members of ASEAN (Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, The Philippines, Singapore, Thailand, and Vietnam) and their FTA partners (Australia, China, India, Japan, Korea, and New Zealand).
- Together these countries comprise of three billion people which is over 45% of the world's population with a combined GDP of about US\$ 17.23 trillion which is about a third of the world's current annual GDP.

Significance of RCEP for India

- The RCEP would enable India to strengthen its trade ties with Australia, China, Japan and South Korea and should reduce the potential negative impacts of Trans Pacific Partnership on the Indian economy.
- **The RCEP agreement would complement India's existing free trade agreements** with the ASEAN and some of its member countries as it would deal with Japan and South Korea.
- From India's point of view, the RCEP presents a decisive platform which could influence its strategic and economic status in the Asia-Pacific region and **bring to fruition its act east policy**.
- **RCEP will facilitate India's integration into sophisticated regional production networks that make Asia the world's factory.**
- The RCEP is expected to harmonize trade-related rules, investment and competition regimes of India with those of other countries of the group. Through domestic policy reforms on these areas, this harmonization of rules and regulations would help Indian companies plug into regional and global value chains and would unlock the true potential of the Indian economy.
- There would be a boost to inward and outward foreign direct investment, particularly export-oriented FDI.
- **India enjoys a comparative advantage in areas such as information and communication technology, IT-enabled services, professional services, healthcare and education services.** Hence the RCEP will create opportunities for Indian companies to access new markets.

Q. The Regional Comprehensive Economic Partnership would enable India to strengthen its trade ties with ASEAN and should reduce the potential negative impacts of Trans Pacific Partnership on the Indian economy. Critically analyse.

7.1. Malabar Naval Exercise

- The US, Japanese and Indian navies concluded the 'Malabar Naval Exercise' aimed at achieving deeper military ties between the three nations.
- It began in 1992 as a bilateral naval exercise between the US Navy and its Indian counterpart, which now has become a permanent trilateral forum also involving the Japanese naval forces.
- Since 2007, Malabar has been held alternately off the Indian and western Pacific Ocean. The last one was held in the Philippine Sea in close proximity to a site fast evolving as a critical flash point in global affairs - South China Sea. The current one was held off the city of Chennai in the Bay of Bengal.
- The USA describes the Malabar as series of complex, high-end war-fighting exercises conducted to advance multi-national maritime relationships and mutual security issues.
- In current naval exercise the fleet participated from Indian navy was Stealth frigates Satpura and Sahyadri, INS Shakti and INS Kirchan along with Sea King 42B ASW helicopter and Chetak utility helicopters.

Significance

- The professional exchanges on issues like aircraft carrier strike group operations, maritime patrol and reconnaissance operations, surface and anti-submarine warfare, medical operations, damage control and other operations would strengthen the naval forces of all the three countries.
- It will further increase interoperability and coordination between these countries.
- As members of Indo-Asia Pacific operations, this exercise provides an opportunity to the three maritime forces to strengthen the bonds and personal relationships.
- Malabar 2017 is organized at a time when the Chinese navy is trying hard to increase its presence in the Indian Ocean region. The main aim of the exercise was to address the shared threats to maritime security in the Indo-Asia Pacific.

7.2. Guardian UAV Deal With America

In the recent visit of Prime Minister of India to U.S.A. the agreement on Guardian Unmanned Aerial Vehicle has been signed between India and America. According to the agreement America is going to provide the Guardian UAVs to the Indian defence forces.

About Guardian UAV

- The drones are capable of firing missiles and precision-guided munitions on enemy targets before returning to their home bases to re-arm for the next mission.
- Their game changing impact on modern-day warfare can be gauged from the way the US has been extensively using Predator and Reaper armed drones to fire deadly 'Hellfire' missiles against Taliban targets in the Af-Pak region with devastating effect.
- These UAVs are high-altitude, long-endurance drones capable of flying non-stop for over 27 hours for intelligence, surveillance and reconnaissance missions.
- This deal became possible after India joined the 34-member Missile Technology Control Regime which prevents proliferation of missiles and UAVs over the range of 300km, in June 2016.

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- The remotely piloted Guardian allows for missions to be conducted safely in areas that are difficult to access or otherwise considered too high-risk for manned aircraft. This risk-reducing capability makes it critical to personnel safety and mission success. It can also fly in a completely autonomous mode.
- The Navy currently operates Israeli Medium Altitude Long Endurance (MALE) UAVs and is keen on acquiring Guardian UAV to augment its maritime surveillance capabilities.

Change in U.S. Policy

- Given the Sea Guardian's capabilities such a U.S. response to the Indian Navy's request demonstrates a major change in U.S. policy as this type of aircraft capability is only exported to a very select few of America's closest defence partners.
- This represents tangible implementation of U.S. Congress designation of India as a Major Defence Partner and robust defence ties between India and America.

7.3. Missile Surya

A LEAP FOR INDIA

- DRDO has completed studies on how to anchor, position and fire the multiple warheads
- Ready to "undertake hardware realisation"

AGNI VI

Can carry multiple nuclear warheads. So far all missiles developed by India can carry only one warhead

Design completed, engineering work under way

RANGE 6,000 km

| AGNI | I | II | III | IV | V |
|------------|------|------|------|------|------|
| YEAR* | 2002 | 1998 | 2006 | 2010 | 2012 |
| RANGE (km) | 700 | 2500 | 3500 | 4000 | 5000 |

About Surya Missile

- To bolster the Indian defence system the Defence Research and Development Organisation is planning to develop the intercontinental ballistic Surya missile as early as possible.
- Surya Missile or Agni 6 is an intercontinental ballistic missile under development by the DRDO for the use of the Indian Armed Forces.
- Surya Missile will be a four-stage intercontinental ballistic missile. It will carry a massive three-tonne warhead, thrice the weight of the one-tonne warhead that Agni missiles have carried so far.
- This will allow each Agni-6 missile to launch several nuclear warheads Multiple Independently Targetable Re-entry Warheads (MIRVs) with each warhead striking a different target.
- Each warhead called Maneuverable Reentry Vehicle (MARV) performs evasive maneuvers while hurtling down towards its target confusing enemy air defence missiles that are trying to destroy them mid-air.
- These maneuverable warheads will give Agni VI an extended range exact figure of which is currently classified. It will be taller than its predecessor Agni V and is expected to be flight tested by 2017.
- Guidance system of Surya Missile or Agni 6 will include inertial navigation system with Ring laser gyroscope, optionally augmented by IRNSS.

- Agni-VI missile is likely to carry up to 10 MIRV warheads and will have a strike range of 8,000 km to 12,000 km.
- Agni-6 is likely to develop as it can attack to the range of 10,000 kms the capability would for the first time can engage any target based even at Europe and many of US strategic assets situated worldwide.
- The entire Chinese landmass would be covered by this forthcoming ICBM. The Agni-6 would thus give India a Mutually Assured Destruction (MAD) capability and bring some kind of strategic parity with China in a very asymmetric ICBM capability.
- China is reported to possess more than 400 ICBMs and these are deployed in various directions whereas India's strategic missile program is directed mainly towards China with which India has long standing border and territorial dispute.
- The Agni-6 will herald India in the super power league of countries possessing the very long range Intercontinental Ballistic Missile with multiple warheads and will definitely act as a deterrent to any power.

7.4. U.S. Declared Sayyed Salahuddin As Global Terrorist

US has declared head of Kashmiri terror organization Hizbul Mujahedeen and current mastermind of the unrest in Kashmir Valley, Sayyed Salahuddin as Global Terrorist.

Issue

- It has been long standing demand of India with the US that Sayyed Salahuddin, head of the Kashmiri Jehadi organization Hizbul Mujahedeen who is sponsored and sheltered by Pakistan, should be declared Global Terrorist by the US.
- Sayyed Salahuddin stays in Muzaffarabad in Pakistan Occupied Kashmir (POK) and has been made head of the United Jihad Council by the Pakistani intelligence agency ISI.
- The main purpose of Pakistani Army and ISI to sponsor and support Hizbul Mujahedeen and Salahuddin is to tell the world that it is home grown organisation of Kashmir Valley which is fighting for the Azadi of Kashmir and that Pakistan has nothing to do with it.
- According to Pakistan it only supports this organisation morally but the truth is that it is fully sponsored and paid up by Pakistan to create trouble in J&K state in general and Kashmir Valley in particular.
- It is reported that immediately after declaration by the US as Global Terrorist, Sayyed Salahuddin has been moved out of POK by the ISI to one of their safe houses in Islamabad and has been provided with 24 hour security.
- Though it remains to be seen if the US would act against Pakistan which has aided the terrorist by providing him a safe haven on its territory.
- It also serves as a clear message to Pakistan about US concerns over the state sponsored terrorists and terrorism.

7.5. Government Empowers Army To Procure Weapon System For Short Intense War

The Central Government has given Army vice-chief full financial powers to procure critical ammunition and spares to maintain an optimum level to fight a short intense war following critical voids in capabilities of the Army.

Key Highlights

- According to the decision by the government, the vice chief of the Indian Army has been given the full financial powers to procure ammunitions and spares for 10 types of weapons systems and equipment after an internal review found that optimum level of war stores were not being maintained. The procurement of critical ammunition will be done for most of 46 types of ammunition the Army uses.
- The procedure will be part of revenue procurement of the army for in-service equipment and weapons and it will not require this to go through numerous procurement stages which often cause inordinate delays i.e. the Defence Acquisition Council or the Cabinet Committee on Security for procuring such critical equipment will be bypassed.
- The Army faces severe shortage in ammunition mainly for artillery guns, tanks, air defence and certain infantry weapons which will make it very difficult to fight a short intense war that lasts for 10 to 15 days.
- The decision is primarily aimed at filling the voids for short duration intense wars. It will fill in the gaps in combat readiness which were found during an internal review in the aftermath of the Uri terror attack.

CAG Report's Highlighted The Shortage Of Ammunition In Army

- The recent CAG report highlighted the continuing shortage of ammunition in the army and also pointed out that there has been no significant improvement in the availability of War Wastage Reserve (WWR) ammunition which is needed to fight a full-scale war.
- In addition, the CAG report states that the availability of 55% types (83 out of 152) of ammunitions was below the Minimum Acceptable Risk Level (MARL). MARL is the requirement of ammunition for 20 days. It is considered as the minimum inescapable requirement to be maintained at all times to meet operational preparedness.
- The CAG also said that 40% of ammunitions were at a critical level having stock of less than 10 days. This means that there is also shortage of ammunition to fight even a short intense war which usually lasts for 10 to 15 days.
- The CAG also slammed the State-run Ordnance Factory Board (OFB) for critical deficiency in availability of ammunition to the Army.
- Having such critical deficiencies means that it will be difficult for the army to, if the need arises, fight against two countries at the same time.

Modernisation Needs of the Army

- The Army of the future will have to be technologically oriented with many more specialists on its rolls as compared to generalists.
- It will have to be equipped progressively with modern weapons and weapon systems, supported by technology-based processes and automation to meet the needs and challenges of the future battlefields.

- Accordingly the Army will need to replace or upgrade its ageing inventory of weapons and equipment while also restructuring in a transformational way.
- However, considering that the modernisation plans of the Army are lagging far behind already, budgetary constraints will play an important part in formulating and executing plans for the future.
- As far as weapons and equipment are concerned, the Army needs the following on priority to replace or rejuvenate vintage equipment as part of the capability development programme:
 - **Infantry:** The infantry which is continuously being employed in counter-terrorist or counter-insurgency operation needs to be empowered immediately by provisioning of new generation lightweight assault rifles, bulletproof jackets and helmets, hand-held thermal imagers (HHTIs) as well as a host of other modern weapons like carbines, machine guns, rocket launchers, anti-tank guided missiles (ATGMs), mortars, night-vision devices, radio sets and better back packs to replace outdated weapons and equipment.
 - **Artillery:** Adequate quantities of new 155 mm artillery guns including indigenously manufactured Dhanush systems as well as more lethal precision artillery systems like BrahMos cruise missiles, Smerch and Pinaka rocket systems need to be inducted immediately to replace its earlier vintage 105 mm and 130 mm guns and vintage rocket systems. Also the procurement of M-777 light howitzers must be expedited for early deployment along the mountainous terrain of the northern borders.
 - **UAVs:** More quantities of UAVs of latest technology must be inducted in adequate numbers for surveillance and precision attack operations in both peace and war.
 - **Mechanised Forces:** Additional quantities of contemporary technology such as night-enabled T-90 tanks and ICVs equipped with long-range ATGMs, need to be inducted on priority. Older generation T-72 tanks and ICVs must be refurbished and technologically upgraded at the earliest. Future Ready Combat Vehicle (FRCV) and Future Infantry Combat Vehicle (FICV) projects must be pursued with vigour so that the next generation of state-of-the-art replacements is inducted within the next 10 years.
 - **Air Defence (AD):** The Army AD equipment should undergo a total revamp. The various Army AD weapon acquisition projects for all types of surface to air missile systems as well as the process of upgrading old generation systems must be provided fresh impetus so that these materialise at the earliest.
 - **Engineers:** Combat engineers need to be provided new generation bridging equipment, mine-laying equipment as well as mine clearance equipment. Wherever its possible old equipment must be upgraded indigenously.
 - **Night Vision Devices:** All arms of the Army have to be night enabled by fulfilling the remaining requirement of light-weight, long-range and easily usable night vision devices.

Challenges in Capability Building

There are huge ongoing challenges in the process of capacity building of the Indian Army. The more important of these are as follows:

- At present military planning is hamstrung by **lack of a clearly articulated and integrated military strategy**. In such a situation, the three wings of the military are left to devise their own strategies and military philosophies, which could end up being at cross purposes with each other. The reasons that can be ascribed to this state of affairs is the absence of military expertise at the apex level of

national security and defence matters, exacerbated by non-institution of the appointment of Chief of Defence Staff to coordinate defence policy and strategy more meaningfully.

- **Lack of modernisation** and an alarmingly large percentage of old equipment are still in use because several proposals for acquisition of new equipment and upgradation of existing equipment having been inordinately delayed.
- There seems to be an expanding hollowness in arms and ammunition over the years due to **quality issues related to indigenous production** of modern ammunition, compounded by inadequate budgetary support.
- **Lack of capital budget** for new procurement schemes especially 'big ticket' items is another challenge. This is due to the fact that there has been inadequate allocation of defence budget for several years now.
- There is not enough expertise within the Army in the field of weapon design and technology resulting in **lack of meaningful inputs** for the indigenous defence industry.
- An Army Design Bureau (ADB) has been inaugurated recently to address this shortfall. As of now, it is still too early to determine whether the ADB will be able to produce the desired results towards providing guidance to the indigenous defence industry for producing new weapons and equipment for the Army. The Army must continue to study the experiences of the Navy Design Bureau to draw lessons for developing the ADB on similar lines, or better.
- There is a **lack of sustained efforts** within the Army to develop expertise on defence procurement and financial issues. The Army remains rooted to the *outdated policies of employing 'generalists' rather than 'specialists'* to man the weapon procurement functions at Army headquarters.
- There is **inefficiency and apparent lack of accountability** of various organs of the defence ministry responsible for indigenous design and manufacture of weapons, equipment and ammunition for the Army, namely the Defence Research and Development Organisation (DRDO), Ordnance Factory Board (OFB) and Defence Public Sector Units (DPSUs).
- The vibrant private industry of the country is **not yet being provided a level playing field** to compete fairly with the public sector. Consequently, the indigenous defence industry mostly based on the public sector is unable to provide items of desired quality in a timely manner causing huge cost overruns.

Q. The CAG audit report of the ammunition management in the army highlighted the continuing shortage of ammunition in the army. In the context of above report explain the need of modernization of the army and the significance of the recent decision of government which gives Army vice-chief full financial powers to procure critical ammunition and spares to maintain an optimum level to fight a short intense war.

7.6. India's First Unmanned Tank 'MUNTRA'



DRDO has developed India's first unmanned tank which can be remotely operated. It is called Muntra (Mission Unmanned TRAcked) and has been rolled out of the Chennai lab.

About MUNTRA

- It is developed and tested for the Army by Combat Vehicles Research and Development Establishment (CVRDE) in Avadi. The paramilitary has expressed interest to use them at Naxal-hit areas.
- The agency has developed the tank in three different variants to tackle any kind of situation- for surveillance, another for mine detection and a third variant for reconnaissance in areas with nuclear and bio threats.
- **Muntra-S** is the country's first tracked unmanned ground vehicle developed for unmanned surveillance missions while **Muntra-M** is for detecting mines and **Muntra-N** is for operation in areas where there is a nuclear radiation or bio weapon risk.
- It has surveillance radar, an integrated camera along with laser range finder which can be used to spy on ground target even at the distance of 15km .

8.1. Nirbhaya Missile

- long range sub-sonic cruise missile.
- Designed and developed by the Defence Research and Development Organisation (DRDO).
- An all-weather, low-cost, long-range sub-sonic cruise missile.
- It is capable of carrying both conventional and nuclear warheads.
- It is considered to be a strategic weapon.

8.2. Detoxification Of Water By Using Sunlight

- Scientists have developed a new non-toxic material that uses solar energy to degrade harmful synthetic dye pollutants which are released into water.
- The composite is synthesised by growing ultrathin “nanowires” of tungsten oxide on the surface of tiny particles of tantalum nitride.

Benefits of New Material

- It is non-hazardous photocatalytic material.
- Its small size provides a huge surface area for dye capture.
- It effectively removes dye pollutants from water as
 - it adsorbs more than 90% of the dye.
 - it enhances the rate of dye breakdown by almost ten times using visible light.
- After removing the harmful dyes, the catalyst can simply be washed by cleaned water and reused.

8.3. Quick Reaction Surface-to-Air Missile (QRSAM)

- The indigenously developed missile was successfully test-fired from a test range along the Odisha coast. This was the second developmental trial of the state-of-the-art missile with an aerial target.
- It is a short range missile with strike range of 25 km to 30 km.
- It has capability of engaging multiple targets.
- It is designed to be a quick reaction missile and involves an all- weather weapon system capable of tracking and firing.
- The missile has been developed by the DRDO and other establishments.

Significance

- Although the Air Force is responsible for safeguarding the airspace of the country, the army’s air defence corps is responsible for providing air defence for important installations and for providing air defence to the army’s offensive formations during times of war.
- Currently, the air defence arm of the army provides terminal air defence with the L-70 40 mm guns of Swedish origin and the ZU-23 twin barreled anti-aircraft guns, which are of Soviet origin.
- Both these weapon systems had reached obsolescence by the turn of the century.
- The induction of the Quick Reaction Surface to Air Missile into the armed forces will greatly boost the capabilities of the unit.

8.4. The Double Asteroid Redirection Test (DART)

- It is NASA's future mission that will deflect a near-Earth asteroid, and help test the systems that will allow mankind to protect the planet from potential cosmic body impacts in the future.
- It would be built and managed by the John Hopkins Applied Physics Laboratory.
- It would be **NASA's first mission to demonstrate the kinetic impactor technique** – striking the asteroid to shift its orbit – to defend against a potential future asteroid impact.
- The binary near-Earth asteroid (65803) **Didymos** is the target for DART.
- DART spacecraft's launch window range begins in late December 2020 and runs through May 2021.

How Will It Work

- The DART spacecraft will achieve the kinetic impact by deliberately crashing itself into the moonlet at a speed of approximately 6 km/s, with the aid of an onboard camera and sophisticated autonomous navigation software.
- The collision will change the speed of the moonlet in its orbit around the main body by a fraction of one percent, enough to be measured using telescopes on Earth.
- By targeting the small moonlet in a binary system, the **Asteroid Impact and Deflection Assessment mission** plan makes these precise measurements possible and ensures that there is no chance the impact could inadvertently create a hazard to Earth.

8.5. Pink Bullworm

- Bt cotton is no longer resistant to pink bollworm in Maharashtra. It has prompted the state government to write to the Union government to seek its intervention.
- It is a small, thin, grey moth with fringed wings.
- It is the most damaging of all pests that attack cotton crop in the country.
- The female moth lays eggs on cotton balls and larvae emerge only to destroy entire fields by chewing through the cotton lint to feed on seeds
- Time of attack: The pest attacks the crop around 90 days after it is planted. The first picking cycle of crop begins after 110 days, so the farmer has only 20 days to spot the pest and take preventive steps. It leaves the farmer with very little time to react and any delay can ruin the entire crop.

What is Bt cotton

It is genetically modified cotton crop that expresses an insecticidal protein whose gene has been derived from a soil bacterium called *Bacillus thuringiensis*, commonly referred as Bt. Two major Benefits of Bt cotton:-

- It controls bollworm, thus protecting the yield.
- It reduces the use of insecticides and pesticides, thus reducing the total cost of production by 40-45%.

8.6. Augmentin

- Researchers from India have found whether and how drug resistance can develop against a candidate drug called Augmentin, even before the drug is approved for treating patients with drug-resistant TB.

- Augmentin is currently undergoing clinical trials in patients with drug-resistant TB; it is already being used for common bacterial infections.

Problem Of Present Drugs

- The beta-lactam class of antibiotics such as penicillin, ampicillin and amoxicillin is one of the most widely used class of antibacterial drugs.
- Despite its ability to kill several types of bacteria, the beta-lactam antibiotics have never been used against TB bacteria. This is because TB bacteria are naturally resistant to this class.
- TB bacteria inherently produce an enzyme called beta-lactamase which breaks down beta-lactam class of antibiotics (through hydrolysis) and makes the drug ineffective against TB disease.

Mechanism In This Drug

- The researchers demonstrated that it is possible to kill MDR-TB and XDR-TB by simply changing the levels of the regulator, a protein called WhiB4, and/or increasing the reactive oxygen species (ROS) levels inside the bacteria.
- There are certain antibiotics (such as clofazimine) that work by increasing the ROS levels inside bacteria. Researchers have found that Augmentin and clofazimine antibiotics can together elevate the production of ROS.
- The excessive ROS inside the bacteria can then kill all forms of drug-resistant TB bacteria.

8.7. Bitcoin

The government is considering the introduction of a regulatory regime for virtual or crypto currencies, such as Bitcoin, that would enable the levy of the Goods and Services Tax on their sale.

Features

- Bitcoin is a digital currency created in 2009.
- Bitcoin offers the promise of lower transaction fees than traditional online payment mechanisms and is operated by a decentralized authority, unlike government-issued currencies.
- There are no physical bitcoins, only balances kept on a public ledger in the cloud, that – along with all Bitcoin transactions – is verified by a massive amount of computing power.
- Bitcoins are not issued or backed by any banks or governments, nor are individual bitcoins valuable as a commodity. Despite its not being legal tender, Bitcoin charts high on popularity, and has triggered the launch of other virtual currencies collectively referred to as Altcoins.
- Not owned by Individual
- Bitcoin Network can work correctly with users having complete consensus.

Problems

- Anonymity provides ample scope for Money laundering
- No regulation
- Possibility of Hacking
- Maximum limit of Bitcoins

Cryptocurrency: Global Scenario

Crypto-Currencies globally



A look at how crypto-currencies such as Bitcoin are regulated globally

| Country | Classification | Taxation | Anti-money laundering (AML)/ Terrorist Funding |
|-----------|-------------------------|---|---|
| Australia | Property | Capital gain is applied, GST is not applicable | NA |
| U.S. | Property | New York – Capital gain is applied. Sales Tax is not applicable | Requirements as applicable on money services businesses |
| Japan | Legal Method of Payment | Exempt from consumption tax but subject to capital gains tax | Virtual currency exchanges must conduct KYC requirements and report suspicious transactions to the regulators |
| U.K. | Asset or private money | Exempt from VAT but Capital gain tax is applied | Treasury Report suggested to bring virtual currency under ambit of AML regulation |
| China | Virtual Commodity | NA | NA |

COMPILED BY YLTHIKA BHARGAVA

8.8. Juno Mission & Great Red Spot

- Juno mission is NASA space probe orbiting the planet Jupiter. It has began transmitting data and images of the Great Red Spot.
- Great Red Spot ranks as the largest known storm in the solar system.
- It measures about 16,000 km in diameter with winds clocked at hundreds of miles (km) an hour around its outer edges.
- It appears as a deep, red orb surrounded by layers of pale yellow, orange and white.
- The storm is believed to be powered by energy oozing from Jupiter’s interior combined with rotation of the planet, but the precise inner workings are unknown.
- The storm is bigger than the entire Earth and has been there for hundreds of years.
- It was once wide enough to swallow three Earth-sized planets but now the system has been shrinking for the past 100 years and may eventually disappear altogether.

Aim of JUNO

- Juno's principal goal is to understand the origin and evolution of Jupiter.
- Juno will investigate the existence of a solid planetary core, map Jupiter's intense magnetic field, measure the amount of water and ammonia in the deep atmosphere and observe the planet's auroras.

8.9. DNA As New Hard drive

- Scientists were able to store a Film Clip in a fragment of DNA (Deoxyribo Nucleic Acid).
- The very first motion picture ever made of a galloping mare filmed in 1878 is now the first movie to be coded in the DNA of a living cell.

- The film on DNA can be retrieved at will and multiplied indefinitely as the host divides and grows.

What Is The Research

- Researchers used a new gene editing technique 'Crispr', to slip this sequence into the genome of common gut bacteria- E. Coli.
- The bacteria then thrived and multiplied and the film stored in the genome was preserved intact with each new generation of progeny.

What is CRISPR

- CRISPR is shorthand for "CRISPR-Cas9" and is a tool for editing genomes.
- CRISPRs (Clustered Regularly Interspaced Short Palindromic Repeats) are specialised stretches of DNA with two distinct characteristics: the presence of nucleotide repeats and spacers.
- The protein Cas9 ("CRISPR-associated") is an enzyme that acts like a pair of molecular scissors, capable of cutting strands of DNA.
- It has many potential applications like correcting genetic defects, treating and preventing the spread of diseases and improving crops etc.

Future Possibilities

- Research is the most astonishing example of the genome's potential as a vast storage device. It can have various strange possibilities in future like: -
- Programming of the bacteria to snuggle up the cells in the human body and to record what they are doing, in essence making a "movie" of each cell's life.
- When something goes wrong, when a person gets ill, doctors might extract the bacteria and play back.

8.10. Fire-Retardant, Rust-Resistant Material

- The researchers of the Indian Institute of Science Education and Research (IISER) synthesized a hydrophobic (water hating) hybrid molecular material.
- The material was synthesised by combining **Polyhedral Oligomeric Silse Squioxane (POSS)** and **Diphenylalanine**.
- The POSS molecule has unique properties of high thermal stability and fire retarding ability. Both POSS and diphenylalanine are naturally water repelling.
- The hydrophobic nature gets enhanced when both POSS and diphenylalanine are combined.

Properties

- **Hydrophobic Nature:** The folded ordinary paper and a hybrid material coated paper were drenched in the water. After drenching the paper without any coating could not be unfolded, while the coated paper could be unfolded and regain its original shape.
- **Prevent Corrosion:** The nails coated with the hybrid molecular material and uncoated nails were exposed to water. While the nails that were not coated got rusted and those with the coating did not.
- **Not Reactive To Metal:** The coated silver artefacts were able to resist the formation of black colour on its surface when treated with hydrogen sulphide for 10 minutes.

- **Inhibit Bacterial Growth:** The hybrid-coated paper was able to inhibit the E. coli growth while E. coli was growing on the surface of paper that was not coated.
- **Fire Retardant:** The matchstick that had no coating burnt completely and the matchsticks coated with the hybrid material were able to extinguish the flame as soon as fire reached the coated portion.

Uses

- The hybrid material can protect artefacts from environmental pollution and corrosion.
- Plenty of accidents take place when people throw lighted matchsticks, by coating a portion of matchsticks with the hybrid material, such accidents can be prevented.

8.11. Translating Sign Language With Help Of A Glove

In News

- Scientists have created a smart glove that can wirelessly translate sign language into text and control objects in virtual reality games.
- Named 'The language of Glove', the device was built using stretchable and printable electronics that are inexpensive, commercially available and easy to assemble.
- The research team built the device using a leather athletic glove and adhered nine stretchable sensors to the back at the knuckles.
- Stainless steel thread connects each of the sensors to a low power, printed circuit board that's attached to the back of the wrist.

Piezoelectric Effect

This effect convert mechanical forces into electrical signals (direct piezo effect) or electrical signals into mechanical forces (inverse piezo effect)

How The Sensors Work

- The sensors change their electrical resistance when stretched or bent.
- This allows them to code for different letters of the American Sign Language alphabet, based on the positions of all nine knuckles.

8.12. Printable Electronics

- Printable electronics is an emerging technology in which electronic circuits, RFID-tags, sensors and electro-optical applications such as LEDs, solar cells can be prepared by deposition of certain types of ink.
- These ink formulations have electro-optical functionalities (e.g. semiconducting polymers, metal oxide nanoparticles).
- Printing can be done with low-cost printing techniques such as film casting, inkjet printing, spray coating and screen printing.

8.13. Laser Weapons System (LaWS)

- World's first laser weapon known as the Laser Weapons System (LaWS) has been tested by US Navy. Operationally, it works just like a laser pointer.

- The LaWS laser beam is completely silent and invisible. It's also fast: The laser travels at the speed of light (186,000 miles per second, or about 300,000 kilometers per second), meaning it's about 50,000 times the speed of an incoming intercontinental ballistic missile.
- The LaWS can hit and disable objects in the water. It is also able to take down threats in the air.

8.14. Solar Flare

- A flare is defined as a sudden, rapid, and intense variation in brightness.
- A solar flare occurs when magnetic energy that has built up in the solar atmosphere is suddenly released.
- Radiation is emitted across virtually the entire electromagnetic spectrum, from radio waves at the long wavelength end, through optical emission to x-rays and gamma rays at the short wavelength end.
- As the magnetic energy is being released, particles, including electrons, protons, and heavy nuclei, are heated and accelerated in the solar atmosphere.
- The explosive heat of a solar flare can't make it all the way to our globe, but electromagnetic radiation and energetic particles certainly can.
- Solar flares can temporarily alter the upper atmosphere creating disruptions with signal transmission from, say, a GPS satellite to Earth causing it to be off by many yards.

8.15. Goldilocks Zone

- The Goldilocks Zone refers to the habitable zone around a star where the temperature is just right - not too hot and not too cold - for liquid water to exist on a planet.
- Looking for planets in the Goldilocks Zone is a way that allows scientists to hone in their search for Earth-like planets that could contain life.
- The assumption is that if it is possible there may be liquid water on the planet, then it is also possible that the planet may be habitable.

8.16. Long Baseline Neutrino Experiment

- It is a leading-edge, international experiment for neutrino science and proton decay studies.
- It is also called as Deep Underground Neutrino Experiment (DUNE).
- It is located in USA in South Dakota.
- It will house the world's largest neutrino detector.

Neutrino

- Tiny massless particles, that travel at near light speeds.
- They are notoriously difficult to track down.
- These little wisps hold the blueprint of nature, which the INO project aims to use to understand some of the unsolved mysteries of the universe.

8.17. Human Antibodies In The Lab For First Time

- In a first, scientists have produced human antibodies in the laboratory using a technique that could usher the rapid development of new vaccines to treat a wide range of infectious diseases.
- Antibodies are produced by the body's B cells to fight off infections by bacteria, viruses, and other invasive pathogens.
- When an individual B cell recognises a specific pathogen-derived "antigen" molecule, it can proliferate and develop into plasma cells that secrete large amounts of antibody capable of binding to the antigen and fending off the infection.

Significance Of This Discovery

- It will help researchers rapidly generate therapeutic antibodies for the treatment of infectious diseases and other conditions such as cancer.
- It should allow the production of these antibodies within a shorter time frame in vitro and without the need for vaccination or blood/serum donation from recently infected or vaccinated individuals.
- Method offers the potential to accelerate the development of new vaccines by allowing the efficient evaluation of candidate target antigens.

8.18. Sagar Vani

- A mobile app by Ministry of Earth Sciences.
- It is a software platform where various dissemination modes will be integrated on a single central server.
- The 'Sagar Vani' includes Multi Lingual SMS, Voice Call / Audio Advisory, Mobile Apps (User / Admin modules), Social Media (Facebook, Twitter, etc.), Email, GTS, Fax, Digital Display Boards, Radio / Television broadcast units, IVRS, Cloud Channels, etc.
- This app will now serve the coastal community, especially the fishermen community with the advisories and alerts towards their livelihood as well as their safety at Sea.

8.19. India Quake

- A mobile app by Ministry of Earth Sciences.
- App has been developed by the National Centre for Seismology (NCS).
- It is for automatic dissemination of earthquake parameter (location, time and magnitude) after the occurrence of earthquakes.

8.20. Gas Hydrates

- China has successfully produced natural gas from methane hydrate in an experimental project in the South China Sea.
- Gas hydrate is a frozen mixture of water and concentrated natural gas. Technically known as methane hydrate, it can be lit on fire in its frozen state and is believed to comprise one of the world's most abundant fossil fuels
- They are formed at very low temperatures and under high pressure.

- They can be found in sediments under the ocean floor as well as underneath permafrost on land.
- Despite **the low temperature, these hydrates are flammable.**
- By lowering the pressure or raising the temperature, the hydrates break down into water and methane – a lot of methane.
- One cubic metre of the compound releases about 160 cubic metres of gas, making it a highly energy-intensive fuel.
- These reserves are often distributed over a large area rather than concentrated in one spot as oil or natural gas reserves often are.
- Methane hydrates are unstable and potentially explosive. Drilling into the seafloor could destabilize the methane ice crystals and cause explosions.

8.21. Hepatitis

- On 28 July, World Hepatitis Day was commemorated under the theme '**Eliminate Hepatitis**' to act towards the health targets in the 2030 Sustainable Development Goals.
- Hepatitis is a viral infection which causes inflammation in the liver. Viral infections of the liver that are classified as hepatitis include hepatitis A, B, C, D, and E.
- A different virus is responsible for each type of virally transmitted hepatitis.

Types of Hepatitis

- **Hepatitis A:** It is most commonly transmitted by consuming food or water contaminated by feces from a person infected with hepatitis A.
- **Hepatitis B:** It is transmitted through contact with infectious body fluids, such as blood, vaginal secretions, or semen, containing the hepatitis B virus (HBV).
- **Hepatitis C:** is transmitted through direct contact with infected body fluids, typically through injection drug use and sexual contact. It closely mimics the deadly HIV infection. The chronic liver infection caused by the blood-borne hepatitis C virus (HCV) kills nearly 96,000 people in India annually.
- **Hepatitis D/Delta Virus:** It is a serious liver disease caused by the hepatitis D virus (HDV). HDV is contracted through direct contact with infected blood.
- **Hepatitis E:** It is a waterborne disease caused by the hepatitis E virus (HEV). Hepatitis E is mainly found in areas with poor sanitation and typically results from ingesting fecal matter that contaminates the water supply.

8.22. New Bio Glue Inspired by SLUG

Harvard University scientist have developed a super strong, flexible adhesive material inspired by the glue secreted by slugs.

Features Of This Bio Glue

- **Sticks to wet surface:** It sticks to biological tissues (like muscle, skin) even when wet.
- **Biocompatible:** The adhesive is biocompatible (does not cause toxicity) and binds to tissues with a strength comparable to the body's own resilient cartilage.

- **Shock-absorbing:** It takes the physical stress and strain, so the adhesive component stays stuck.
- The material is very tough, stretchy and compliant.

Application

- The bio-glue has potential to be used in medical patches for surface wounds, as well as an injectable solution for deeper injuries.
- It could also be used to attach medical devices to their target structures, such as an actuator to support heart function.
- This technology could even be combined with soft robotics to make sticky robots, or with pharmaceuticals to make a new vehicle for drug delivery.

8.23. Hydrophobic Sorbent To Scoop Out Oil Spill

In News

- Scientists of Indian Institute of Science, Education and Research (IISER) has developed a hydrophobic sorbent by using an economic raw material (mannitol) and cellulose pulp as a matrix that can **effectively remove crude oil** from sea that can pollute and even destroy marine ecosystems.
- Mannitol was converted into a hydrophobic gelator through a one-step process and a solution was made using this compound.

How It Works

- Once the sorbent sucks the oil, the gelator slowly gets released from the cellulose fibre and congealing of the oil takes place.
- Only when the oil congeals it can be removed without the oil dripping due to gravity.
- Congealing of oil becomes possible as the gelator which was used self-assembles to form micro fibres and the oil loses its fluidity and gets trapped within the entangled fibrous network to form a rigid gel.
- Gelation essentially turns the liquid oil phase into a semi-solid one and this allows the fibre balls with the congealed oil to be simply scooped out or removed using a scoop or a sieve.

Benefit

It takes only about 30 minutes to two hours from the time of application to scooping out the rigid fibre balls containing congealed oil leaving behind clean water. Since crude oil spreads quickly in the sea after a spill, it is necessary to quickly remove the oil from water.

9.1. Assam to Raise New Force for Rhino Protection

- The Assam government is going to raise a new **Special Rhino Protection Force (SRPF)** for better protection of the **one-horned rhinos** in Assam.
- One of the main criteria for selection of cadre for the force is that they have to be locals hailing from the fringe areas of the Kaziranga national park. Youths from three districts Nagaon, Golaghat and Karbi Anglong are encouraged to apply for the force. The intention is to select only local candidates who know the area better and those who can engage passionately for protection of the rhinos.
- There will be 22 officers for the proposed force who will be appointed on deputation for leading the force. The Forest Department had already placed orders for procurement of arms and ammunition for the new force through the state Home Department. The arms and ammunition ordered are at par with the AK series rifles and other sophisticated weapons.

One horned Rhino: Know More

- The greater one-horned rhinoceros is the **largest of the Asian Rhinos**.
- **Its preferred habitat is alluvial flood plains** and areas containing tall grasslands along the foothills of the Himalayas.
- Formerly, they were extensively distributed in the Gangetic plains.
- However, today they are restricted to small habitats in Indo-Nepal terai and North Bengal, and Assam. They are found in **Kaziranga, Orang, Pobitara, Jaldapara (in Assam), Dudhwa (UP) National Park. Kaziranga National Park hosts two-thirds of the world's Great One-horned rhinoceros.**
- They are on the **IUCN list of threatened species**.

Indian Rhino Vision 2020(IRV2020)

- IRV 2020 is a **partnership between the Assam Forest Department, the Bodoland Territorial Council, WWF, IRF, and the US Fish and Wildlife Service.**
- **Its goal is to have a wild population of at least 3,000 Greater one-horned rhinos in the Indian state of Assam – spread over seven protected areas – by the year 2020.**

9.2. Climate Change Impact: Sundarbans Losing Its Famed Mangroves

- In a development that will ring alarm bells for both environmentalists and policy makers, the mangrove forest cover in the Indian Sundarbans has been depleting alarmingly over the past few decades.
- *Mangrove Forest Cover Changes in Indian Sundarban (1986-2012) Using Remote Sensing and GIS*, a publication by the School of Oceanographic Studies, Jadavpur University, reveals that from 1986 to 2012, 124.418 sq. km. mangrove forest cover has been lost. **The loss in the mangrove forest in the Indian Sundarbans is about 5.5 %.**
- The continuation of this process in response to climate change and sea level rise poses a serious threat to the carbon sequestration potential and other ecosystem services of this mangrove forest in future.
- Climate change and sea level rise has contributed to the phenomenon of losing land, including mangrove forests in the Sundarbans, in the last part of the 21st century. This is because there is

less fresh water flow and sediment supply in the western (Indian) part of the delta, so we have starvation of sediment and the rate of sea level rise is higher than sediment supply. Hence we are losing land, including mangrove forest.

- The eastern (Bangladesh) side of the delta is gaining land because of the huge amount of sediment and water flow from the Brahmaputra and Meghna rivers. The loss of forest cover occurs despite significant addition of forest land as plantations.
- **A critical minimal inflow of freshwater is necessary for the luxuriant growth of mangroves.** When freshwater inflow is missing, there is a change in mangrove succession, and freshwater loving species of mangroves are replaced by salt-water loving ones. The immediate impact of salinity will be on the fishing community, where commercially sought after fish species will be replaced by fish that does not have as much market value.

9.3. Rare 'White Tiger' Spotted For The First Time In The Nilgiris

- A rare 'white tiger' with a pale skin color has been spotted for the first time in the Nilgiris by a wildlife photographer, arousing interest among conservationists and forest officials on whether it is a true genetic mutant.
- The tiger **did not seem to be an albino**, and **was whitish with golden brown patches**. His pictures, reviewed by Pradesh Pandya, a zoologist with *Sanctuary Asia* and Belinda Wright, a conservationist and film-maker, point to a condition known as "**color morphism**".
- Scientific literature describes the cause as a genetic mutation among tigers that changes an amino acid responsible for the normal colour being formed, resulting in "**natural polymorphism**" (occurring in different forms).
- **Such cats lack pheomelanin, which is responsible for the red-yellow hue in the skin coat.** White tigers have been reported predominantly from Rewa, Madhya Pradesh.

About White Tigers In India

- White tigers are predominantly found in Rewa, Madhya Pradesh. **World's first White Tiger Safari was inaugurated at Mukundpur in Madhya Pradesh.**
- First white tiger in Madhya Pradesh's was spotted in Vindhya region in 1915. In 1951, a white tiger cub captured by Rewa Maharaja Martand Singh.
- **White tigers in India are nothing but a pigmentation variant of the Bengal tiger.** They have white fur because of the lack of the pigment pheomelanin, which is found in Bengal tigers with orange colour fur.

9.4. Scientists Find Out Why Chennai Was Deluged In 2015

- A study by the University of Hyderabad and the Indian Institute of Technology – Bombay suggests that the extreme El Nino that occurred in 2015 played an important role in Chennai's heavy rainfall. After 1982 and 1997, the 2015 event also turned out to be an extreme El Nino event.
- A simple linear correlation analysis carried out by the authors indicates that the Bay of Bengal sea surface temperature positively and significantly correlated with northeast monsoon rainfall.
- The magnitude of correlations of northeast monsoon rainfall with El Nino conditions and the Bay of Bengal warming are nearly similar.

What Caused The Flood

- El Nino generally causes less than normal rainfall in the case of the southwest monsoon. In contrast, it brings about above-normal rainfall during the northeast monsoon. This is because of the **difference in seasonal wind patterns** between the two monsoons.
- Another factor that seems to have played an important role is the **consistent warming of the Bay of Bengal off the coast of Tamil Nadu and Andhra Pradesh**.
- Based on sensitivity experiments it is concluded that about **21%** of the intensity of the extreme Chennai rainfall can be attributed to the extreme El Nino conditions.
- **Problem was also with poor town planning of the town**. There was improper design and maintenance of drainage systems. The canals were blocked and there was no way the excess rain could be drained.
- Experiments suggest that changes in local sea surface temperature seem to be stronger than local atmospheric changes.
- It remains to be seen if this kind of contribution from the tropical Pacific to extreme rainfall during the northeast monsoon happens only during extreme El Nino or whether normal El Ninos too can cause it. This is important because the El Nino itself is changing.

9.5. NGT Bans Use Of Nylon And Synthetic Manja

- The National Green Tribunal (NGT) has imposed nationwide blanket ban on the use of **kite strings (manja), made of nylon or any synthetic material** on the grounds that it poses a threat to animals and humans.
- The Tribunal has directed all state governments to prohibit the manufacture, sale, storage, purchase and use of synthetic manja or nylon threads and all other synthetic strings used for flying kites with immediate effect.
- It also ordered the authorities across the country to ban import of any synthetic manja or nylon thread or other similar threads coated with synthetic substances.
- Due to 'manja' being coated with glass, metals and other sharp material, these strings act as good conductors of electricity, increasing the probability of detached manja strings stuck in power lines, electrocuting kite flyers and passers-by coming into contact with these strings.
- The judgement of Tribunal came on a plea filed by animal rights body People for Ethical Treatment of Animals (PETA) and others. PETA had averred that minor children were engaged by the cottage industry for the manufacture of 'manja' which caused respiratory problems as they inhaled harmful substances which were extremely detrimental to their health.

9.6. Cabinet approves establishment of the International Rice Research Institute (IRRI), South Asia Regional Center (ISARC) at campus of National Seed Research and Training Center (NSRTC) in Varanasi

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

- This Center will be the **first international Center in the eastern India** and it will play a major role in harnessing and sustaining rice production in the region. It is expected to be a boon for food production and skill development in the eastern India and similar ecologies in other South Asian and African countries.
- **ISARC** will operate under the governance of the IRRI Board of Trustees who will appoint an appropriate IRRI staff member as Director.
- **IRRI**: It is an international agricultural research and training organization with headquarters in Los Baños, Philippines. It is also the **largest non-profit agricultural research centre in Asia**. It was established in 1960 and has offices in 17 countries. It aims to reduce poverty and hunger, improve the health of rice farmers and consumers, and ensure environmental sustainability of rice farming.

9.7. NGT To Impose Rs 50,000 Fine For Dumping Waste In Ganga River

- The National Green Tribunal (NGT) has passed a slew of directions, measures, fines, and strict deadlines to rejuvenate River Ganga.
- It declared '**No-Development Zone**' along an area of 100 metres from the edge of the river in the stretch between Haridwar in Uttarakhand and Unnao in Uttar Pradesh. This ban will remain in place until authorities complete the demarcation of the Ganga's floodplains and identify all permissible and non-permissible activities, the court ruled.
- The tribunal also ordered a "**complete prohibition**" on disposing of municipal solid waste, electronic-waste or bio-medical waste on the floodplain or into the Ganga or its tributaries.

Notable Directions

- The apex environment regulator also directed all authorities concerned to complete various projects including setting up of a **sewage treatment plant and cleaning** drains within two years.
- The NGT also directed Uttarakhand and Uttar Pradesh governments to formulate guidelines for regulating religious activities on the ghats of Ganga River or its tributaries.
- It also appointed a **supervisory committee, headed by the secretary of the Union Water Resources Ministry and comprising IIT professors and officials from UP government** to oversee implementation of the directions passed in its verdict.
- The tribunal held that no industrial unit falling in the catchment area of Ganga and its tributaries should be permitted to indiscriminately extract ground water and asked the Central Ground Water Authority (CGWA) to carry out a study and notify areas falling between Haridwar and Unnao as over-exploited, critical, semi-critical and safe zones.

9.8. India's First Solar-Powered 1600 HP DEMU Train Launched

- The Railways launched the country's first solar-powered local train with a battery bank facility that ensures sufficient power even in the absence of sunlight.
- The country's first 1,600-horsepower DEMU coach is equipped with solar-powered **hotel load system**. Hotel load system is the electrical load caused by all systems on a vehicle, especially a marine vessel or a truck, other than propulsion.

- The entire electrical need of the coaches, which includes lights, fans and information display system, will be met by the energy produced by solar panels fitted atop the coaches of the DEMU (diesel electric multiple unit) train.
- The Railways are taking on several other environment-friendly measures like using bio-toilets, water-recycling, waste disposal, CNG and LNG, and harnessing wind energy.
- Normally, **DEMU trains** — a multiple-unit train powered by on-board engines without a separate locomotive — provide power for its passenger comfort system, i.e. lights and fans, from a diesel-driven generator.
- While the 1,600 horsepower train has been manufactured at the **Integral Coach Factory (ICF) in Chennai**, its solar system and panels have been developed and fitted by the **Indian Railways Organization of Alternative Fuel (IROAF)**, a unit of Indian Railways that works to **promote bio-diesels and other environmentally benign alternative fuels for India's rail network**.
- The IROAF has developed **this system with a smart inverter, which optimises power generation on a moving train to cater to full load even during night hours with the help of a battery bank that ensures sufficient electricity**.
- The project will help **offset carbon emissions by 9 tonnes per coach per year** and also **save about 21,000 litres of diesel for a solar-powered DEMU** with six trailer coaches, thereby, **saving Rs 12 lakh every year**.
- In March, Rail Ministry had said that Indian Railways aimed to save Rs 41,000 crore on electricity expenses by switching to solar energy over the next 10 years. **The ministry had prepared 'Mission 41K' to save electricity consumption charges by betting big on solar energy**.

9.9. Geologists Strike Seabed 'Treasure' In Indian Waters

- Scientists from the Geological Survey of India (GSI) have discovered the presence of millions of tonnes of precious metals and minerals deep under the waters that surround peninsular India.
- The huge presence of marine resources was first identified off Mangaluru, Chennai, Mannar Basin, Andaman and Nicobar Islands and around Lakshadweep in early 2014. The amount of lime mud, phosphate-rich and calcareous sediments, hydrocarbons, metallic ferrous deposits and micro nodules that geologists came across was a clear indication that deeper and more extensive exploration could lead to a larger treasure trove.
- The organisation has also confirmed the **presence of Phosphate sediment off Karwar, Mangaluru and Chennai coasts, gas hydrate in the channel-levee system of Mannar Basin off the Tamil Nadu coast, cobalt-bearing ferro-manganese crust from the Andaman Sea and micro-manganese nodules around Lakshadweep Sea**. All the above mentioned regions are part of Exclusive Economic Zone of India.

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|---|---|
| <p>The GSI project</p> <ul style="list-style-type: none"> ➤ High-resolution seabed mapping and natural resource evaluation ➤ Geologists explored the waters on three state-of-the-art vessels, Samudra Ratnakar, Samudra Kaustabh and Samudra Saudikama, to identify potential zones of favourable mineralization and evaluate marine mineral resources ➤ Was carried out in India's Exclusive Economic Zone |  <p>G-10</p> <p>Micro-manganese nodules from Lakshadweep Sea</p> |
|  <p>Fe-Mn crust from the Andaman sea</p> | <p>Locations and find</p> <ul style="list-style-type: none"> ➤ GSI confirmed presence of phosphate sediment off Karwar, Mangaluru and Chennai coasts, gas hydrate in the channel-levee system of Mannar Basin off Tamil Nadu coast, cobalt-bearing ferro-manganese crust from Andaman sea and micro-manganese nodules around Lakshadweep Sea |

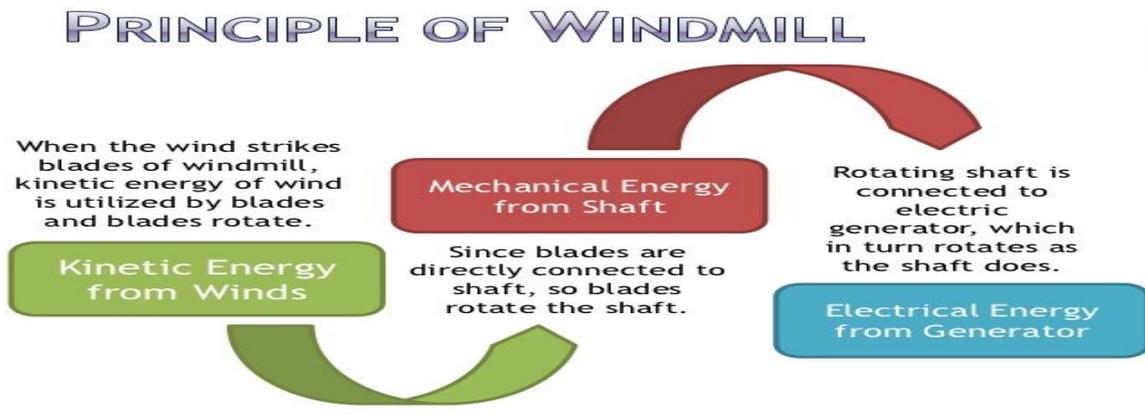
9.10. Castor Oil Can Reduce Soil Pollution

- **Castor oil also known as 'Arandi ka tel' in Hindi and 'Amudham' in Telugu** has been an age old home remedy for a variety of ailments in India but the castor bean plant has another use which can prove useful in **fighting a major problem — soil pollution.**
- Castor seed plant is known to be one of the sturdiest plants which has been observed growing in areas where the soil is highly polluted, including in areas where mining is carried out. **Castor plants growing in these areas absorb toxic heavy metals from soil.** Hence, **Castor bean plants can be grown in such polluted lands and over a period of time the levels of heavy metals can be reduced in the soil.**
- Not just this, but castor plant has also been **observed to accelerate the remediation of polluted soils** due to presence of some chemicals in them known as **chelators** which **enhances the capability of castor bean plant to accumulate heavy metals.**
- A study conducted by researchers from University of Hyderabad's plant sciences department highlights how castor bean plants can prove a boon in remediation of areas in and around Hyderabad where soil is highly polluted with heavy metals due to industrial pollution.
- The study reports that when the castor bean **plants growing in industrial areas were tested, roots of the plants were seen to contain lead in as high as 19.53 milligrams per gram of the root.** Even leaves and stem of the plant were found to be containing lead but in smaller quantities.

9.11. World's First Wind Farm Being Built Off Scotland Coast

- The world's first **full-scale floating wind farm**, with turbines taller than the Britain's Big Ben — is being built off the coast of Scotland. The technology will allow wind power to be harvested in waters that are too deep for the existing bottom—standing turbines. **The wind farm, known as Hywind,** is a trial project which will bring power to 20,000 homes.

- The output from the turbines is expected to surpass generation from current ones, according to **the Norway—based manufacturer Statoil. The turbines can** operate in water up to a kilometre deep. The tower, including the blades, **measure 175 metres in height, dwarfing Big Ben.** Each tower **weighs 11,500 tonne.** Each **blade is 75 metres long** — almost the wing span of an Airbus, the manufacturers said.
- The blades harness breakthrough software — which holds the tower upright by twisting the blades to dampen motions from wind, waves and currents. Floating on a sealed vase—like tube, 78 metres deep, **the turbine’s bottom filled with iron ore** to weight the base and keep it upright in the water.



9.12. Glow-In-The-Dark Shark Discovered In The Pacific

- Scientists have identified a new species of **glow-in-the-dark shark** that has an unusually large nose, weighs a little less than a kilo and measures less than a foot.
- The new species, a **member of the lanternshark family**, has been **named *Etmopterus lailae***. It lives 1,000 feet below the Pacific Ocean off the coast of the northwestern Hawaiian Islands. This species is **very understudied because of its size and the fact that it lives in very deep water.**
- They are not easily visible or accessible like so many other sharks. It has a **strange head shape and an unusually large and bulgy snout** where its nostrils and olfactory organs are located. These creatures are living in a deep sea environment with almost no light so they need to have a big sniffer to find food.
- Some of the **other distinctive characteristics include its flank markings that go forward and backward on their bellies and a naked patch without scales on the underside of its snout.**
- Like other lanternsharks, **the *Etmopterus lailae* is bio-luminescent** and the flanks on the bottom of its belly glow in the dark. The markings on its belly and tail also were specific to this new species.

9.13. NABARD Inks AMA With Green Climate Fund.

- The National Bank for Agriculture and Rural Development (NABARD) has signed an Accreditation Master Agreement (AMA) with the Green Climate Fund (GCF).
- With this, NABARD becomes the first Indian organisation to get Direct Access Entity status of the GCF.

- **Importance:** India has laid down ambitious mitigating goals under the Intended Nationally Determined Contributions (INDC) submitted in the Paris Climate agreement.
- **GCF:** The **Green Climate Fund (GCF)** is a fund established within the framework of the UNFCCC to assist developing countries in adaptation and mitigation practices to counter climate change. The GCF is based in the new Songdo district of Incheon, South Korea.
- The Copenhagen Accord, established during the 2009 United Nations Climate Change Conference (COP-15) in Copenhagen mentioned the "**Copenhagen Green Climate Fund**". The fund was formally established during the 2010 United Nations Climate Change Conference in Cancun as a fund within the UNFCCC framework. Its governing instrument was adopted at the 2011 United Nations Climate Change Conference (COP 17) in Durban, South Africa.
- The objective of the Green Climate Fund is to "support projects, programmes, policies and other activities in developing country Parties using thematic funding windows.

9.14. International Tiger Day: 29th July

- **Global Tiger Day**, often called **International Tiger Day**, is an annual celebration to raise awareness for **tiger conservation**, held annually on 29 July. It was created in 2010 at the Saint Petersburg Tiger Summit.
- The goal of the day is to promote a global system for protecting the natural habitats of tigers and to raise public awareness and support for tiger conservation issues.
- Tigers are on the brink of extinction and International World Tiger Day aims to bring attention to this fact and try to halt their decline. **Many factors have caused their numbers to fall, including habitat loss, climate change, hunting and poaching** and Tiger Day aims to protect and expand their habitats and raise awareness of the need for conservation. **Many international organisations are involved in the day, including the WWF, the IFAW and the Smithsonian Institute.**

9.15. Scooping Out Oil Spills Made Easy By IISER Thiruvananthapuram

- Scientists from the Indian Institute of Science, Education and Research (IISER) in Thiruvananthapuram have developed a hydrophobic sorbent that can suck up oil and congeal it. A hydrophobic material automatically becomes oil-loving and takes up oil when it comes in contact with it.
- They developed the **hydrophobic sorbent by using a cheap raw material (mannitol)** and cellulose pulp as a matrix. **Mannitol was converted into a hydrophobic gelator** through a one-step process and a solution was made using this compound. Cellulose balls the size of marbles were then dipped in the solution and dried.
- **The gelator gets adsorbed on the cellulose fibre through hydrogen bonding. This process of adsorption of gelator on the cellulose fibre matrix changes the cellulose matrix from being very hydrophilic (water-loving) to hydrophobic (water repelling).** A hydrophobic material naturally becomes oleophilic (oil-loving).
- Unlike other alternatives, **the sorbent can be easily applied over oil-water mixture ,and no solvent is needed for spraying the gelator thus making it environmental benign.**The gelator adsorbed on the surface of cellulose fibre is able to absorb oil when it comes in contact with it.

- Once the sorbent sucks the oil, the gelator slowly gets released from the cellulose fibre and congealing of oil takes place. Only when the oil congeals can it be removed without the oil dripping due to gravity.
- **Gelation essentially turns the liquid oil phase into a semi-solid one** and this allows the fibre balls with the congealed oil to be simply scooped out or removed using a scoop or a sieve.
- **Irrespective of the different viscosities of the six crude oils tested, the sorbent was able to absorb the oil and the rigid globules could be scooped out in 30 minutes to two hours.**
- Studies found that the sorbent was able to absorb and **congeal 16 times its own weight of oil.** The absorbed oil can be recovered by applying pressure or fractionated by a simple distillation process.

9.16. National Mission For Clean Ganga Approves 7 Projects

- The Executive Committee of National Mission for Clean Ganga (NMCG) in its 4th meeting approved seven projects in the sector of sewage infrastructure that development and research.
- Three projects were approved in sewage sector in **Uttar Pradesh and Bihar. Central Government will provide operation and maintenance cost for 15 years to all these six projects along with 100% central assistance.**
- The study will be an extension of a research carried out by **National Environment Engineering Research Institute (NEERI)** to identify the special properties of river's waters.