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1. POLITY AND GOVERNANCE

1.1. PRESIDENT’S RULE

Why in news

- Recent imposition of President’s rule in Arunachal Pradesh has brought the focus back on Article 356 of the Constitution (referred as President’s Rule).
- This Article has been used and misused for decades by successive governments irrespective of their political ideology.

President’s rule

- President’s rule can be imposed in a state if a situation has arisen in which the government of the state cannot be carried on in accordance with the provisions of the Constitution.
- Generally, the governor sends a report in this regard to the Centre which forms the basis for invoking Article 356.
- Once President’s rule is imposed, the assembly ceases to function and the state comes under the Central government’s direct control. The assembly is generally kept in suspended animation.

Governor’s Role (Constitutional Provision):

If the chief minister has lost the majority support in the assembly, Governor has three options

- **Dismiss the government** under Article 164 (1) of the constitution.
- **Send a report to the president** invoking Article 356,
- **Call the session of the assembly** under Article 174(1)

Since Article 174 (1) is silent on whether the Governor should consult or not the State Cabinet before advancing dates of the Assembly session. Hence, Supreme Court bench has few questions (as mentioned in pic) to be decided.

Supreme Court’s View:

- **Governor can’t ask the house to assemble** on his whims and fancies.
- **Questioned the validity of order** of the governor. In which the Governor asked the speaker not to act under schedule 10 of the constitution (which provides for disqualification of lawmakers on grounds of defection).

Current Status:

- The Constitutional bench has transferred the case regarding disqualification of the 14 legislators from the single judge

Important Judgements

**SR Bommai case 1994**

- Courts can’t question the Union Cabinet’s advice to the President but they can question the material behind the satisfaction of the President regarding breakdown of constitutional machinery.
- Use of Article 356 is justified only when there was a breakdown of constitutional machinery and not that of administrative machinery.

**Buta Singh, Bihar assembly dissolution case 2006**

- Declared the dissolution of the Bihar assembly as null and void.
- Governor’s report could not be taken at face value and must be verified by the council of ministers before being used as the basis for imposing President’s rule.
currently hearing the matter to the division bench of the high court.

- Supreme Court also made it clear that any further action taken will be subject to the outcome of the matter pending before it and lifted the stay for government formation.
- Dissident Congress leader Kalikho Pul was sworn in as Chief Minister of Arunachal Pradesh shortly after the President’s rule was lifted from the state.

### 1.2. SHYAMA PRASAD MUKHERJI RURBAN MISSION

#### Why in news?

- Prime Minister launched the National Rurban Mission from Kurubhat, in Rajnandgaon district of Chhattisgarh.
- The Rurban Mission would replace the previous government’s Provision of Urban Amenities in Rural Areas (PURA) initiative.

#### Objectives:

- These clusters would be developed by provisioning of economic activities, developing skills & local entrepreneurship and providing infrastructure amenities.
- The scheme through development of Rurban growth clusters aimed at catalyzing overall regional growth, which would benefit the rural as well as urban areas of the country.
- By achieving twin objectives of strengthening rural areas and de burdening the urban areas will lead to balanced regional development and growth of the country.

#### Features:

- **300 clusters** would be developed with an investment of Rs 5,100 crore in three years. This year, **100 clusters** would be taken up under the project.
- Under this scheme village clusters will have **14 mandatory components** like Digital Literacy, Sanitation, Provision of piped water supply, Solid and liquid waste management, etc. Focus will be on creating community assets and improving basic infrastructure such as roads, shelter, power and drinking water in rural belts.
- The clusters will be geographically contiguous Gram Panchayats with a population of 25,000 to 50,000 in plain and coastal areas and a population of 5,000 to 15,000 in desert, hilly or tribal areas.
- The **funding** for Rurban Clusters will be through various schemes of the government converged into the cluster.
- The mission will provide an additional funding support of up to 30 per cent of the project cost per cluster as critical gap funding as central share to enable development of such ‘rurban clusters’.
- The Mission envisages institutional arrangements both at the State and Center to ensure smooth implementation of the Mission.
- The Mission also has an Innovation budget towards facilitating research, development and capacity building.

### 1.3. 10 YEARS OF MGNREGA – AN ASSESSMENT

#### Brief Summary:

- The MGNREGA provides a legal guarantee for one hundred days of employment in every financial year to adult members of any rural household willing to do public work-related unskilled manual work at the statutory minimum wage.
The work covered has been divided into 10 broad categories like Watershed, Irrigation and Flood management works, Agricultural and Livestock related works, Fisheries and works in coastal areas and the Rural Drinking water and Sanitation related works.

The World Development Report 2014 has described the Mahatma Gandhi National Rural Employment Guarantee Act as a "stellar example of rural development".

**Benefits of the programme:**

- In the initial years, MNREGA was a true game-changer, **rural wages started climbing** and reports also pointed towards a decline in migration to urban centres.
- A NCAER study of 2015 showed that the Act helped in **lowering poverty** by almost 32 percent between 2004-05 to 2011-12.
- Since the launch of the scheme it has helped **in reducing poverty level among scheduled cast and scheduled tribes** 38 per cent and 28 per cent respectively.
- Till now, it has generated **19.86 billion person-days of employment benefitting 276 million workers**, with more than half the jobs going to women workers and almost a third to members of scheduled castes and scheduled tribes.
- MGNREGA has played a much larger role in revitalizing the labour market in rural areas. It has led to the creation of a class of workers who are using the MGNREGA as a safety net. Also these workers are able to use it as a bargaining tool for extraction of higher wages.
- **57% of all workers are women**, more than the statutory requirement of 33% and the highest in three years.
- It has acted as the single most important instrument for empowering gram panchayats. The act gave gram sabhas the mandate to plan their own works and untied funds to execute these works.
- Research suggests that water-related assets created under MGNREGA have increased quantity of water available in a year. This led to changes in crop patterns and increased area under cultivation according to some studies.

**Challenges:**

- Based on CAG report, it showed that from 2009-10 to 2011-12, **only 20 per cent** of total funds allocated under the scheme has been released for Bihar, Maharashtra and Uttar Pradesh where almost 46 per cent of India’s rural poor reside.
- CAG also found **rampant corruption** and swindling of public funds.
- CAG said that around Rs 2,252 crore of **inadmissible work** was undertaken under the MGNREGA including construction of earthen roads, bathing Ghats, raised platforms for cattle etc.
- There is not enough skill development is happening for the people working under this scheme.
- Asset creation under this scheme is not productive as it should be.
- There is large-scale delay in payments of wages.

**Way Forward:**

- In order to create the productive assets, the scheme should be converged with related programmes in the department of agriculture, irrigation, animal husbandry and road transport.
- To fight corruption, the use of IT and community-based accountability mechanisms like social audits should be encouraged.
- The act should be linked with the Socio-Economic Caste Census to ensure better targeting.
- There should be focus to develop a cadre of identified trainers/experts which will be useful in effective implementation of the scheme.
- Skilling of the MGNREGA workers in conjunction with the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) and NRLM should be encouraged on a larger scale so that they will be able to acquire vertical mobility in the job market, and would no longer depend on unskilled manual work.
1.4. SWACHH SURVEKSHAN

Why in News?

- To assess the Swachh Bharat Mission, the Ministry of Urban Development has decided to study and rank 75 cities under the mission “Swachh Survekshan”.
- The task of executing the mission has been entrusted with the Quality Council of India.
- It will cover all state capitals and 53 other cities.

Parameters for evaluation:

Work will be evaluated under six measurable aspects of sanitation and hygiene.

- Strategy for Open Defecation Free town (ODF) and Integrated Solid Waste Management (SWM).
- Information, Education and Behaviour Change Communication (IEBC) activity.
- Sweeping, door to door collection and transportation (of solid waste).
- Processing and disposal of solid waste.
- Provision of public & community toilet seats.
- Construction of household individual toilets.

Calculation of Ranking:

- Out of the total marks of 2,000 for assessing the performance of efforts of 75 cities
  - 60 per cent were assigned for solid waste management related parameters.
  - 30 per cent for construction of toilets.
  - 5 per cent each for city level sanitation strategy and behaviour change communication.
- Based on above Mysuru has emerged as the country’s cleanest city followed by Chandigarh and Tiruchi.
- Of the cities surveyed, 32 have improved ranks since the last survey including 17 from the North India.

Quality Council of India

- Quality Council of India (QCI) was set up in 1997 by Government of India jointly with Indian Industry as an autonomous body.
- The objective was to establish and operate the National Accreditation Structure for conformity assessment bodies and providing accreditation in the field of education, health and quality promotion.
- It also promotes the adoption of quality standards relating to Quality Management Systems (ISO 14001 Series), Food Safety Management Systems (ISO 22000 Series) and Product Certification and Inspection.
- It has been assigned the task of monitoring and administering the National Quality Campaign a plan scheme of the department, and also to oversee function of the National Information and Enquiry Services.

1.5. FINANCIAL MANAGEMENT OF MUNICIPALITIES

Why in News?

- Recently, the Municipal Corporation of Delhi (MCD) ran out of funds to pay salaries to its staffs.
- As a reaction, sanitation workers went on strike which created conditions of uncleanliness on Delhi roads.
Need
- State governments have consistently neglected institutional reforms in cities and municipalities.
- The 4,041 cities in India have a population of over 400 million but the revenues of their municipalities are inadequate.
- Hence, there is an urgent need to put in place a roadmap for financial self-sufficiency and financial accountability in municipalities.

Issues Associated with Municipalities:
- Lack of credible data at city level on jobs, investments or tax collections.
- Municipalities have access to very few revenue generating sources.
- In some cases where municipalities have access to funds, they have limited or no control over the rates, for example: property taxes.
- There is an acute shortage of skilled staff in the finance and revenue departments of municipalities.

Suggestions
- States need to devolve a reasonable percentage of stamp duties and registration charges on properties back to the cities.
- Entertainment tax and profession tax need to be given to municipalities.
- Union government should provide tax exemptions to encourage more investment in municipal bonds.
- Union, state governments and municipalities should work together to make an inventory of land, and draw up a strategy for land value capture that can benefit the municipal exchequer.
- To protect the financial sustainability of municipalities, a state legislation on fiscal responsibility and budget management in municipalities should be enacted.
- To improve the efficient and effective management of accounts, audit of annual accounts should be performed by chartered accountants.
- To improve tax collections and financial management, recruit more staff.

1.6. HURDLES IN INDIA’S DIGITAL TRANSFORMATION: WDR 2016

Why in news
- The report highlighted that despite India being the largest exporter of IT services and skilled manpower among the developing countries, it still considerably falls behind China in digitally transforming its economy.

Problems with India’s Digital Economy:
- India have a both higher digital access gap and digital capability gap. The capability gap, according to the WDR, arises from overall business climate and quality of human capital.
- The slow pace of improvement of the quality of basic infrastructure — expressways, logistics, storage, postal delivery system and reliable supply of electricity.
- The excessively cautious approach of Indian regulators towards disruptive technological innovations such as mobile money or ride-sharing services has made it difficult for digital start-ups to enter new markets and achieve scale.
- Low level of skills and education: Around 25 per cent of India’s adult population cannot read and write compared to fewer than 5 per cent in China.
- Low quality of education: The latest Annual Status of Education Report (ASER) test scores in rural India show that 10 per cent of children aged 16 and below cannot identify single-digit numbers consistently.
Way Forward:

- Increased focus should be given to successful and accelerated development of programmes like Digital India, Make in India, Start-up India, and innovative applications of Aadhaar such as JAM (Jan Dhan Yojana-Aadhaar-Mobile trinity) and Digital Lockers.
- Making the Internet accessible, open and safe for all Indians is an urgent priority. Low cost of mobile phone access along with a supportive policy environment involving smart spectrum management, PPP, and intelligent regulations of Internet markets is needed.
- An important lesson from the WDR is that even the most sophisticated technologies are no substitute for tackling long-standing shortcomings in other areas — most importantly basic health, education and a regulatory ethos that encourages competition and enterprise.
- Thus, there is a need to make long overdue progress on the analogue complements of digital investments.

*(For more on WDR 2016 please refer to Vision January Current Affairs)*

**UPSC 2002**

Q. “World Development Report” is an annual publication of:
(a) United Nations Development Programme
(b) International Bank of Reconstruction and Development
(c) World Trade Organization
(d) International Monetary Fund

**1.7. JUDICIAL STANDARDS AND ACCOUNTABILITY**

Why in news

- Recently the SC collegium had recommended transfer of Justice Karnan of Madras High Court to the Calcutta HC. However, he took up his own transfer case and stayed the recommendation of the SC.

Removal of Judges as per Constitution of India:

- Under A.124(4) of the Constitution a Judge of SC can be removed only by the President on ground of ‘proved misbehaviour’ or ‘incapacity’ only after a motion to this effect is passed by both the Houses of Parliament by special majority.
- Constitution requires that misbehaviour or incapacity shall be proved by an impartial Tribunal whose composition is decided under Judges Enquiry Act 1968.
- Similarly, Article 217B provides for removal of HC Judge.
- The Act has been invoked three times in the past but no judge could be successfully impeached till date.

**Issue with the Impeachment Process:**

- Only Parliament can take cognizance of a case of a tainted judge. No space is given to a common man.

**Issue**

- Justice CS Karnan had earlier laid allegations of caste biases against his fellow judges and also in the process of appointment of judges.
- A complaint against him was filed by 21 judges of Madras High Court.
- He was earlier reprimanded by the SC for his conduct 2 years ago. Yet, he was allowed to continue with his ways, each subsequent episode marking a new low.
- Such behavior has exposed the helplessness of the judicial system in dealing with its own over-the-top functioning.
- As Impeachment process of judges is very difficult, the only option available is transfer of the judge. But rather than solving the problem it just shifts it to another High Court.
• The law does not define the term misbehavior and hence ultimately fails to recognize the wide range of misbehavior.
• The process of impeachment is very long and involves political considerations.
• The Judge under investigation is not prohibited from discharging his duties in court of law.

**Way Forward**

• The Judicial Standards and Accountability Bill, 2012 could be revived. Earlier it could not be passed because of difference of opinion on various issues.
• The Bill sought to establish a set of legally enforceable standards to uphold the dignity of superior judiciary along with a new architecture to process the public complaints leveled against the judges.

| Q. How can a judge of Supreme Court be removed? (20 words) (UPSC 2005 Mains) |
| Q. Consider the following statements: (UPSC 2007 Prelims) |
| 1. The mode of removal of a Judge of a High Court in India is same as that removal of a Judge of the Supreme Court. |
| 2. After retirement from the office, a permanent Judge of a High Court cannot plead or act in any court or before any authority in India. |
| Which of the statements given above is/are correct? |
| (a) 1 only |
| (b) 2 only |
| (c) Both 1 and 2 |
| (d) Neither 1 nor 2 |

**1.8. PUBLIC INTEREST LITIGATION (PIL)**

**Why in News?**

• Recently, Supreme Court (SC) voiced its concerns on the NGO becoming a “proxy litigant” and a front for settling corporate rivalry or personal vendetta.
• The concern were expressed while hearing public interest litigation (PIL) challenging the allocation of 4G spectrum to Reliance Jio.

**Present Status:**

• Spectrum of issues raised in PIL have expanded tremendously such as from the protection of environment, right to education, relocation of industries, good governance, general accountability of the Government etc.
• In recent years, anyone could file a PIL for almost anything, E.g. calling back the Indian cricket team from the Australia tour.
• This is contradictory to the main objective of the PIL, which is meant to provide the remedial jurisprudence for those who can’t approach the court on account of poverty or some other disability.

**Positive Contributions of PIL:**

• PIL has become a vehicle to bring social revolution through constitutional means.
• It has bought courts closer to the disadvantaged sections of society such as prisoners, destitute, child or bonded labourers, women, and scheduled castes/tribes.
• It has also helped in expanding the jurisprudence of fundamental and human rights in India.
• **PIL also become an instrument to promote rule of law**, demand fairness and transparency, fight corruption in administration, and enhance the overall accountability of the government agencies.

• Through PIL, judiciary also initiated legislative reforms and filled in legislative gaps in important areas. For example – *Vishaka guidelines* on sexual harassment at workplace.

• PIL has helped the Indian *judiciary to gain public confidence and establish legitimacy in the society*.

**Challenges**

• An unanticipated increase in the workload of the superior courts.

• Inefficient use of limited judicial resources.

• Lack of judicial infrastructure to determine factual matters.

• Gap between the promise and reality.

• Abuse of process.

• Friction and confrontation with fellow organs of the government.

**Way Forward:**

• There is a need to strike a balance in allowing legitimate PIL cases and discouraging frivolous ones.

• One way to achieve this objective could be to confine PIL primarily to those cases where access to justice is undermined by some kind of disability.

• The other useful device could be to offer economic disincentives to those who are found to employ PIL for ulterior purposes.

### 1.9. JUSTICE DELIVERY: ISSUES AND REFORMS

**Why in News?**

• Recently, the Ninth meeting of the advisory council of the national mission for justice delivery and legal reforms was held.

**Issues in Judiciary:**

• Despite the decision of the Central Information Commission (CIC), Judiciary has kept itself out of preview of RTI.

• A huge number of pending cases in lower, high courts and in Supreme Court.
  o Inadequacy of judge strength.
  o Delays in filling up vacancies in High Courts.
  o Inadequacy of staff attached to High Courts.

• Unsatisfactory appointment of judges.

• Lack of priority for disposal of old cases.

• Old and dysfunctional elements in legislation which are no more needed in contemporary times.

• **Financial autonomy for the judiciary:** Planning and budgetary exercises being undertaken without consulting the judiciary.

• Additional burden on account of election petitions.

**Reforms needed:**

• Setting up of Fast Track Courts, Additional Courts and Family Courts.

• Increasing the ICT capabilities of the courts.

• Setting up of *Alternative dispute resolution* centers such as *Lok Adalats* should be encouraged.

• Uniform methodology to collect judicial data and streamlining of court processes.

**Steps Taken:**

• The enactment of the Commercial Courts, Commercial Division and Commercial Appellate Division of High Courts Act, 2015.

• Amendments to Arbitration and Conciliation Act, 1996 and the Negotiable Instruments Act, 1881.

• Setting up of Lawyers’ Academy in Kochi to improve the quality of Legal Education in India,
• To boost the confidence of the people in judiciary, judiciary should reveal information like the number of pending or reserved judgments by bringing itself under ambit of RTI.
• Legislation should be brought in the parliament to ensure judicial accountability and bring transparency in functioning of judiciary.
• Government should work to remove old and dysfunctional elements in legislation by amending Indian penal code, civil procedures code and Indian evidence Act.
• Rules should be changed to provide a uniform retirement age for judges of the Supreme Court and the High Courts.
• To prevent corruption, cool off period should be introduced for judges before taking up any new government assignment.

1.10. APPOINTMENT OF NHRC CHAIRPERSON

Why in News?
• The government chose former Chief Justice of India H L Dattu for appointment as the next chairperson of the National Human Rights Commission (NHRC).
• A panel headed by Prime Minister selected him for the post.

About NHRC:
• The National Human Rights Commission (NHRC) of India is an autonomous public body constituted on 12 October 1993 under the Protection of Human Rights Ordinance in 1993.
• It was given a statutory basis by the Protection of Human Rights Act, 1993 (TPHRA).
• It is responsible for the protection and promotion of human rights, defined by the Act as "rights relating to life, liberty, equality and dignity of the individual guaranteed by the Constitution or embodied in the International Covenants".

Appointment of Chairperson:
• Under the Protection of Human Rights Act, 1993, the President appoints the chairperson on the recommendation of a committee comprising:
  o The Prime Minister (chairperson)
  o The Home Minister
  o The Leader of the Opposition in the Lok Sabha (House of the People)
  o The Leader of the Opposition in the Rajya Sabha (Council of States)
  o The Speaker of the Lok Sabha (House of the People)
  o The Deputy Chairman of the Rajya Sabha (Council of States)

Previous Year Question: GS Prelims 2004

According to the National Human Rights Commission Act, 1993, who amongst the following can be its Chairman?

(a) Any serving Judge of the Supreme Court
(b) Any serving Judge of the High Court
(c) Only a retired Chief Justice of India
(d) Only a retired Chief Justice of a High Court
1.11. FBI VS. APPLE

**Issue**

- The FBI and Apple Inc. are engaged in a legal dispute over whether the federal court may compel Apple to create and electronically sign new software that would enable the FBI to unlock an iPhone 5c. The phone was recovered from one of the shooters in a terrorist attack in San Bernardino, California, in December 2015.
- The iPhone comes with stronger encryption. Even Apple can’t access the “keys” to unlock an encrypted phone, only the user controls them.
- This has reignited the debate on data privacy versus national security.

**US Judiciary’s Stand:**

- It has asked Apple to provide “reasonable technical assistance” to investigators.
- This assistance includes helping to bypass an auto-erase function that gets activated when the wrong pin or password is entered for a fixed number of times.
- Allow FBI to submit unlimited passcodes via a computer, a programme or whatever protocol they determine.
- Ensure that the Apple software doesn’t purposely add any additional delay between password attempts to unlock the device.

**Views of other Stakeholders:**

- **Apple’s stand:**
  - Apple insists it’s defending the privacy and safety of all iPhone users by resisting government calls to help unlock an extremist’s iPhone as breaking encryption means breaking consumer trust, and putting their devices at risk from hackers and criminals.
  - Breaking encryption once will increase similar demands from other governments.
- **The heads of Facebook, Twitter and Google** have all sided with Apple on the grounds that
  - Complying with the government’s request would ultimately undermine data privacy.
  - Technologies that allow the FBI to force its way into the shooter’s iPhone will have potential compromise the operating systems of all iPhones.
- **US Government:** The US government informs the court that it would be willing to allow Apple to retain possession of and later destroy specialized iOS version software after it has been ordered to design.
- **Victim:** Some victims of the San Bernardino attack will file a legal brief in support of the US government’s attempt to force Apple Inc. to unlock the encrypted iPhone belonging to one of the shooters.

**Implications for India:**

- The current Apple vs FBI case potentially has huge ramifications for security and privacy here in India and will affect our digital future.
- Indian regulators needs to find the right mix between protecting user data, while allowing law enforcement agencies to retrieve it for investigation. As measures necessary to intercept information could stall the development of indigenous high-security devices like the iPhone.
- Also, Internet companies based abroad needs to cooperate with law enforcement agencies on legitimate requests for user data.
- India needs its own variants of Apple and the FBI: high-security devices that protect data, and a law enforcement agency that can effectively retrieve electronic information.
2. INTERNATIONAL/INDIA AND WORLD

2.1. TRANS-PACIFIC PARTNERSHIP (TPP)

The Trans-Pacific Partnership (TPP) is a trade agreement among twelve Pacific Rim countries signed on 4 February 2016. The 12 nations include Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States and Vietnam.

- The aim is to ease the flow of goods, services and investments among them, and to strengthen the rules on labour standards, environmental issues, origin criteria and intellectual property.
- The TPP, a deal which will cover 40 percent of the world economy.
- The mega trade deal, perceived to be a counterweight to China’s growing global economic clout.
- The Office of the U.S. Trade Representative said the partnership eventually would end more than 18,000 tariffs that the participating countries have placed.
- The TPP contains detailed obligations on so-called new issues such as labour, investment, environment, e-commerce, competition and government procurement.

**Impact on TPP’s countries:** As per the World Bank the pact could help boost the overall GDP of member-countries by 1.1 per cent by 2030.

**Impact on India:**

India is not part of the TPP.

- The World Bank projects a limited ‘trade diversion’ impact on non-members, including aggregate GDP losses of about 0.1 per cent by 2030
- India could suffer market share losses in certain categories of exports as a result of preference erosion
- The Trans-Pacific Partnership (TPP) is likely to indirectly impact India’s exports in several industrial sectors such as textiles, plastics, leather, clothing, cotton and yarn.
- It has set very high standards for the international trading regime that could impact India’s export to TPP countries.
- The operations and the production methods of India’s public sector units (or SOEs) could also be constrained due to the TPP.
- Country’s regime on investment, labour standards, intellectual property rights (IPR), government procurement and State-owned enterprises (SOE) will also be affected.
- Some of the TPP standards are higher than that of the WTO norms, including on IPR and possible ever-greening of patents, which could hurt India’s pharma sector.

**To mitigate the impact of TPP:**

From India’s perspective, remaining outside the TPP will certainly create trade diversion, but membership of the TPP could entail heavy costs without commensurate gains.

Due to high standard and tough IPR regime India could lose some of the advantage especially in Pharma sector. Medicine prices, for instance, would see steep increases. So it is imperative to mitigate the impact of TPP by adopting following measures.

- India should conclude, on a priority basis, its ongoing free trade negotiations. These include the India-EU Bilateral Trade and Investment Agreement and the mega Regional Comprehensive Economic Partnership (RCEP).
- India should diversify export destinations to hitherto untapped markets like Latin America and Africa.
- On the domestic front, India should accelerate the process of making its products more cost-competitive.
- Within the country, efforts must be made to enhance the competitiveness of India’s exports.
• The government should launch a comprehensive initiative to enable Indian exporters to not only comply with standards prevalent in the importing market, but also demonstrate the compliance through appropriate conformity-assessment procedures.
• A cohesive trade policy approach on the international as well as domestic front, aimed at protecting and promoting India’s trade interests.

2.2. INDIA AND BRUNEI

Vice President Hamid Ansari visited Brunei. His visit to Brunei was the first high-level trip from India since the establishment of diplomatic relations between the two countries in May 1984. India and Brunei signed three agreements during the visit of Vice President.

• **Defence cooperation**:
  o The two countries agreed for bilateral cooperation through exchange of visits at different levels; exchange of experience, information, training and trainers; conduct of joint military exercises, seminars and discussions; and cooperation between the defence industries.
  o Cooperation in defence between India and Brunei already exists in the form of naval ship visits, training of senior military officers in staff colleges and exchange of experience.
  o The defence cooperation will provide both sides the institutional foundation for more collaborative work on maritime security and secure India’s energy lanes.

• **Health**:
  o The agreement on health aims to establish cooperation by means of pooling technical, scientific, financial, and human resources and to upgrade the healthcare, medical education, research between the two countries.

• **Youth and sports affairs**
  o In the field of youth and sports affairs, the agreement provides a framework for exchanges of sports persons and sports teams; facilitate the exchange of expertise in coaching, sports talent identification, sports management and administration and exchange of information in the field of youth affairs.

### Importance of Brunei:
- Brunei is an important partner for India in ASEAN and besides contributing to energy security, hosts a 10,000—strong Indian community.
- Brunei is the fourth largest producer of LNG in the world.
- India imports crude oil worth US $1 billion from Brunei making India third largest importer for Brunei.
- Brunei has become an important partner and ally for India in ASEAN.
- **Strategic location in South China Sea**: The SCS (South China Sea) is a major shipping lane. Over half of the world's commercial cargo passes through the Indo-Pacific waterways.

2.3. INDIA AND THAILAND

Vice President visited Thailand. Thailand is an important pillar of India’s 'Act East' policy.

**Highlights of visit:**

India and Thailand laid a roadmap for further strengthening bilateral ties including in defence as the two countries expressed their shared interest in securing international sea lanes.

**Defence cooperation:**
- **Cobra Gold 2016**: India will participate in Cobra Gold 2016 [multilateral amphibious exercise] and **Operation Maitri** [counter-insurgency] operations.
- India and Thailand will soon hold naval exercises in the Andaman Seas.
- Worried over the possible proxy use of narcotics and human trafficking networks by terror operators, India and Thailand have started talks on exchanging prisoners that are of mutual interest.

**Importance of Thailand:**

- Apart from security cooperation, Thailand is also an important partner for the 3,200 km **IMT (India-Myanmar-Thailand) Highway** that will connect India’s Northeast with the industrial zones of Southeast Asia.
- Thailand is the second largest economy in the Association of Southeast Asian Nations (ASEAN).
- **Two-way trade in 2014 totaled US $ 8.66 billion,** with about US $5.62 billion in Thai exports to India and US $3.04 billion in Indian exports to Thailand.
- As maritime neighbours, India and Thailand have a shared interest in the security of international sea lanes.
- **Extradition treaty:** The latest plan to fast track prisoners exchange is based on the bilateral extradition treaty, 2013, and the Mutual Legal Assistance Treaty, 2004, which provide the legal basis for negotiation to both sides.
- **Major extraditions from Thailand:** In January 2015, Thailand handed over Jagtar Singh of Babbar Khalsa International (BKI) and followed it up with the handing over of Thai gunrunner ‘Willy Naru’, Wuthikorn Naruenartwanich in December 2015.

**2.4. INDIA AND SRI LANKA**

India’s external affairs minister visited Sri Lanka to attend **9th session of joint commission meeting** to discuss key bilateral and regional issues. The joint commission was set up in 1992 as a mechanism to address issues of bilateral cooperation.

**Important highlights of Joint commission:**

The discussions covered the entire gamut of relationship pertaining to economic cooperation, trade, power and energy, technical and maritime cooperation, social, cultural and educational matters, science and technology, defence cooperation, health, civil aviation, tourism and people-to-people contact.

- Sri Lanka proposed partnership in setting up a **Special Economic Zone (SEZ) in Trincomalee** and increase cooperation in aviation sector.
- The two sides also discussed plans to enhance cooperation in aeronautical research and use of Indian satellite system ‘Gagan’ by Sri Lanka.
- Sri Lanka proposed on cooperation on oil tanks farm in Trincomalee.
- **On tourism:** Second meeting of joint working group on tourism will be held in mid-2016 to take forward the collaboration on development of **Ramayana circuit in Lanka and extension of Buddhist circuit in India.**
- Sri Lanka made a request to India to consider new projects under the **Small Development Project (SDP) model.**
- The Joint Commission will look at facilitation of voluntary return and repatriation of Sri Lankan refugees from India.
- India has come forward to host a workshop in Colombo on the proposed Economic and Technological Cooperation Agreement to address concerns on the side of Sri Lanka.
- India has expressed support for Sri Lanka on its reconciliation and development policies.
- Two MoUs were signed after the meeting – one on renovating 27 schools in the Tamil-dominated Northern Province and the other on building a surgical ward and supplying medical equipment to the Batticaloa Teaching Hospital in the East.
- **Sampoor project:** 500-MW Sampoor thermal power project, a joint venture involving Sri Lanka and India, was granted environmental clearance.
**Fishermen Issue:**

The fishermen issue continues to be a **major irritant** in the Indo-Lanka ties.

- Sri Lanka accuses Indian fishermen of straying into its territorial waters, while the latter maintain they are only fishing in their traditional areas, especially around Katchatheevu, an islet ceded to Colombo in 1974.
- India maintains that the fishermen issue has a socio-economic dimensions, livelihood and humanitarian dimension and wants a long term solution to the problem.

**Rise of Digital India:**

- The Indian Minister inaugurated a “Rise of Digital India” exhibition as part of “Sangam — Festival of India in Sri Lanka 2015—16”.
- External affairs minister announced India’s offer to set up an IT park in Sri Lanka.

### 2.5. INDIA AND UAE

UAE Crown Prince Sheikh Mohamed bin Zayed Al Nahyan’s paid his first state visit to India from 10th to 12th February, 2016. During his visit various agreements have been signed.

India and the United Arab Emirates (UAE) signed nine agreements covering cooperation in the fields of *currency swap, culture, investments in the infrastructure sector, renewable energy, space research, insurance supervision, cyber security, skill development and commercial information sharing.*

**List of the agreements:**

- India and the United Arab Emirates (UAE) signed a Memorandum of Understanding (MoU) bilateral *swapping of Indian Rupee with their Dirham*.
- For the first time in the history of India-UAE bilateral ties, both sides signed an MoU on *cooperation in space technology*, science and applications including remote sensing; satellite communication and satellite-based navigation.
- An MoU titled Executive Programme for *Cultural Cooperation* between the Government of the UAE and the Government of India (2016-2018) aims at developing and boosting cultural relations between the two countries, protection of national heritage and exchange of publications of mutual interest.
- An MoU between the UAE’s *Insurance Authority and the Insurance Regulatory and Development Authority of India (IRDAI)* aims at promoting cooperation in insurance regulations.
- An MoU sets deals with facilitating contributions of the UAE’s *investment funds to investment in India’s infrastructure*. It also aims at achieving further economic, trade and investment cooperation.
- A Letter of Intent between the UAE’s National Qualifications Authority and India’s Ministry of Skill Development and Entrepreneurship establishes cooperation in the areas in *skill development and mutual recognition of qualifications* as well as transfer of skilled labour between India and the UAE and implementing the principles of equality and mutual benefits.
- An MoU for cooperation in the area of *combating electronic crimes*. The MoU aims at boosting cooperation in the area of electronic crimes, which threaten to destabilise societies.
- A General Framework Agreement between the UAE’s Ministry of Foreign Affair and India’s Ministry of New and Renewable Energy sets out *cooperation in the area of renewable energy*, especially in the area of investments and joint research and development efforts between the two countries.
- UAE’s national oil company Adnoc has agreed to store crude oil in India’s maiden strategic storage and give two-third of the oil to it for free.

**Importance of UAE:**

India and the UAE enjoy strong bonds of friendship based on civilisational links, age-old maritime trade and vibrant people-to-people contacts.
• **Security of Indian community and Remittance**: The 2.6 million-strong Indian community constitutes nearly 30 per cent of UAE’s population.

• **Trade relation**: In FY 2014-15, trade between India and UAE crossed US$ 59bn, with Indian exports worth US$ 33.3bn to the UAE and US$ 26bn worth of UAE’s exports to India, thus making UAE India’s one of the top trading partner.
  o The UAE is the third largest trading partner of India after the US and China and also the sixth largest source of India's crude oil imports.

• **Investment**: During the visit of Prime minister to the UAE in August 2015, the first by an Indian prime minister in 34 years, the UAE committed $75 billion in investments in India’s infrastructure sector.

• **Strategic and defence cooperation**: Prime minister’s visit elevated the UAE relationship to a “comprehensive strategic partnership,” including the establishment of a “Strategic Security Dialogue” and engagement between their respective national security advisors and national security councils. There will be regular exercises and training of naval, air, land and Special Forces, and in coastal defense.

**Strategic Importance of Gulf region:**

UAE is important country in Gulf region. India has very high stake in stability of gulf region.

- New Delhi’s existing economic interests have gained a strategic dimension with a growing reliance on Gulf oil and gas.
- The central geopolitical shift in the region is the diminishing of US interest and influence, making for a more multipolar Middle East.
- The fluid security situation in the broader Middle East provides new opportunities for an ambitious India. The Gulf states are looking to diversify their security guarantors and may seek to maintain leverage by working with multiple strategic partners.
- The Gulf region, which hosts seven million expatriate Indians and is an important source of remittances, has a strong bearing on India’s security and stability in its neighbourhood.
- The Gulf States sit at the western rim of the Indian Ocean, Dehli’s perceived sphere of future strategic influence.

### 2.6. INDIA AND NEPAL

Nepal’s Prime Minister K.P. Sharma Oli paid his first state visit to India. In accordance with tradition, Mr. Oli made India his first destination abroad after becoming Prime Minister in October 2015. India and Nepal signed seven agreements.

**List of the agreements:**

- **MoU on utilisation of USD 250 million grant component of Government of India’s assistance package for post-earthquake reconstruction assistance to Nepal**:
  o The MoU includes four sectors — housing, health, education and cultural heritage have been identified.

- **MoU on strengthening of road infrastructure in Tarai area of Nepal**:

- **MoU between Nepal Academy of Music and Drama and Sangeet Natak Academy**

  This MoU aims to enhance relations between India and Nepal in the field of performing arts through exchanges of experts, exponents, dancers, scholars and intellectuals.

- **Letters of Exchange on Transit Routes**:
  o Transit between Nepal and Bangladesh through Kakadbhitta-Banglabandh corridor aims at simplification of modalities for traffic of goods between Nepal and Bangladesh while transiting through India, through the Kakadbhitta (Nepal) and Banglabandha (Bangladesh) corridor.
  o Operationalisation of Vishakhapatnam Port would provide transit facilities for Nepal through the Vishakhapatnam port.
- Inauguration of Muzaffarpur-Dhalkebar transmission line
- Establishment of Eminent Persons Group
  - At the third meeting of the India-Nepal Joint Commission held at Kathmandu in July 2014, it was decided to establish an Eminent Persons Group (EPG). Its mandate would be to comprehensively review bilateral relations and recommend measures including institutional frameworks to further enhance bilateral ties.

**Significance of visit:**

In August 2015, Nepal adopted new constitution since then there is continuous blocked at the indo-Nepal border by Madhesi. Nepal-India tensions spiked last year with the promulgation of a constitution that was perceived as non-inclusive of ethnic Madhesi and Tharu groups.

- The Nepal government accused India for imposing the blockade that led to a severe humanitarian crisis in Nepal. The Nepali government alleged that the Indian government had encouraged the blockade to pursue constitutional reform.
- India refuted those allegations, stressing that the border tensions were caused by the Madhesi parties and were the outcome of internal protests in Nepal. India also accused Nepal of stoking ‘anti-India’ sentiment and has been irritated about Nepal’s attempt to use the ‘China card’.
- Nepal PM visit in such circumstance had provided opportunity to both sides to minimize misunderstanding. During the visit India conveyed that Kathmandu should urgently resolve the issue to create a sense of “security and harmony” in the Terai region and ensure “uninterrupted commerce.”
- Peace and stability in Nepal is vital for India’s economic development and security. Prolonged conflict in Nepal will have spillover effect especially in Bihar and Uttar Pradesh that share open border with Nepal.
- Anti-India feeling in Nepal may provide opportunity for china to exploit the volatile situation.

**2.7. INDIA AND PAKISTAN**

**Siachen Dispute:**

- Siachen — which means the land of roses — also has the dubious distinction of being the world’s highest battlefield.
- A triangular bit of land between Pakistan occupied Kashmir and the part ceded by Pakistan to the Chinese.
- The Siachen dispute is a direct result of the ambiguity that exists in the Karachi ceasefire agreement of July 1949.
- The agreement, which established the ceasefire line, the positions of the two militaries at the end of the 1947-1948 war, did not delineate beyond grid reference NJ 9842, which falls south of the Siachen glacier, to the Chinese border but left it as “Chalunka (on the Shyok River), Khor, thence North to the glaciers”.

**Interpretation of Karachi ceasefire agreement:**

Indian and Pakistani sides have since interpreted the phrase “thence North to the glaciers” very differently.

- Pakistan argues that this means that the line should go from NJ 9842 straight to the Karakoram pass on the Sino-Indian border.
- India, however, insists that the line should proceed north from NJ 9842 along the Saltoro range to the border with China.
Strategic location:
- Siachen sits at a very strategic location with Pakistan on the left and China on the right. So Pakistan re-interpreted it as North-Eastwards to claim the area beyond the Saltoro Ridge and beyond Siachen as its own.
- This would give Pakistan direct connectivity to China as well as a strategic oversight over the Ladakh region and on to the crucial Leh-Srinagar highway posing a serious threat to India.

Operation meghdoot:
- In 1983, Pakistani generals decided to stake their claim through troop deployments to the Siachen glacier. To pre-empt Pakistan, India launched Operation Meghdoot in April 1984 and occupied the high points of the glacier.
- The Indian Army currently controls all of the 70 kilometres long Siachen Glacier and all of its tributary glaciers, as well as the three main passes of the Saltoro Ridge immediately west of the glacier, Sia La, Bilafond La, and Gyong La, thus holding onto the tactical advantage of high ground.

For detail refer Article 6.7 under internal security heading

2.8. F-16 SALE TO PAKISTAN

The USA administration has moved ahead with its plan to sell eight F-16 fighter planes to Pakistan.

USA arguments for sale:
- Supply of F-16 fighter jets to Pakistan will help combat terrorism.
- These fighter planes have enhanced the Pakistani military’s precision-strike capabilities.

Opposition to deal:
- India has opposed the sale of F-16 to Pakistan. India has insisted that Pakistan is still harboring terrorist organizations that are threat to India’s security.
- The Pakistani and Taliban-linked terrorist group Jaish-e-Mohammed is believed to be behind the recent attack on India’s Pathankot Air Force base.
- Many USA lawmakers have opposed the deal on the grounds that Pakistan continues to support terror outfits. Some have also raised the point these nuclear capable planes could be used to threaten India and destabilise the region.

1. India –Pakistan and USA

USA de-hyphenating policy:
The US government, under President Bush, formulated the action plan of the ‘de-hyphenation’ policy but it was sealed when Obama came to power.
It allows the State Department to view India and Pakistan as two separate silos, without referring to their bilateral relations.

It has been useful for the US as it was able to improve strategic and military ties with India without necessitating a reaction from Pakistan.

It also helped them in Afghanistan to continue with their strategy of collaborating with the Pakistan army without referring to India.

Special Representative for Afghanistan and Pakistan (SRAP) was set up in 2009 which hailed the commencement of the de-hyphenation policy.

By separating its relations with both New Delhi and Islamabad from each other, Washington has stood to gain a lot since 2008, as have the two countries in question.

Reversal of policy:

Seven years after the Obama Plan of 2009 restructured the US State Department to ‘de-hyphenate’ relations with India and Pakistan, the administration is actively considering a reversal of the move. The Obama Government wants to re-merge the office of the Special Representative of Afghanistan and Pakistan (SRAP) with the Bureau of South and Central Asia (SCA), which handles India.

Impact of such decision:

Re-hyphenation implies putting India and Pakistan in the same basket vis-à-vis Washington’s relations with both these countries. India disapproved of hyphenation with Pakistan.

Such a decision would significantly enhance the prospects of Washington's meddling in India-Pakistan relations.

- Inclusion of SARP would make the US third party in India-Pakistan dispute
- The present state of de-hyphenated India-Pakistan relations allows for a bilateral resolution of the mutual problems between the countries without any mediation by a third party.

A re-hyphenated India-Pakistan relationship in the US’s scheme of things is not desirable for India because it is likely to affect India's Afghanistan policy.

- India's Afghanistan policy could be tweaked to support some of the US's own policies in the region.
- It would make India indirectly support US policy in Afghanistan.

2.9. INDIA - USA SOLAR DISPUTE

Solar dispute:

National Solar mission (NSM):

- The NSM has the aim to promote the use of solar energy in India. The Mission has set the ambitious target of deploying 20,000 MW of grid connected solar power by 2022.
- In June 2015, the Union Cabinet gave its approval for stepping up of India’s solar power capacity target under the Jawaharlal Nehru National Solar Mission (JNNSM) by five times, reaching 1,00,000 MW by 2022.
- The government has also offered financial support of up to Rs.1 crore per MW to the implementing agency for setting up large solar capacities by placing orders with domestic manufacturers.

USA against National Solar mission:

The US has filed a complaint in the World Trade Organization (WTO) against India’s domestic content requirement (DCR) under the country’s Jawaharlal Nehru National Solar Mission.

- US have claimed that the DCR violates WTO agreements such as national treatment principle and agreement on trade related investment measures (TRIMS).
The US trade complaint in 2013 alleged that the Jawaharlal Nehru National Solar Mission subsidies were available only if developers used equipment produced in India, violating a key global trade rule.

**India’s proposal to USA:**

India is convinced that the DCR is a mechanism to facilitate sustainable development.

- India proposed that it would use the domestic content requirement measures for buying solar panels for its own consumption such as by the railways and defence and would not sell the power generated from such subsidized panels for commercial use.

**WTO ruling:**

The WTO ruling comes three years after the U.S. raised a dispute against India, and following the inability of the two countries to agree on the changes suggested by New Delhi to its solar programme. Following are the main points of WTO ruling:

- India’s domestic content requirements in question were trade-related investment measures for the purposes of the Illustrative List in the TRIMs Agreement’s Annex and were therefore inconsistent with Article 2.1 of the TRIMs Agreement.
- The Panel also found that the domestic content requirements in question do accord “less favourable treatment” within the meaning of Article III:4 of the GATT 1994.
- The panel, however, did not pronounce a verdict on the financial subsidies provided by India for.

**Analysis:**

Given the potential for positive social and economic outcomes from the ambitious solar power programme, India will be compelled to contest the WTO ruling before the appellate body. The rulings of the WTO’s dispute settlement panel can be challenged in the WTO's appellate body.

- Many analysts feel that the WTO ruling will have wider implication not for India but also many developing countries that are struggling to switch to green economy. Domestic content requirement is envisages to generate job to lift millions of people from abject poverty.
- Also there is growing international pressure for promoting green industries to address climate change after the Paris climate change agreement.
- The final ruling comes soon after the Paris climate agreement, where developing countries were promised technological and financial assistance for promoting renewable energy programmes.
- At Paris, Prime Minister Narendra Modi launched the ambitious International Solar Alliance, with the aim of switching “sunshine nations” in tropical areas to solar energy.
- Global environmental pressure groups have criticized the WTO ruling and requested developed countries not to impose free trade rules that threaten the clean energy economy and undermine action to tackle the climate crisis.

**2.10. IMF REFORM**

The IMF has announced implementation of its long due quota reforms which was approved by the US Congress.

**Key points of reform:**

- More than 6 percentage points of the quota, including both the Fund’s capital and its proportionate voting rights, have been transferred from developed to emerging economies.
- Emerging and developing economies gained more influence in the governance architecture of the International Monetary Fund (IMF).
India’s voting rights increase to 2.6 per cent from the current 2.3 per cent, and China’s, to six per cent from 3.8.

For the first time, four emerging market countries (Brazil, China, India, and Russia) will be among the 10 largest members of the IMF.

The greatest gains from the reforms accrue to the IMF itself, as the combined capital that its 188 member-countries contribute will increase to approximately $659 billion (SDR 477 billion) from nearly $329 billion (SDR 238.5 billion).

U.S voting share will marginally drop, from 16.7% to 16.5%. Though the country holds a veto power.

Also for the first time, the IMF’s Board will consist entirely of elected Executive Directors, ending the category of appointed Executive Directors. Currently, the members with the five largest quotas appoint an Executive Director.

What is SDR?

The SDR is an international reserve asset, created by the IMF in 1969 to supplement its member countries’ official reserves. Its value is currently based on a basket of four major currencies (of the U.S. dollar, euro, Japanese yen, and pound sterling), and the basket will be expanded to include the Chinese Renminbi (RMB) as the fifth currency, effective October 1, 2016.

2.11. SUPPLEMENTARY COMPENSATION FOR NUCLEAR DAMAGE (CSC)

India ratified the Convention on Supplementary Compensation for Nuclear Damage (CSC) at the International Atomic Energy Agency (IAEA) in Vienna five years after signing it.

Advantage for India:

- Addresses the concerns of foreign nuclear equipment suppliers. International nuclear reactor makers have been reluctant to set up plants in India because of a 2010 domestic liability law that makes equipment suppliers accountable for accidents and not the plant operators, as is the global norm.
- It will spur the growth of nuclear energy.
- India became part of a global legal regime that has established a standard for compensation of victims in the event of a nuclear accident.
- India will get access to international funding.

About the convention:

The CSC was adopted on 12 September 1997, together with the Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage, and entered into force on 15 April 2015.

- The CSC is a convention that allows for increasing the compensation amount in the event of a nuclear incident through public funds pooled in by contracting parties based on their own installed nuclear capacities.
- It also aims at establishing treaty relations among States that belong to the Vienna Convention on Civil Liability for Nuclear Damage, the Paris Convention on Third Party Liability in the Field of Nuclear Energy.
- Seeks to establish a uniform global legal regime for compensation to victims in the unlikely event of a nuclear accident.
- The CSC provides for establishment of an international fund to increase the amount available to compensate victims and allows for compensating civil damage occurring within a State’s exclusive economic zone, including loss of tourism or fisheries related income.
- It also sets parameters on a nuclear operator’s financial liability, time limits governing possible legal action, requires that nuclear operators maintain insurance or other financial security measures and provides for a single competent court to hear claims.
According to IAEA, **all states are free to participate** in the convention regardless of their involvement in existing nuclear liability conventions or the presence of nuclear installations on their territories.

**Criticism of India’s move:**

Many nuclear experts feel that this move violate the domestic Civil Liability for Nuclear Damage Act (CLNDA), 2010, Clauses 17(1) (B) and 46.

- Under Section 17(b), **liability for a nuclear accident can be channeled from the operator to suppliers of nuclear material**, specifically if the accident is due to an act of the supplier or his employee.
- Section 46 permits victims of a nuclear incident to **sue the operator or the supplier for damages** applying tort law.
3. ECONOMY

3.1. TAPAN RAY PANEL RECOMMENDATIONS

Aimed to review the 2013 Company Law, the Tapan Ray panel proposed over 2000 suggestions and recommendations. Recommendations are aimed at making the transition from Companies Act 1956 to Companies Act 2013 easier, improve Ease of Doing Business and provide better environment to start-ups.

**Major recommendations:**

- As per 2013 law, a public sector company is required to seek approval from central government should it want to give total managerial remuneration which exceeds 11% of net profit. The panel has recommended **doing away with the provision**.
- **Harmonizing disclosure standards between SEBI and Companies Act** - The independent director should not have **any kind of pecuniary relationship** with the company.
- Defining a “**subsidiary company**” in terms of voting rights of the holding company instead of “**total share capital**” of the holding company.
- **Removal** of provision under Section 2(87), which prohibited the companies to not have more than two levels of subsidiaries.
- Establishment of an independent body, National Financial Reporting Authority (NFRA), to provide for matters relating to accounting and auditing standards which is being seen as a major jolt to the Institute of Chartered Accountants of India (ICAI).
- Allowing start-ups to issue 50% of the paid capital as **sweat equity** against existing norms of 25%.
- Allowing start-ups to **issue employee stock ownership plan** (ESOP) to promoters who are working as employees or employee directors or whole-time directors.
- Only those **frauds** which involve Rs 10 lakh or above, or one per cent of the company’s turnover, whichever is lower, may be punishable under Section 447 of the companies act.

3.2. NATIONAL CAPITAL GOODS POLICY

- National Capital Good policy has been launched for the **first time** to give a boost to the capital goods sector and also support the Make in India initiative.
- The capital goods sector provides direct employment to 1.4 million people and the sector is growing at 1.1% per annum.
- The policy envisages increasing exports from the current 27 per cent to 40 per cent of production while increasing share of domestic production in India’s demand from 60 per cent to 80 per cent, thus **making India a net exporter** of capital goods.
- The policy addresses **key issues** including availability of finance, raw material, innovation and technology, productivity, quality and environment friendly manufacturing practices, promoting exports and creating domestic demand.

**Major Points of National Capital Goods Policy:**

- Integration of major capital goods sub-sectors such as textile, earth moving and plastic machinery among others as priority sectors under Make in India initiative.
- To facilitate improvement in **technology depth** across sub-sectors, increase skill availability, etc.
- Increasing budgetary allocation for **enhancement of competitiveness of Capital Goods sector** scheme of the DHI (Department of Heavy Industry) on by
- Enhancing the **export** of Indian made capital goods through a ‘Heavy Industry Export & Market Development Assistance Scheme (HIEMDA)’.
- Provision for launching a **Technology Development Fund**.
- Upgrading existing and setting up new testing & certification facility, making standards mandatory in order to reduce sub-standard machine imports
- Providing opportunity to local manufacturing units by utilising their installed capacity

**Way Forward:**

The present policy has tried to comprehensively deal with the issues facing the sector but the policy needs to be supported with a proper environment, which would require several structural reforms including infrastructure, regulatory reforms, improving ease of doing business etc.

### 3.3. INDEPENDENT FISCAL COUNCIL

- Members of the XIV Finance Commission have questioned the government’s failure to act on its recommendation to constitute an Independent Fiscal Council.
- The proposed council would objectively evaluates budget announcements and forecasts and report to the Parliament. It is critical to improve the government’s credibility on fiscal management.

**Importance of Fiscal Council:**

- While the union government monitors fiscal targets of states nobody oversees its own fiscal decisions. States have constraints in managing their finances as the RBI controls their deficit and cannot float a bond on a state’s behalf without the Centre’s approval.
- According to experts, the Centre opts for creative accounting, pauses or simply doesn’t follow the targets it has submitted to Parliament under the Fiscal Responsibility and Budget Management (FRBM) Act of 2003.
- Since the 2003 FRBM law came into effect, there have been four pauses in the deficit targets enshrined in it and a few occasions where the targets have been flouted.
- In the short and medium term, it will help allay fears of global credit rating agencies about the government’s commitment to fiscal targets.
- The Auditor General monitors the FRBM Act but that’s a post-facto assessment.
- In six of the last eight years, revenue forecasts of the government fell short by around 10 per cent, due to overestimation. Shortfalls from projections translate into funding cuts in the middle of the financial year for all schemes and projects.
- The government is always under pressure to breach the fiscal deficit target. RBI’s view is also driven by its own perspective and primary focus on monetary policy. A Fiscal Council would be a very important body especially when controversies on issues like fiscal deficit thresholds arise.

### 3.4. TRADE FACILITATION AGREEMENT (TFA) IN GOODS

**Why in news?**

- Government recently cleared TFA in Goods and proposed a National Committee on Trade Facilitation (NCTF)
- There is provisions for expediting the movement, release and clearance of goods
- It sets out measures for effective cooperation between customs and other appropriate authorities on trade facilitation and customs compliance issues.

**Benefits for India:**

- In consonance with India’s “Ease of Doing Business” initiative.
- Aimed at relaxing customs rules for smoother trade flow.
- Projected to cut the cost of trade by an average of 14.5%.
• May provide permanent solution to the issue of public stockholding for food security purposes and
• Mechanism to safeguard poor farmers from sudden import surge of farm products

**Negative implication:**
• Ratifying the agreement so early could lead to India losing a bargaining chip to secure its interests.

**Way forward:**
• Customs Act need to change to fulfil India’s commitments under the pact.
• Changes in rules will need to be instituted in a range of areas.
• India have already ratified TFA in services.

**Similar Questions UPSC Mains 2013**
1. Food security bill is expected to eliminate hunger and malnutrition in India. Critically discuss various apprehensions in its effective implementation along with the concerns it has generated in WTO 2009
2. “In the WTO negotiations over the years of the DOHA Round, India appears to be diluting its stand on agriculture issues to pursue perceived gains in services.” Critically examine this statement.

### 3.5. HYDROCARBON VISION 2030 FOR NORTH-EAST

**Why in news?**
- Union Ministry of Petroleum and Natural Gas released **Hydrocarbon Vision 2030 for North-East** with an eye to **leverage the hydrocarbon sector for the development of the North-East India**.
- Aim is doubling Oil & Gas production by 2030.
- **Five Pillars** of the Vision are: People, Policy, Partnership, Projects and Production.

**Focus Areas:**

**Making clean fuels accessible:**
- Pipeline connectivity for carrying liquefied petroleum gas (LPG), natural gas, and petroleum products, oil and lubricants (POL)
- Building refineries and import links
- Development of compressed natural gas (CNG) highways and city gas distribution network

**Fast tracking projects:**
- Terrain and weather condition specific approach to projects.
- Production enhancement contracts
- Technology deployment and fast-track clearance

**Generating employment opportunities**
- Development of service provider hubs.
- Exploring hydrocarbon linkages and trade opportunities with Bangladesh, Myanmar, Nepal & Bhutan;
- Implementation of ‘Make In India’ in the region;
- Industrial policy & infrastructure related action points;

**Centre-state cooperation:** the stress is on greater involvement of state governments in planning and implementation, and

Promoting cooperation with neighbouring countries and establishing trade ties with them.

**Analysis:**
- Thus it is a very comprehensive document which has the capacity to accelerate the process of development in the North East region and can prove to be a game changer for this region.

**States covered:** Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.
3.6. DRAFT BULK DRUG POLICY

Why in news?

- Based on recommendations of Katoch committee, Department of Pharmaceuticals (DoP) had moved draft on bulk drugs policy.
- Bulk drug manufacturers expect the policy to revive India's active pharmaceutical ingredients (API) market and trigger fresh investments worth Rs 30,000-40,000 crore in setting up new manufacturing facilities and augmenting existing ones.

What are Bulk Drugs?

- Bulk Drugs or APIs are basically the active raw materials used in a drug that gives it the therapeutic effect.
- Bulk drugs are used as raw materials by the pharmaceutical industry.

Need:

- Bulk drugs currently constitute only 10-12 percent share in the country's Rs 80,000 crore-domestic pharmaceutical sector.
- There is dependency on import from China. According to industry estimates, 70-80 per cent of the requirement of the industry is met by imports from China, varying across categories.
- There is problem with quality parameters on imported Chinese bulk drug.

Draft Policy - Salient Features:

- It aims to make India self-dependent of Bulk drug manufacturing.
- An ecosystem to help pharma companies to move up in the value chain and develop new molecules through innovations.
- To grow the Indian pharmaceuticals sector to a $200 billion industry by 2030.
- It will be achieved by developing APIs manufacturing capacities.
- Mega Parks for API’s maintained by separate special purpose vehicle.
- 6 large API Intermediate cluster.
- Revival of PSU for manufacturing of essential drugs.
- Soft Loans to Manufacturers.
- Investment in R&D.
- Tax benefits and import duty exemption.
- Separate Institutional mechanism for liaisoning with other ministry for e.g. for environmental clearance, for power etc.

Fact sheet on Pharma Industry

- Global pharma industry is estimated at $1,000 billion.
- Indian pharma industry at present is of $32 billion.
- The industry is growing at 8-9 per cent per annum at present.
- 2015 was the year of Active Pharmaceutical Ingredients.
- India is a superpower as far as generic drugs are concerned.

Challenges:

- Regulatory framework need to strengthened and brought on par with international practices.
- Issue with infrastructure requirements of the pharmaceutical industry
- R & D lacks in developing new molecules and drug discovery

Way forward:

- Industry need to focus on innovation and adopt international practice.
- India has a potential to be pharmacy hub for the world
- At least need to became self sufficient to meet our own requirements
- Will help in to bring down cost of drugs to consumer
- There is proposal by central government to create a new ministry for pharmaceuticals and medical devices
- There is need of voluntary Uniform Code of Pharmaceutical Marketing Practices
- Make in India initiative will help the industry in a big way
3.7. MARKET ECONOMY STATUS

- India’s Commerce Ministry is assessing the implications of the likelihood of China being granted “Market Economy Status” (MES) from December this year under the World Trade Organisation (WTO) norms.
- Since the main impact of China being granted MES would be on ‘anti-dumping’ cases, the Directorate General of Anti-Dumping and Allied Duties (or DGAD, an autonomous body under the commerce ministry) has begun consultations with stakeholders including international trade experts and lawyers on the issue.

What is Market Economy Status?

- Once a country gets MES status, exports from it, will have to accepted at the production costs and selling price as the benchmark.
- The definition of a country as a Non Market Economy (NME) allowed importing countries to use alternative methodologies for the determination of normal values, often leading to higher anti-dumping duties.

What is dumping?

- Dumping is an unfair trade practice of exporting goods to another country at a price lesser than what is paid in the exporting nation or their normal production cost, thereby distorting international trade and causing injury to the domestic manufacturers of the goods in the importing country.

History:

- As per the 2001 agreement (Protocol on the accession of China to the WTO), in calculating the ‘normal value’ of the exported goods, the WTO member nations could for 15 years (that is till December 2016) ignore selling price and production costs in China.
- Member Nations could instead calculate the ‘dumping margin’ on the basis of a comparable export price to an appropriate third country and by ‘constructing’ the production cost with ‘reasonable’ additions.

Consequences for India:

- It will mean lesser chances of anti-dumping duties being imposed or lesser anti-dumping duties even if they are imposed.
- This comes against the backdrop of instances of India’s manufacturers in steel, chemicals, electrical and electronics sectors being “severely hurt” by “unfairly low-priced” imports from China, and the extensive usage of anti-dumping duty by India to offset the losses caused to the local manufacturers due to dumping.
- Of the 535 cases where anti-dumping duties were imposed by India from 1994-2014, a maximum of 134 has been on goods from China.

Arguments of China:

- Beijing has cited the 2001 agreement on China joining the WTO to say that WTO-member countries had then decided to deem China as a 'market economy' from December 2016 while adjudicating anti-dumping cases.

Arguments of India, US and EU:

- To deny China the ‘MES’, India and others such as the US and the EU have been saying that unlike in ‘market economies’ where prices are mainly determined by market forces (of demand and supply), there is significant government influence in China that in turn causes distortions in international trade.
- These countries have also been citing factors such as huge Chinese government subsidies, ‘price fixing’, ‘absence’ of proper business accounting standards, besides lack of transparency in not just loan rates, but also in minimum wages and property rights in China.
3.8. NON TAX REVENUE E-PORTAL

- Finance minister launched Non-tax receipt portal (NTRP) to electronically collect non tax revenue.
- It was developed by the Controller General of Accounts (CGA).
- It provides a one-stop platform to citizens or corporates or other users to make online payment of non-tax receipts to the Union government.
- While taxes are largely collected using the e-payment mode, non-tax revenues flow mainly through physical instruments such as bank draft or cheque or cash.
- Online payments can be made by using either a credit card, a debit card or through Internet banking.
- NTPC made the maiden payment on the portal by remitting Rs.989 crore as an interim dividend to the government.

What is not tax revenue?

- It mainly includes dividends, interest receipts, spectrum charges, royalty, licence fee, sale of forms and application fees under the Right to Information Act.
- The major sources of non-tax revenue for the government are from dividends paid by public sector companies, the Reserve Bank of India, etc.
- The annual collection of non-tax receipts amounts to over Rs. 2 lakh crore.

Advantages:

- It will reduce manual work significantly.
- The online electronic payment will help common users/citizens from the hassle of visiting bank premises for issue of drafts, and later to government offices to deposit the instrument for availing services.
- It will almost instantly enable the payment at different categories.
- It also helps avoidable delays and remittance of these instruments into government account.
- It will also eliminate undesirable practices in the delayed deposit of these instruments into bank accounts.
- One major way to curb black money is to discourage cash transactions in favour of electronic transactions.
- It is an important step towards achieving the Prime Minister's Office target to switch at least 90 per cent of all official transactions to paperless mode by the end of 2016.
- This is an important initiative under the Digital India campaign.

3.9. ASSETS RECONSTRUCTION COMPANY

[Please refer September 2015 issue for background on NPAs (what is NPA, reasons, solutions)]

Why in news?

- To tackle rising NPAs, the Union Finance Ministry and NITI Aayog has recommended to set up an Asset Reconstruction Company (ARC) with equity funding from the government and the RBI.
- PSBs condition is particularly bad as compared to private banks because they have to lend under various government objectives and under the compulsion of social banking.
Criticism of state funded ARC:

Government equity in ARC will amount to tax payers paying for the bad lending practices of banks in the past.

Various steps taken to deal with rising NPAs in recent years

- Corporate Debt Restructuring Mechanism
- Joint Lenders’ Forum
- Asset quality review by the RBI under which identified specific accounts have to identified as non-performing by banks
- Increasing provision by banks for stressed assets
- 5:25 scheme
- Government announced Rs. 70,000 crore to recapitalization of banks in coming four years in August, 2015

Way forward:

With these steps in place, RBI governor expects the problem of NPA would be tackled by March 2017. Apart from above there should be adequate number of debt recovery tribunals and P J Nayak committee’s recommendation regarding governance of banks should be implemented.

3.10. MAKE IN INDIA: RENEWABLE ENERGY

Why in news?

- Renewable energy seminar was held in Make in India week to promote investment in this sector.
- Recently BRICS’s New Development Bank President KV Kamath announced that the majority of NDB’s initial projects, both in number and value, would be green. It is set to fund a dozen such projects this year.

Reasons to invest:

- India has the fifth largest power generation portfolio worldwide with power generation capacity of 271 GW.
- Economic growth, increasing prosperity, a growing rate of urbanisation and rising per capita energy consumption has widened access to energy in the country.
- Wind energy is the largest renewable energy source in India.
- The Jawaharlal Nehru National Solar Mission aims to generate 1,00,000 MW of solar power by 2022.
- India, in budget 2015, announced a target of installing 175 GW capacity by 2022. India’s total installed capacity in one year stands at close to 28 GW.

Challenges:

- Unavailability of appropriately skilled manpower for construction and commissioning of solar units
- Current skilling programmes need to be made more relevant and accessible to ensure high quality of training.

Benefits:

- India needs to create 10 million new jobs every year. Solar deployment industry alone can create more than 1 million full-time equivalent jobs between now and 2022.

Stressed assets VS Non Performing Assets:

- Stressed Asset - An account where principal and/or interest remains overdue for more than 30 days.
- NPA - A loan or advance for which the principal or interest payment remained overdue for a period of 90 days.

BIGGER PIE

India wants development financial agencies to earmark a significant portion of their loan portfolio towards green energy projects.
• These would include semi-skilled, skilled and highly skilled jobs.
• The wind sector is expected to create 183,500 jobs by 2022, as wind capacity increases to 60GW

Way Forward:
• Need of synergy between Renewable energy programme and Skill India Initiative, which aims to skill 400 million people by 2022.
• Setting up training institutes with standardized training programmes in areas with the most renewable energy potential and upcoming capacity.
• Need to have end-to-end solar manufacturing in the country.
• Strengthening domestic manufacturing of solar panels and wind turbines, at competitive prices, would also serve both Make in India initiative.
• International Solar Alliance can significantly augment the development, deployment and generation of solar technologies and power. It has several shared focus areas with current domestic initiatives like facilitate capacity building for promotion and absorption of solar technologies and R&D among member countries.

3.11. UNIFIED PAYMENT INTERFACE (UPI) PROJECT

• The National Payments Corporation of India (NPCI) and software product think-tank ISpirt are ready for the technical launch of a new Unified Payment Interface, that would allow people to people or P2P transactions from any bank account to another, using a mobile phone app.
• This inter-operable mobile payments system would revolutionize the way P2P payments are made.
• Eventually the system would allow mobile to mobile payments (without any bank accounts involved) and payments to an Aadhaar number or a virtual address if people are not comfortable sharing their bank account details.
• The UPI is a new layer on top of the IMPS (Immediate Payment Service) that has been used by banks for electronic fund transfers for about five years. This will allow seamless, inter-bank connection using a mobile app that can be used to pay merchants as well as make other ‘proximity payments’ on an offline basis.
• There is a very simple API that would provide for both push and pull payments. So I can send money to you or you can send me a request to pay, as merchants may do if I buy something from them. I can approve the request on my phone.

Background:
• Reserve Bank of India governor initiated the Unified Payment Interface (UPI) project last February.
• Over the past year, the application program interface (API) has been developed that allows payments from any bank account to another.

Advantages:
• This is a big leap from the old system for credentials, where you give your card to the merchant and there is a security risk. In this model, everything happens through your own phone, your credentials are established and payment is approved.
• Many new phones come with biometric iris or fingerprint scanners so Aadhaar authentication is possible on these devices.
• It is critical for India’s digital independence.
• The entry of 21 new banks and the surge in smart phones and bank accounts offers the potential to build all sorts of apps.
• The UPI could do to P2P transactions what direct benefits transfer has done for government to people transactions.
3.12. BENEFITS OF COMMODITY FUTURES MARKET TO FARMERS

Why in news?
The issue was discussed in 14th Commodity Futures Market Summit, 2016, organised by ASSOCHAM.

Benefits of Commodity futures market:
- A Well-developed commodity futures market is essential to ensure farmers' welfare as they lack bargaining strength and possess limited awareness about market conditions
- It will help to predict their earnings and plan their future investments.
- These markets reduce the range of seasonal price variations.
- They tend to protect the farmers from post-harvest slump in prices.

Why Participation of Indian farmer is bleak in future market?
- Due to lack of expertise in hedging price risk.
- Do not have enough marketable surplus and enough cash to meet margin requirements.
- Inefficient physical operations, excessive crowding of intermediaries, long and fragmented market chains and low-scale have deprived farmers of fair price for their produce.

Government Initiatives:
- Government has given funds to about 214 markets from eight states that have come up with a proposal to join the online trading platform National Agriculture Market (NAM).
- Proposal of single e-trading platform and computerize the markets is on the way
- Government is trying to expand existing markets and will facilitate transactions where physically markets currently do not exist
- Formulation of an interactive farmer portal to provide information to the farmers to resolve any query.

Way Forward:
- There is need of industry’s co-operation and active engagement
- A complete involvement and collaboration all players is desirable.

3.13. MERGER OF NSEL WITH FTIL

Why in news?
- Ministry of Corporate Affairs under Section 396 of the Companies Act, 1956 ordered merger of Financial Technologies (India) Ltd (FTIL) and National Stock exchange (NSEL).
- This is the first time a subsidiary company is being forcibly merged with its parent company in India.

Argument in favour of Merger:
- This is expected to help pay more than 13,000 investors who lost money in 2013 NSEL scam.
- FTIL owns approx. 99.99 percent share of NSEL and the concept of limited liability has been used to circumvent the liability
- Money raised by NSEL has been largely used by FTIL. So, FTIL cannot shed its responsibility.
Arguments against:

- This goes against the concept of “limited liability” as FTIL is a limited liability company.
- It puts interest of trading clients much higher than the interests of shareholders of FTIL.
- This order sets a very dangerous precedent.

Analysis:

- The Companies Act, 1956 empowers the government to order merger if such merger is essential in the public interest.
- The government has cited “public interest” and said that most of the money raised by NSEL was used by FTIL and thus both constituted a single entity.
- On the one hand there was interest of more than 13000 investors at stake while on the other hand the interests of employees and shareholders of FTIL were on stake.
- Moreover, the principle of “limited liability” seems to be broken here. And, this order is being seen by corporates as on the lines of Vodafone GAAR issue.
- Nonetheless, the illegal trading especially when a large number of small investors are involved, should not go unpunished else the confidence of investors in India’s marker will start to dwindle.

3.14. ELECTRONIC DEVELOPMENT FUND (EDF)

About the fund:

- Launched by Ministry of Communication and IT to support early-stage, angel, venture and private equity funds focusing on electronics, nano-electronics and information technology.
- An initial corpus of Rs. 2,200 crore, (to be scaled up to Rs. 10,000 crore)
- Aimed at creating an “ecosystem of innovation, research and development (R&D) and with active industry involvement.”
- To be a ‘fund of funds’, with Canbank Venture Capital Funds as active management firm, which will in turn seed professionally managed venture funds.
- The EDF will put in 20% of the capital in daughter funds and the rest 80% will be invested by VCs. The daughter funds will then invest in companies, primarily start-ups.

Need for EDF:

- The demand for electronics products in India will increase to $400 billion by the year 2020 while production is expected to reach $104 billion only by that time.
- India will be importing more electronics than crude oil leading to huge CAD.
- India has huge domestic market and a vast pool of technical resources, as well as skilled and semi-skilled labour.
- India is ideally placed to become a global electronics manufacturing hub, offering opportunities of scale manufacturing.

Issues:

- Fund will not help much to the existing players including bulk of SME category as the fund is designed to focus on innovation and R&D.
- Very high competition and low returns in electronic sector leads to finding little support from conventional banking system.
- Capital cost is high putting Indian manufacturers at a considerable disadvantage vis-à-vis China.
- Venture funds prefer the equity route, while the demand from the sector is more for debt funding for investment and working capital, which the fund may not be able to address.
Way Forward:
- Efforts must be made to develop intellectual property that resides in India.
- Presently, key IPs in the sector remains in the hands of a few developed countries.
- Breaking this cycle requires a multifarious effort and so the EDF scheme must be augmented by efforts in other areas.
- For example- structural issues, ranging from infrastructure to education and skill development, also need to be addressed simultaneously to fully achieve the vision of India transform into a global digital economy powerhouse.

3.15. INTERNATIONAL INTELLECTUAL PROPERTY INDEX AND INDIA

- Global Intellectual Property Center (GIPC) of US Chamber of Commerce placed India at 37 out of 38 countries in International Intellectual Property (IP) Index in a report.
- These 38 economies account for the 85 percent of global GDP.
- India remains at the bottom for fourth year in a row.
- The index is based on 30 criteria including patent, copyright and trademark protections, enforcement, and engagement in international treaties.

Major Weakness Areas of India’s IP regime:
- Use of compulsory licensing (CL) for commercial and non-emergency situations.
- Poor application and enforcement of civil remedies and criminal penalties.
- Suspension of implementation of Final Guidelines for Computer Related Inventions (CRI).

Way Forward:
The government is finalizing a National Intellectual Property policy to improve the IP regime, increase IP awareness and strengthen enforcement of rules.

3.16. IPR POLICY

- The new IPR policy to be unveiled will be completely compliant with the World Trade Organisation’s agreement on Trade Related aspects of IPRs (TRIPS).
- The policy will have a special thrust on
  - Awareness generation at school/college level,
  - Effective enforcement of IPRs and
  - Encouragement of IP commercialisation through various incentives
- The policy will retain the provisions on Compulsory Licencing (CL) (in the National Manufacturing Policy and Section 84 of India's Patents Act) as well as Section 3(d) of India's Patents Act preventing ever-greening of drug patents in spite of the EU and US objections terming CL as inconsistent with WTO’s TRIPS agreement.
- According to Section 3(d), besides novelty and inventive step, improvement in therapeutic efficacy is a must for grant of patents when it comes to incremental inventions.
• The policy will also suggest incentives such as tax benefits and fee waivers to encourage R&D and IP creation to strengthen the Make In India/Start-up/Digital India initiatives.
• To protect ‘small inventions’ developed especially in the informal/unorganised sectors, policy will promote ‘utility patents’ (with lower compliance burden and shorter period of protection, when compared to the normal patents) only for mechanical innovations.

## 3.17. COMPULSORY LICENSING

### Why in News?

The proposed India-EU FTA would include provisions on IPR protection of which compulsory licensing is an important aspect.

### EU’s apprehensions:

- It may risk affecting the flow of capital and technology from overseas.
- It can act as a deterrent for investments, from abroad and within India.
- The conditions for granting a compulsory licensing in India is ambiguous, especially the usage of the term “worked in India” in the National Manufacturing Policy.
- Beside that USA also sought clarity from India regarding the compulsory licensing decision-making.

### India’s Stand:

- **On Term “worked in India”:** There is no ambiguity about the term ‘patent being worked in India,’ which means ‘local manufacturing.’
- **On Technology Transfer:** It is one of the pre-requisites for transforming India into a manufacturing hub.
- **On Access of Technology:** In case the patent owner is not interested in working the patent in India or producing commercially in India, is to grant a compulsory licensing to any Indian company which is willing to do so.
- Permitting compulsory licensing does not mean confiscating the patented technology but effecting technology transfer by paying the patent holders reasonable royalties.

### What Is Compulsory Licensing

- CL is the grant of permission by the government to entities to use, manufacture, import or sell a patented invention without the patent-owner's consent.
- CL is permitted under the WTO’s TRIPS (IPR) Agreement provided conditions such as ‘national emergencies, other circumstances of extreme urgency and anti-competitive practices’ are fulfilled.
- So far, India has issued only one CL for an anti-cancer medicine Nexavar.

## 3.18. OPEN RESOURCE LICENSING

### Why in News?

- Due to Government policy of favoring open source software across all Central departments.
- Open source software are those software which can be freely used, modified, and shared.

### Advantages of open source software:

- Entail substantial savings on the Centre’s software expenses as most open source alternatives are free.
- Increase interoperability and highly customizable.
- Help in developing local capacity/industry.
- Reduce piracy/copyright infringements.
- Promote growth of knowledge-based society.
- Average spend on cyber security of closed software is about 2 to 3 per cent of the total IT spending.
Why open source resources are more secure:

- In open source users have access to the algorithm that makes it work.
- No one has access to the encryption key or the set of numbers that act as a password.
- Without that password it is impossible to hack into these.

Challenges:

- They need to be backed by a strong technical expertise as the source code is open and vulnerabilities could be targeted.
- There are Concerns pertaining to security and operational efficiency.
- Unlike closed or commercial software, open source requires a certain ecosystem to work smoothly.
- No serious policy backing until recent.

Way forward:

- The question about the efficiency of open source software is largely a perception.
- The government is banking on BOSS (Bharat Operating System Solutions) – in vernacular language
- Adoption of new policy will promote innovation by encouraging collaborative development to develop better products in less time.

Similar Questions - UPSC Mains 2015

1. India’s Traditional Knowledge Digital Library (TKDL) which has a database containing formatted information on more than 2 million medicinal formulations is proving a powerful weapon in country’s fight against erroneous patents. Discuss the pro and cons of making the database available publicly available under open source licensing.

2. Discuss the advantages and security implications of cloud hosting of servers vis-a-vis in-house machine-based hosting for government businesses
4. SOCIAL ISSUES

4.1. NATIONAL DEWORMING INITIATIVE

The Ministry of Health & Family Welfare launched the National Deworming initiative.

Objective:

- Aims to protect more than 24 crore children in the ages of 1-19 years from intestinal worms. After getting the ‘Polio-free’ status, India now wants to target intestinal parasitic worms among the children to achieve status of being ‘Worm-free’.
- In the first phase about 14 crore children across eleven States/UT of Assam, Bihar, Chhattisgarh, Dadra & Nagar Haveli, Haryana, Karnataka, Maharashtra, MP, Rajasthan, Tamil Nadu and Tripura will be covered; while nearly 10 crore will be targeted in the second phase.
- Albendazole tablets will be given to all targeted children; half tablet to 1-2 years children and one full tablet for 2-19 years.
- Initiative will be coupled with improved sanitation, hygiene, and availability of safe drinking water for reducing worm load.
- The deworming initiative would help to achieve the aim of ‘Swachh Bharat’.

What is deworming?

- It is administering an antihelmintic drug to a human or animal to rid them of parasites, such as roundworm, hookworms, flukes and tapeworm.
- Mass deworming campaigns of school children have been used both as a preventive as well as a treatment method for helminthiasis, which includes soil-transmitted helminthiasis in children.

4.2. NATIONAL FRAMEWORK FOR ELIMINATION OF MALARIA

- The Ministry of Health and Family Welfare launched the National Framework for Malaria Elimination (NFME) 2016-2030, which outlines India’s strategy for elimination of the disease by 2030.
- NFME document clearly defines goals, objectives, strategies, targets and timelines and will serve as a roadmap for advocating and planning malaria elimination in the country in a phased manner.

Objectives:

- Eliminate malaria from all low (Category 1) and moderate (Category 2) endemic states/UTs (26) by 2022
- Reduce incidence of malaria to less than 1 case per 1000 population in all States/UTs and the districts and malaria elimination in 31 states/UTs by 2024
- Interrupt indigenous transmission of malaria in all States/ UTs (Category 3) by 2027
- Prevent re-establishment of local transmission of malaria in areas where it has been eliminated and to maintain malaria-free status of the country by 2030

Strategic Approaches:

- Programme phasing considering the varying malaria endemicity in the country
- Classification of States/UTs based on API as primary criterion (Category 0: Prevention of re-introduction phase; Category 1: Elimination phase; Category 2: Pre-elimination phase; Category 3: Intensified control phase)
- District as the unit of planning and implementation
- Focus on high endemic areas; and special strategy for P. vivax elimination
Benefits:

- Eliminating Malaria will result in cutting down on expenditure on diseases control programme, and help in reducing out-of-pocket expenditure.

### 4.3. ECONOMIC EMPOWERMENT OF WOMEN

**Why in News?**

- Recently, a woman police officer was denied selection as Deputy Superintendent of Police on the ground that she was over age.
- But later Supreme Court directed the Chhattisgarh government to appoint her in the senior rank after agreeing with her view that there was a 10-year relaxation in age limit for women candidates under the service rules.

**Need of Economic Empowerment of Women:**

- Supreme Court observed that economic development and women’s empowerment had a **symbiotic** relationship.
- Women’s economic empowerment is a prerequisite for sustainable development, pro-poor growth and the achievement of all the MDGs.
- At the same time it is about rights and equitable societies.
- Because of **gender discrimination** women end up in insecure, low-wage jobs, and constitute a small minority of those in senior positions.
- It curtails access to economic assets such as land and loans.
- It limits participation in shaping economic and social policies.

### Few facts

1. Based on studies, when more women work, economies grow. If women’s paid employment rates were raised to the same level as men’s, the USA gross domestic product would be an estimated 9 per cent higher, the Euro zone’s would climb by 13 per cent.
2. An analysis of Fortune 500 companies found that those with the greatest representation of women in management positions delivered a total return to shareholders that was 34 per cent higher than for companies with the lowest representation.
3. If women had the same access as men to productive assets, agricultural output in 34 developing countries would rise by an estimated average of up to 4 per cent. This could reduce the number of undernourished people in those countries by as much as 17 per cent.

### 4.4. RACIAL INTOLERANCE

**Why in news?**

A Tanzanian girl and her friends were attacked and their car was torched by an angry mob in Bangalore. The group of students were driving by an accident site where a Sudanese student's car ran over a local woman killing her.

**Issues:**

- A weak and insensitive political response and police action has led to the growth of such incidents.
- In 2014 there was an **exodus of people of the north-east** from the city after incidents of attacks and intimidation.
- Racial attacks negatively impacts India and Bangalore as a **destination of business** and education.
- Such incidents would create hurdles in making strong relationships with Africa where it positions itself as a competitor of China.

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**Previous incidents**

**September 12, 2015:** Congolese national beaten and tied to a pole for allegedly playing music loudly in his car at Kammanahalli.

**August 29, 2015:** African attacked by a group after he allegedly questioned a shopkeeper for not selling cigarettes to non-locals.

**March 9, 2015:** 8 Africans attacked at Kothanur in separate instances. Police claimed ‘road rage’ triggered the attacks.

**September 21, 2014:** Ivy Coast national assaulted by at Ambedkar Colony.

**July 9, 2013:** Chad national, an IT professional and a church pastor, assaulted by 10 persons at Hennur.

**May 2011:** African complains that he was not allowed to enter a lounge bar.
Way forward:
- Police should be sensitized and should be prepared to prevent further such attacks.
- A responsive police and legal apparatus are crucial for securing the rights of minorities, whether women, Dalits, citizens from the Northeast or visitors from Africa.
- Confidence building measures should be taken to assure African students about their security and well being in India.

4.5. SEX DETERMINATION OF FOETUS

Why in News?
- The Union Minister for Women and Child Development recently suggested that child sex determination during pregnancy be made compulsory and the gender of the child be registered right from that moment. In this way the birth can be tracked.
- This twin strategy of tracking sex-determined foetuses and requiring institutional deliveries is expected to ensure that female babies are not aborted, or killed at birth.

Present Scenario:
- Currently India’s strategy to combat declining sex ratios hinges on the PCPNDT Act (the Pre-Conception and Pre-Natal Diagnostic Techniques Act, 1994)
- PCPNDT Act prohibits ultrasonography for the purpose of determining the sex of the foetus.
- India is among the countries with the worst child sex ratio in the world. The 2011 Census showed that the child sex ratio has dipped from 927 girls in 2001 to 919 girls in 2011.

Minister’s Proposal - Reversal of strategy:
- Present law of punishing the ultrasound technician in case of sex determination is too difficult to implement. Hence, the intended purpose of law to protect sex selection and improve sex ratio is not being met.
- As soon as women get pregnant, sex of the foetus should be determined and placed in public records.
- The pregnancies should be tracked and delivery of child should be ensured through the tracking system.
- Ensure that deliveries happen only in institutions and not at home.
- Since the gender is already known, and given the law, families would be compelled to go through with the pregnancy especially when the foetus is female.
- There exist several issues with the effective implementation of PCPNDT Act. A study conducted by the Public Health Foundation of India in 2010 found many issues like:
  - Low rate of complaints and convictions
  - Non-involvement of NGOs and local organizations in surveys and inspections.
  - Rigorous complaint process
  - Lack of awareness

Issues with proposed strategies:
- Technological fix suggested by the minister ignores the social realities and patriarchal mindset of society.
- Recording the status of the foetus involves the risk of exposing women to undue psychological and social pressure to abort female fetuses
- Any intrusion by the state into a woman’s personal-biological space is unwelcome.
- Also, this would directly interfere with the right of a woman to abort, if she doesn't want to have a baby, for whatever reasons.
- The problem of female foeticide is a result of strong socio-cultural and religious biases that have shaped societal attitudes in favour of the son.
Way Forward:

- The point that such measures are being proposed along with the dismal figures is an indication of India’s persisting inability to address the problem of female foeticide, and the continuum of social ills that this practice reflects.
- There is a need to strengthen the PCPNDT Act and also work towards changing the attitude of the people towards the girl child. There needs to be more involvement of local ASHA, Anganwadi workers.

4.6. SURROGACY

Why in News?

- The Bombay High Court on Monday directed the Central Railway (CR) to grant three months’ maternity leave to its employee who became a mother by using a surrogate.
- The court ruled that a mother enjoys the same benefits of maternity leave as any other working woman under the Child Adoption Leave and Rules.
- While challenging the CR for disallowing her leave, the woman’s lawyers argued that if the maternity leave was refused, it would certainly violate the right of a child to develop a bond with the mother.

Background:

- PIL was filed in Supreme Court last year claiming that commercial surrogacy business in India exploits women from poor and middle class, especially by foreign couples.
- In this connection, in October 2015, the court expressed concern over “trading of human embryos” and suggested that the government should consider banning commercial surrogacy. It framed 14 queries for the government to answer.
- The government told the Supreme Court that it does not support commercial surrogacy in order to protect the rights of surrogate mothers.
- In an affidavit, the government said “altruistic surrogacy to needy, infertile married Indian couples” will be allowed after thorough checks are done on the couples.
- New guidelines issued by the department of health research (DHR), restricted the import of human embryos to research purposes. This means foreigners can no longer avail of surrogacy services in India.
- These provisions will be part of The Assisted Reproductive Techniques (Regulation) Bill, 2014, which is currently circulating among the States for comments.

Surrogacy in India: Current scenario:

- Commercial surrogacy has been legal in India since 2002.
- At global level, India is a sought after destination in surrogacy-related fertility tourism, also referred as “reproductive tourism”.
- Surrogacy in India is relatively low cost and the legal environment is favorable.
- At present the Surrogacy Contract between the parties and the Assisted Reproductive Technique (ART) Clinics guidelines are the guiding force.
- In 2008, the Supreme Court of India in the Manji’s case (Japanese Baby) had held that commercial surrogacy is permitted in India with a direction to the Legislature to pass an appropriate Law governing Surrogacy.
- Giving due regard to the apex court directions, the Legislature has enacted ART BILL, 2008 which is still pending.
- Exploitation of the women and commodification of children through surrogacy are major worrying factor, which the law has to address.
Exploitation in absence of law:
- In the absence of comprehensive laws to prevent exploitation, there have been instances where surrogates have died as a result of complications during pregnancy and the unavailability of good post-natal care.
- Contracts between surrogate mothers, who are often poor, and the intended parents are sometimes structured in a manner that the former assumes all medical, financial and psychological risks, absolving the latter of liability.
- Multiple embryos being implanted in the surrogate’s womb to ensure a higher chance of success.
- There are cases of babies born with disabilities or an unplanned twin being abandoned by the intended parents.

Law Commission Report on Surrogacy:
- The Law Commission of India has submitted the Report on “NEED FOR LEGISLATION TO REGULATE ASSISTED REPRODUCTIVE TECHNOLOGY CLINICS AS WELL AS RIGHTS AND OBLIGATIONS OF PARTIES TO A SURROGACY.”
- The Commission has strongly recommended against Commercial Surrogacy.
- One of the intended parents should be a donor as well, because the bond of love and affection with a child primarily emanates from biological relationship.
- Legislation itself should recognize a surrogate child to be the legitimate child of the commissioning parent(s) without there being any need for adoption or even declaration of guardian.
- Right to privacy of donor as well as surrogate mother should be protected.
- Sex-selective surrogacy should be prohibited.
- Cases of abortions should be governed by the Medical Termination of Pregnancy Act 1971 only.

Way forward:
A complete ban on surrogacy is a welcome step. Surrogacy is a disguised word for child buying and regulation cannot help to protect the rights of women. The ecosystem that feeds on women’s poverty needs to end and along with this the government should also take steps to mitigate poverty.

4.7. DEVDASI SYSTEM

Why in news?
- The apex court started hearing on the Devadasi issue when apprised of how Dalit girls were dedicated as Devadasis in Uttangi Mala Durga Temple in Davanagere district of Karnataka.
- SC directed all States and Union Territories, especially Karnataka, Maharashtra, Andhra Pradesh, to strictly enforce the Central law to check “undesired and unhealthy” practice of forcing young girls to serve as Devadasis.

Who are Devadasis?
- 'Devadasis' are women dedicated to temple services for the rest of their lives and many of them are often victims of sexual abuse.

Prevalent Issues:
- Devadasi system is against women empowerment and against the equality granted to women under constitution.
- Devadasis are even subjected to sexual exploitation and pushed into prostitution.
- Devadasi system still exists even after the laws have been passed to ban it due to:
  o lack luster approach of the state police to implement the law
  o Poor utilization of funds allotted for the rehabilitation of girls pushed into the devadasi system
Relevant Laws to prevent Devadasi system:

- State-level legislation such as the **Karnataka Devadasis Prohibition of Dedication Act, 1982**, and **Maharashtra Devadasis Abolition Act, 2006**, had completely abolished such practices.
- **Section 372 of the IPC**, which prohibits selling minors for purposes of prostitution
- **Immoral Traffic (Prevention) Act, 1956** makes prostitution an offence in or in vicinity of public places.

4.8. DAUGHTER AS INHERITOR

The Delhi High Court in a recent judgement announced that the **eldest daughter can be the karta of the Hindu Undivided Family property**.

**Background:**

- Karta under the Hindu Succession Act is the coparceners or eldest of those entitled to inherit the property of a Hindu Undivided family (HUF).
- The Karta has the right to manage the property and business of the HUF even without the consent of the rest of the family.
- The HUF is different from ‘joint family’ as it’s purely for revenue assessment of ancestral property.
- It is one where property hasn’t been partitioned between sons and daughters and does not include in-laws.
- The HUF applies to all Hindus and all persons who is not a Muslim, Christian, Parsi or Jew. It thus includes Buddhists, Sikhs and Jains also.
- After the 2005 amendment to Hindu Succession Act, all members born into the family including daughters have equal rights to property.
- Recent judgement announced that elder daughters can be karta while the other side’s argument was that daughters can only have a share in the property and not any right to manage it.
- Court also extended role of karta to married daughters.
- The Hindu Undivided Family does not make distinction between married and unmarried women and gives equal rights of inheritance to Hindu males and females.
- The challenge is that very few women actually practice in the management of business and property.
- Each beneficiary would have to fulfill mandatory conditions like submitting marriage certificates, income certificates to avail the benefits of the scheme.
- It will also provide nutritional food to infants till the age of seven.

4.9. SHANI-SHIGNAPUR TEMPLE ENTRY

Recently a group of women called the Bhumata Rangaragini Brigade tried to break the 400 year old tradition of the Shani Shignapur Temple barring women from entering its inner sanctum.

**Background:**

- Over 500 women who tried to enter the temple faced heavy opposition and were detained by the police.
- A similar incident in Kerala where women of a certain age group were barred from entering Shabarimala Temple.
- SC asked in the Sabarimala case, if spirituality is the exclusive domain of men.
- Muslim women demand right to enter Haji Ali Dargah in Mumbai.
Significance:

- **Law vs Religion:**
  - The ban violates the principle of equality guaranteed by the Constitution while Customary Right allows respect of religious traditions and customs.
  - While the Constitution protects religious freedom, clause 2(b) of Article 25 allows the state to intervene in religious practice.
- **Faith vs Rationality:** Validity of a God that is easily threatened by presence of women.
- Women becoming increasingly aware of **progressive promises in Constitution** and regressive practices in reality. Entering temples is symbolic of larger discrimination against women.
- Temple entry movements have historically been used to challenge power hierarchies eg. for Dalits.
- Regressive attitudes deep rooted in religion cannot be changed by force and have to be changed through slow grass root level work.

4.10. JAT PROTESTS

**Why in News?**

- Like Gujjars in Rajasthan, the Kapus in Andhra Pradesh and Patels in Gujarat, Jats in Haryana are also protesting to include them in OBC category so that they can enjoy the benefits of quota system.

**Background:**

- Previous government at center issued a notification in March 2014, to grant a special quota for Jats over and beyond the 27 per cent reservation for OBCs in jobs and higher education.
- Later Supreme Court quashed the government’s decision to include Jats in OBC list and voiced its concern on the perception of the self-proclaimed socially backward class.

**Reasons of Jat protests:**

- Despite higher economic and social standing of Jats, there has been a reduction in landholding owing to distribution over generations.
- A squeezing of rural incomes due to the persisting sluggishness in the agrarian economy has affected the economic capacity of the Jat community.
- Demand for reservations is also a consequence of the relative success of the reservation programme.
- Jats representation in government jobs has been limited to army or lower jobs in police forces. They have very less representation in government sector jobs.

**Way Forward:**

- There is certainly the need to review the list of castes counted as OBCs and to deepen the definition of creamy layer.
- Inclusion or removal of any community in the reservation category should be on the basis of objective study of socio-economic status of various communities.

4.11. HIGHER EDUCATION SYSTEM IN INDIA

**Why in News?**

The recent suicide by three female students of a private medical college in Tamil Nadu leaving behind a note blaming their college for excessive fees, no proper classes or teachers and there being "nothing to learn" highlights the serious maladies afflicting private education in India.
Present Scenario of Higher Education Sector in India:

- The Indian higher education system in particular is already the **third largest** in the world.
- Private institutions account for **almost two-thirds of the higher education** in India (according to a 2011 report by Ernst and Young and Federation of Indian Chambers of Commerce and Industry).
- Demand will grow due to the combined effect of rapidly rising incomes and demographic pressure.
- At both school and college levels, the state of private higher education is critical as state-run establishments will struggle to address this demand alone.

**Issues with Private Education System in India:**

- **Low operational autonomy** - Private universities and deemed universities currently have no power to affiliate colleges, fix salaries of their faculty or even include courses in their colleges.
- **Rigid control** of state universities on private institutions. The control of these universities, in turn, lies in the hands of the University Grants Commission (UGC), the professional councils and the government.
- **Restrictions** also exist on entry of foreign universities, foreign faculty and foreign collaboration.
- **Conditional FDI**: Though 100% foreign direct investment (FDI) is allowed in the education sector, the provision comes with riders. Eg - **Not-for-profit principle**
- **Lack of quality** – There has been proliferation of engineering and medical colleges in urban centres which do not match the required standards

**Steps that should be taken to encourage Private Educational Institution:**

- **More Operational Autonomy** - Simplifying regulation by moving away from input-based norms that stifle operational autonomy
- **Supporting Legislative Framework** - Creating enabling legislation at the state level to encourage setting up of private institutions
- **Financial support to students** - Moving to student-side funding to provide a level playing field between public and private institutions
- **Regulatory Framework for Quality** – Regulatory framework to encourage setting up of for-profit institutions that ensures quality and transparency.

**Way forward:**

- The regulation of private schools and colleges should be minimal but transparent, with vigilance to ensure that the regulatory process is not corrupt.
- The public school system will need to be vastly expanded, with more local control of teacher choice and accountability, in tandem with the option of school vouchers being explored where feasible.
- Above all, a wide vocational training system with minimal entry qualifications and close links to the private sector must be created.

**Some issues plaguing the performance of Higher education system**

- **Lack of research** - The amount of funding that is currently available for research in Indian universities is meager by global standards.
- **Lack of good quality faculty** - there is need to attract and retain faculty with good research skills.
- **Low Administrative Capability of Educational Institutions** - there are no comprehensive training programmes for academic administrators who deal with different nuances of higher education system.
- **Lack of Interdisciplinary focus** - Considering the fact that most of our societal problems cannot be solved by experts from a single academic discipline, there is a need for better coordination and synergy between experts from different academic disciplines.
4.12. LEADING CAUSES OF DEATH IN INDIA

The office of the Census Commissioner served a warning on Monday: **Lifestyle diseases** have emerged as the biggest cause of deaths in India.

**Finding of the Report:**

- New data reveals that one in two deaths in the country, estimated in the period 2010-13, are due to non-communicable diseases (NCDs). NCDs accounted for 45.4% of deaths in 2004-06, the figure rising to 49.21% in 2010-13.
- **Rural-Urban Difference** - In rural areas, deaths due to NCDs were 46.9%, much lower than urban areas where their contribution is 57%.
- **Cardiovascular diseases** are the biggest killers within NCDs. They account for 23.3% of all deaths. This has increased from 19.9% in 2004-05.
- Premature births and low birth weight have emerged as the main reasons for deaths of children below the age of 29 days, the new data revealed.
- The **top 10 causes of deaths** in India have remained the same since 2004-06, with a slight change in order. Cardiovascular diseases are followed by ill-defined causes, respiratory diseases, malignant and other neoplasms (cancers), and perinatal conditions (complications related to pregnancy)
- **Lower death due to communicable diseases** - In 2004-06, 36.7% of deaths occurred due to communicable diseases and lack of nutrition. This went down to 27.74% in 2010-13.

4.13. NATION AND NATIONALISM

**Why in News?**

- The recent JNU controversy has brought the debate on Nationalism to the forefront.
- The row revolves around “anti-India” sloganeering by some JNU students in an event organised to commemorate the hanging of Afzal Guru, a convicted terrorist, within the campus.

**What is Nation and Nationalism?**

- The concept of “Nation-state” and “Nationalism” are a relatively modern phenomena that can be traced back to the **Treaty of Westphalia of the 17th century Europe**.
- History shows Nation-state is not a natural entity but is an **artificial construction to recognize sovereignty of nation-states**.
- While nation is a mental construct reflected in a sense of belonging, **state is a political construct** with four elements; territory, population, government and sovereignty.
- There can one nation and two states like Korea, or one state and two nations like Sri Lanka, one state and one nation like Japan or one state and many nations like India.

**Significance of Nationalism:**

- Nationalism in good measures has been the motivating factor of most **anti-colonial struggles** across the world, like India.
- It acts as the **binding agent** for different diverse cultures and groups strengthening the nation.
Challenges of Nationalism:

- Nationalism tends to easily take an extreme form and has been the reason behind the most devastating wars in the modern world, and tragedies like the Jewish Holocaust, genocide in Chechnya or Rwanda
- It creates artificial lines of differences within the human race due to an inherent “othering” that is part of the definition of a nation state.

Way Forward:

- While important to understand the pragmatic need for nation-states and a healthy amount of nationalism, humanism should be the end goal.
- Secessionist demands must be addressed by trying to understand the roots of the core grievances and dealing humanely.

4.14. TRADITIONAL MEDICINE

Why in news?

The Union Cabinet has given its approval to the Agreement for collaborative activities to be signed in the area of Traditional Medicine between Ministry of AYUSH and the World Health Organization.

How would it help?

- The long-term collaboration with WHO would help in improving International acceptability and branding of AYUSH system.
- It will facilitate awareness generation regarding AYUSH systems of Medicine by means of education
- It will help in skill development and capacity building through workshops and exchange programs
- It will facilitate advocacy and dissemination of information on AYUSH amongst the Member States.
- It will lead to collaboration with third Parties for creating synergies in implementation of WHO Traditional Medicine Strategy 2014-2023 particularly in the context of AYUSH systems.
5. SCIENCE AND TECHNOLOGY

5.1. GRAVITATIONAL WAVES

Why in news?

• Gravitational waves have been discovered by the U.S.-based LIGO (Laser Interferometer Gravitational Wave Observatory).
• The Advanced LIGO laboratories in the US states of Washington and Louisiana have traced the warping of space from the merger of two black holes about 1.3 billion light-years from Earth.
• India is an important partner in the LIGO project and the announcement was simultaneously made at the Inter-University Centre for Astronomy and Astrophysics (IUCAA) in Pune.

What are gravitational waves?

• Gravitational waves are distortions or ‘ripples’ in the fabric of space-time caused by some of the most violent and energetic processes in the Universe.
• Albert Einstein predicted the existence of gravitational waves in 1916 in his general theory of relativity.
• The effect is very weak, however, and only the biggest masses, moving under the greatest accelerations, are expected to warp their surroundings to any appreciable degree. Put in this category the explosion of giant stars, the collision of ultra-dense dead ones, and the coming together of black holes. All these events should radiate gravitational energy at the speed of light.
• Gravitational waves have never been detected before, though indirect evidence of these waves have been found and resulted in a Nobel Prize in 1993.

How it is detected in the lab?

• The basic principle for detection is interference – when two waves combine, they produce a pattern based on relative positions of peaks and troughs in those waves.
• In LIGO, a high powered laser beam is split and sent down two L-shaped vacuum tunnels, each 4 Km. long. They get reflected from two high precision mirrors and reach back at the base. They come back in such a way that they completely cancel out each other. No light is detected at the photo-detector.
• But when a gravity wave passes-by, it distorts space and changes the distance that the beams have to travel. No longer are the peaks and troughs of the two reflected waves perfectly aligned. As they do not cancel out each other now, some pattern is detected at the photo-detector.

Gravitational wave detector in India: INDIGO

• India-LIGO project will be a replica of the two LIGO detectors and would be stationed at a perpendicular direction to the detectors in USA.
• LIGO-India project is piloted by Department of Atomic Energy (DAE) and Department of Science and Technology (DST).
The LIGO-India project will be jointly coordinated and executed by three Indian research institutions: the Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune and Department of Atomic Energy organisations: Institute for Plasma Research (IPR), Gandhinagar and the Raja Ramanna Centre for Advanced Technology (RRCAT), Indore.

It will enrich technological areas like precision metrology, photonics and control systems.

But most importantly, it will inspire coming generations of young Indians to engage in international scientific research within the country.

**Challenges:**

- Current estimates suggest the project would cost at least Rs. 1,200 crore.
- Many scientists familiar with the project believe that such a project is at least eight years away.
- Another ambitious mega-science project, the Indian Neutrino Observatory (INO) has been stalled for over a year due to protests by activist groups, concerned over its environmental impact.

### 5.2. CUBSATS

**Why in news?**

Scientists have designed at least two new methods of maneuverability of miniature satellites (Cubsats) in outer space orbits.

**What is a cubesat?**

- CubeSats are tiny satellites, usually no more than about 4 inches on each side that can conduct space research using readily available, off the shelf hardware plus one of a variety of propulsion devices.
- So far CubeSats reach low-earth-orbit (LEO) only. CubeSats are most commonly put in orbit by as secondary payloads on a launch vehicle.

**Why Cubesats are emerging so fast?**

Smartphones and other consumer electronics provide a wealth of ready-made technologies that can enable a CubeSat to perform many of the functions of a satellite.

**Other advantages:**

- A nanosat of CubeSat dimensions might cost $150,000-1m, rather than $200m-1 billion for a full-sized one.
- Ease of construction and less time required to build.
- Once their orbits decay and they burn up on re-entering the atmosphere.
• Because of their size, multiple CubeSats can be launched as secondary payloads along with a large, primary spacecraft. This makes them ideal platforms for high-risk, experimental payloads and technology demonstration missions.

**Propulsion in Cubesats?**

A CubeSat cannot carry conventional rocket fuel because of safety issues, therefore scientists have developed two methods of maneuverability. These are:

1. **Using ion drives**: An ion drive accelerates charged particles derived from a liquid propellant to very high speeds. This creates thrust more efficiently than ejecting heated vapour, but without the explosive chemical reactions of a conventional rocket.
2. **Using light**: A photonic laser thruster that uses the principle that light exerts pressure when it hits something.

### 5.3. PLANET X

**Why in news?**

• Researchers at the California Institute of Technology have found evidence in the outer solar system of an object that could be a real ninth planet.
• Nicknamed Planet Nine, it has a mass about 10 times that of Earth and orbits about 20 times farther from the sun than Neptune.

**How was the inference made?**

• Its presence has been inferred from the peculiar clustering of six previously known objects that orbit beyond Neptune (Kuiper belt).
• It is said that there’s only a 0.007% chance, that the clustering could be a coincidence. Instead, a planet with the mass of 10 Earths has shepherded the six objects into their strange elliptical orbits, tilted out of the plane of the solar system.

### 5.5. ASTROBIOLOGY MISSION

• A team of scientists from the NASA, the Mars Society Australia and the Birbal Sahni Institute of Palaeobotany, Lucknow, will mount an expedition to Ladakh this August.
• The aim is to study the similarities of certain parts of the region’s topography and microbial life to Martian surroundings.
• This is the first time India is part of a Spaceward Bound Programme.
• Some of the factors that played a role in selection Ladakh region were:
  o Availability of several astrobiologically interesting features with same region and coverable distance, such as: cold high altitude desert soil, hot springs, permafrost’s, glaciers, saline – paleo-lakes.
  o Low human habitation

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**What is Kuiper Belt?**

It is flat ring of icy bodies that revolve round the Sun beyond the orbit of Neptune.
It is home to three officially recognized dwarf planets: Pluto, Haumea, and Makemake.

**What is a Space Bound Programme?**

• Spaceward bound is an educational program developed at NASA Ames.
• The objective of this programme is for the participating scientific researchers, educators and students to visit the remote and extreme environments in different parts of the world and conduct the astrobiological experiments, make observations and learn about the origin, sustenance and adaptation of the living organism within such biospheres.
• Previous Spacebound experiments have been conducted in Mohave Desert, USA, Nambian Desert, Antarctica, etc.
- High altitude environment for conducting human dexterity and performance based test.
- High altitude clear skies for astronomy and astrophotography.

- India offers a variety of location that could be of interest to an astrobiologist such as
  1. Ladakh, Jammu & Kashmir
  2. Kutch, Gujarat
  3. Lonar Crater lake and Western Deccan Trap Region

5.4. SMART GRID

About the Smart Grid project:

- The project is a part of the smart city initiative.
- The project has been divided into three phases
  I. Replacing old equipment and cables
  II. Installing smart meters in households
  III. Developing software to improve the efficiency of electricity distribution.
- A major highlight of the NDMC’s Smart City proposal is its plan to upgrade its electricity network into a smart grid system.
- A smart grid network will facilitate two-way communication between the consumers and the power utilities.
- It will bring synergy between generation, transmission, distribution systems, consumers and also renewable sources by integrating all into one seamless system.
- An important aspect of the system is to have 100 per cent Advance Metering Infrastructure (AMI), which will give the consumers real-time data about power consumption thereby allowing them to make informed choices about their usage.
- A basic example of how it will help the consumers is that they will be able to give commands right in their energy meters including troubleshooting.

5.5. GENE EDITING (CRISPR/CAS9)

Why in news?

On February 1, scientists from the United Kingdom’s Francis Crick Institute got approval to start research on human embryos using a new genome editing technology called CRISPR/Cas9.

What is Genome editing?

- It is a type of genetic engineering in which DNA is inserted,

SMART POWER SUPPLY

Disorders are showing interest in the Smart Grid concept, endorsed by NDMC

**WHAT IS A SMART GRID SYSTEM?**
- A smart grid is an electricity network that uses digital and other advanced technologies for efficient and reliable end-to-end two-way delivery systems from the generating source to the consumers through integration of renewable energy sources, smart transmission and distribution.

**BENEFITS OF SMART GRID SYSTEMS**
- Consumers will be able to do real-time troubleshooting through smart meters.
- Enables real-time monitoring and control of power system.
- Will increase transparency among consumers.
- Will automatically manage load by avoiding peak load.
- Will seamlessly integrate power generated through renewable sources.
- Reduces AT&C losses.
- Gives consumers control over their power bill.
- Will control outage prevention and restoration.
- The proposal is also being taken up by Tata Power and BSES for implementation in their respective areas.
- Delhi’s NDMC area will be first to have Smart Grid system.

There are currently four families of engineered nucleases being used:
1. Meganuclease.
2. Zinc finger nucleases (ZFNs).
3. Transcription Activator-Like Effector-based Nucleases (TALENs).
4. CRISPR-Cas system.
deleted or replaced in the genome of an organism using engineered nucleases, or “molecular scissors”.

- These nucleases or enzymes create site-specific double-strand breaks (DSBs) at desired locations.
- The induced double-strand breaks are repaired through end joining or recombination, resulting in targeted mutation.

**What is CRISPR/Cas9?**

- It is a revolutionary gene editing technique that scientists have borrowed from nature.
- CRISPRs (clustered regularly interspaced short palindromic repeats) are sections of DNA, while CAS-9 (CRISPR-associated protein 9) is an enzyme.
- Bacteria use them to disable attacks from viruses.

**How it works?**

- Crispr scans the genome looking for the right location and then uses the Cas9 protein as molecular scissors to snip through the DNA.
- Cas9 endonuclease - guide RNAs direct it to a particular sequence to be edited.
- When Cas9 cuts the target sequence, the cell repairs the damage by replacing the original sequence with an altered version.
- Unlike other gene-editing methods, it is cheap, quick, easy, safer and more accurate to use because it relies on RNA–DNA base pairing, rather than the engineering of proteins that bind particular DNA sequences.

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5.6. **RAMAN EFFECT: APPLICATIONS**

**What is Raman Effect?**

A change of wavelength exhibited by some of the radiation scattered in a medium. The effect is specific to the molecules which cause it, and so can be used in spectroscopic analysis.

**Some of the Applications:**

**Chemical Industry:**

1. To study catalysts
2. To monitor chemical purity in petrochemical industry
3. Control of polymerisation reaction

**NanoTechnology and material science:**

1. To study nanoparticles
2. To develop microelectronics devices and novel photovoltaic cells.

**Biomedical Application:**

1. Invivo studies of the skin

February 28 marks the National Science Day that celebrates physicist C V Raman’s discovery of the Raman effect.
2. Transdermal drug transfer
3. Cancer identification
4. Bone studies

Detection of Narcotics and explosives:
1. Hand held Raman scanners to detect narcotics
2. Handheld Raman scanners to detect explosives such as TNT, RDX, HMX

5.7. ADITYA MISSION : UPDATES

- ISRO’s planning to add another spacecraft under Aditya to observe the sun from a different stable orbital position called L5.
- Adding another orientation viz L1 and L5 would provide more clarity.
- Older L1 sun missions by US and Japan could not yield much result/information.

What is L1, L5?

- Lagrange point is a position in space where the combined gravitational forces of two large bodies, such as Earth and the sun or Earth and the moon, equal the centrifugal force felt by a much smaller third body.
- The interaction of the forces creates a point of equilibrium where a spacecraft may be “parked” to make observation.
- These points are named after Joseph-Louis Lagrange, an 18th-century mathematician.
- There are 5 such points between the earth and the sun namely – L1, L2, L3, L4 and L5.

Please refer November 2015 current affairs for Basics on Aditya

5.8. GLOBAL BIOTECHNOLOGY SUMMIT - “DESTINATION INDIA”

The summit is expected to prepare a joint action plan for achieving the target of $100 billion for the biotechnology sector by 2020 and showcase India’s strength in the sector.

Purpose:

- Generate awareness regarding the impact life sciences and biotechnology have made on society.
- Attract investors and other key partners to invest in the biotech sector in India.

Focus is on these priority themes:

- Make in India,
- Nurturing Bio entrepreneurship,
- Skill India,
- Biotech opportunities and
- Action for Swachh Bharat and Swasth Bharat.

The summit involved more than 1000 participants including Nobel winner, government and other stakeholders. It provided a platform for learning and interaction in the increasing important field of biotechnology.
5.9. HYPNOXIA AND FROSTBITES

Why in news?

- One junior commissioned officer (JCO) and nine jawans of the Army’s 19 Madras battalion died after an avalanche struck their post in Siachen.
- An Indian soldier who survived being trapped under 25 feet (8 metres) of snow for six days after being caught in an avalanche died in hospital after suffering multiple organ failure.

Consequence of High Altitude on human health:

- **Hypoxia**: It is a condition in which the body or a region of the body is deprived of adequate oxygen supply.
- **Frostbites**: It is an injury that is caused by exposure of parts of your body to temperatures below freezing point. The cold causes freezing of your skin and underlying tissues. The fingers, toes and feet are most commonly affected but other extremities including the nose, ears, and the cheeks can also develop frostbite.
- **Hypothermia**: It is a potentially dangerous drop in body temperature, usually caused by prolonged exposure to cold temperatures.
- **High-altitude pulmonary edema**: It is a medical condition in which excess fluid develops in the lungs, either in the lung tissue itself or in the space normally used for gas exchange.
- **High-altitude cerebral edema**: It is a medical condition in which the brain swells with fluid because of the physiological effects of traveling to a high altitude.
6. INTERNAL SECURITY/LAW AND ORDER

6.1. DEMILITARISATION OF SIACHEN

Why in news?

- The 9 soldiers of the Madras regiment trapped in ice died after an avalanche on the Siachen glacier.
- A soldier named Hanumanthappa rescued but later succumbed to his injuries.
- This was not an isolated incident but part of a growing trend in that region, as global warming dramatically affects the glacier.

The difficulties with Siachen:

- 846 military personnel have died at the Siachen glacier between 1984 and 2012.
- Avalanches and the challenging terrain as a whole have been a major reason.
- The climatic conditions and sub-zero temperatures lead to illnesses such as memory loss, speech blurring, frostbites, and lung infections.
- The availability of oxygen drops to a minuscule percentage of its availability at normal heights making acclimatisation extremely difficult.

Argument in favour of Demilitarisation:

- The loss of lives and the revenue spent on occupying Siachen.
- Some members of the strategic community suggest that Siachen does not have any strategic significance and cannot be used to stage a military offensive.
- Apprehensions from Chinese intrusion:
  1. In case of Chinese indeed want to occupy Leh, there are easier ways of doing that than by traversing the unfriendly Siachen terrain.
  2. Doing so would be a logistical nightmare and militarily unsustainable for China.
- Apprehension from Pakistani Intrusion:
  1. Once the area is demarcated, authenticated and mutually demilitarised, it would not be logistically or legally easy for Pakistan to occupy the place.
  2. India should include in the agreement that any violation of the agreement will be considered a casus belli i.e. an act or event that provokes or is used to justify war.
  3. There are enough sophisticated monitoring and sensing mechanisms as well as commercial satellite imagery available today to prevent a surprise Pakistani invasion.

Arguments against Demilitarisation:

- The army as well as government has always been firm that there is no alternative to occupying Siachen.
- India dominates the Siachen heights and is in a strategically advantageous position vis a vis Pakistan.
- We have militarily and materially invested in the Siachen region over the years or incur lower casualties than Pakistan.
- There is fear of the Chinese presence in the vicinity.
- There would be difficulty in retaking the glacier should circumstances so dictate in future.
- The threat emanating from the China-Pakistan nexus is a major source of concern.
- In the event of a future war with India, Pakistan and China could launch a joint operation against India in the Ladakh region using Siachen vacated by the Indian Army.
India Position:
- India insists that the present ground positions on the Saltoro ridge should be demarcated and authenticated on a map before any demilitarisation could be conducted.
- Moreover, it does not want a disagreement on the posts and locations to be vacated by the Indian side. This feeling has further strengthened after the Kargil intrusion by Pakistan.
- India has therefore insisted that joint demarcation of the Actual Ground Position Line (AGPL) on the ground as well as the map should be the first step to be followed by a joint verification agreement and redeployment of forces to mutually agreed positions.

Pakistan Position:
- India is the occupying party in Siachen and it should unconditionally withdraw and the pre-1984 status quo should be maintained. India is in breach of the Shimla Agreement.
- Pakistan has suggested that troops on both sides should withdraw to a point south of NJ 9842, to the pre-1972 Simla Agreement positions. However, it has been reluctant to authenticate ground positions.
- Pakistan has proposed that demilitarisation of the region, withdrawal of forces and authentication proceed simultaneously.

India has 5 options:
1. To maintain the status quo.
2. Mutual withdrawal of forces without delineation and authentication but is both undesirable and unlikely
3. Mutual withdrawal from the Siachen region after delineation and authentication. It is a desirable option for India but Pakistan is unlikely to accept that.
4. Mutual withdrawal after jointly recording current military positions and exchanging them without prejudice to each other’s stated positions. This is perhaps the best option and takes on board India’s demand, and may not meet too much resistance from Pakistan given they agreed to it in 1992.
5. Another idealistic option would be to turn the entire Siachen region into a peace park.

6.2. INDIA’S DERADICALISATION STRATEGY TO COUNTER ISIS THREAT

Why in news?
Union Home Ministry had asked three States to draw up a comprehensive counter-strategy in the wake of attempts by international terrorist outfits to propagate jihadi ideologies.

Strategies to tackle Radicalisation:
- Formation of “extremism counselling hotline” similar to the one set up in Austria recently
- It will enable parents, teachers and friends of “vulnerable and indoctrinated” youth to seek professional help for their “deradicalization”
- Apart from this, the Indian security establishment is also looking at US’ counter-radicalization program focused on community outreach and UK’s Prevent and Channel programmes.

Few Steps by States:
Karnataka - There is proposal of modernising madrasas by
- Imparting academic knowledge as well as an understanding about what the Quran actually teaches,
- An intensive survey of mosques and madrasas, creating a detailed database and
• Offering online Islamic education.

Maharashtra - Strategy on deradicalisation

• Envisages different departments undertaking various schemes to reach out to the minority
• The Police have been told to identify and reduce any feeling of communalism within the force and
• To reach out to the minority community and win their hearts at all costs.

6.3. INTERNATIONAL FLEET REVIEW (IFR) 2016

Why in News?

• The Indian Navy conducted an International Fleet Review at Bay of Bengal off Visakhapatnam.
• Fifty-one navies sent either their ships or delegations to the IFR.
• Theme of IFR-2016 was “United through ocean”
• Culminated with Indian and foreign ships undertaking a Passage Exercise (PASSEX) in Bay of Bengal.

What is Fleet Review?

• A Naval Fleet Review is a long-standing tradition followed by navies all over the world.
• The review aims at assuring the country of the Indian Navy’s preparedness, high morale and discipline.
• It provided an opportunity to enhance mutual trust and confidence with maritime neighbours and partners by inviting their ships to participate in the review.
• The international fleet review is a reminder of India’s capabilities to help build an open, secure and prosperous Indian Ocean

Blue water Navy vis-à-vis Blue Economy:

• Its geographical location on major shipping routes of the Indian Ocean gives it a pivotal maritime role.
• The Indian Navy plays a central role in ensuring the safety of the vital sea lines of communication across the ocean.
• India’s economic and strategic calculus acquired a maritime dimension
• More than 40 per cent of India’s current GDP is linked to international trade. And most of this trade is sea-borne.
• It also recognizes the importance of assisting smaller nations in managing their exclusive economic zones and responding to natural disasters.
• A robust blue water navy acts as force multiplier in diplomacy and blue economy.

Way forward:

• India needs a new national military strategy that takes a fresh look at the changing nature of threats and the balance between the continental and maritime.
• Our country had a credible record of cooperative initiatives to promote stability of the oceans by realigning its maritime strategy
• There is need of vigorous debate on the potential options that the navy can generate in deterring the land-based threats from China and Pakistan.
• The political and naval leaderships have to acknowledge the urgent need to cultivate special maritime relationships with key partners amid the altering regional balance of power in the Indian Ocean
• India will also have to move away from the lone-ranger mentality of the past towards developing “minilateral” and multilateral mechanisms for maritime security cooperation.
• The seas can be used to promote peace, cooperation and friendship as also develop partnerships for a secure maritime future as the blue ‘commons’ link one another, true to the theme of IFR — United Through Oceans.
6.4. COUNTER-TERRORISM CONFERENCE 2016

Why in news?

- The President of India inaugurated the 2nd edition of Counter-Terrorism Conference - 2016 at Jaipur
- Theme of the conference was “Tackling Global Terror Outfits”
- The conference brings together field operatives, senior officials from security agencies, policy makers, scholars and government leaders involved in counterterrorism operations, planning and sensitization.
- Organised by India Foundation, an NGO.

What was discussed?

- The need to take a resolve not to justify terrorist means whatever be the reason or the source.
- Important aspect of counter-terrorism strategy is capacity building to prevent attacks through intelligence collection and collation, development of technological capabilities, raising of Special Forces and enactment of special laws
- Counter-terrorism effort has to be more pointed, more focused, more objective and more professional
- Effort should be made to intensify the earlier evolved mechanisms to counter terrorism
- We are a country with multilingual, multi-religious and multi-ethnic society. These conditions are actively utilized by anti-national elements to spread terrorism.

Political management of terrorism:

- Political management incorporates addressing issues of ideology and
- Dealing with countries that sponsor or support terrorism

Cyberspace- an enabler of terrorism:

- There is new threat posed by the 'Do it Yourself' breed of terrorists who gain information in bomb-making and suicide attacks over the internet to perpetrate terror acts
- Prowling illegal information and activities in the cyberspace is acting as an "enabler" for 'Lone Wolf attacks' across the globe.

Role of civil society in tackling terrorism:

- Civil society is both the frontier and the battleground that has to be protected and saved.
- Fragmentation of civil society leads to radicalization, rather than its consolidation, which thereafter leads to competitive violence.
- Think tanks and civil society organizations have a larger role to play in the process of social integration.
- Everybody should be equally sensitised and need to be prepared for counter-terrorism methods.

Multidimensional and multilateral effort is needed to counter terrorism:

- We need to fight this scourge at all levels
- E.g. - shaping of public opinion, society building and evolving a concerted and integrated counter-terrorism policy premised on international cooperation in intelligence sharing.
- Fostering greater international cooperation to fight terrorism, as so-called victims of terror do not cooperate on fighting terror on international stage.
6.5. ACTION PLAN FOR PREVENTING VIOLENT EXTREMISM

Why In news?
- UN under UNSCR 1267 committee Proposed draft plan to recommend each Member State develop its own national action plan to prevent violent extremism.
- Draft proposed 7 broad areas which needs focused attention.

Indian Perspective:
- India has criticised the UN’s proposed plan to combat violent extremism, describing it insufficient.
- The main differences revolved around issues like “foreign occupation” and “right to self determination”
- Lack of clarity on an agreed definition of “terrorism” and “violent extremism”.
- Action plan is “full of prescriptions” to member state but low on what the UN will do in terms of assisting member-states.
- There is “lack of single contact point” to assist Member States seeking the Organization’s help.
- Underlined the need for greater international cooperation to deal with this growing “global threat”
- India pitched that violent extremists are subject to the full force of law
- India is of view that Terrorism spreading at global level, governments are thinking at a national, and even departmental level.

The UNSCR 1267 committee
- The key UN panel that decides on ‘listing’ of terrorists,
- Related to travel ban, asset freeze and other sanctions against the listed individuals.
7. ECOLOGY AND ENVIRONMENT

7.1. GM MUSTARD

Why in news?
The Genetic Engineering Appraisal Committee (GEAC), of the ministry of environment and forests has deferred a decision on allowing commercial cultivation of Mustard DMH-11.

What is GM Mustard?
- Mustard DMH-11 (Dhara Mustard Hybrid 11), a genetically modified (GM) crop, is a transgenic crop developed by Centre for Genetic Manipulation of Crop Plants at Delhi University and partly funded by the National Dairy Development Board.
- The resulting GM mustard, it is claimed, gives 25-30 per cent more yield than the best varieties such as ‘Varuna’ currently grown in the country.

Arguments in support of GM mustard:
- Research needed for long term food security issues amidst new pests infestation, effects of climate change and growing demand.
- In 2014-15, India imported 14.5 million tonnes of edible oils valued at $10.5 billion. Therefore, the need to raise domestic crop yields and cut dependence on imports.
- Country’s cotton production has gone up more than 2½ times since Bt hybrids were first planted in 2002. Also, no adverse effects on human have reported (consumption of cotton seed oil, etc).
- We import edible oil from GM crop using countries.
- Delhi University’s CGMCP has pledged to distribute the GM mustard for free.

Arguments against GM MUSTARD:
- Long term adverse effects cannot be ascertained without proper research.
- The entire process is seen as a political one where the government pays heed to different lobbyists (opaque functioning of GEAC).
- The farmers also oppose the ‘seed monopolies’, which are causing price distortion and not adhering to government guidelines on price control in case of Bt Cotton. They are also not being made accountable for the losses due to pest attacks like the recent pink bollworm.
- Organic is a more sustainable option, as could be seen from the growing demand for such food.
- New varieties are input intensive. (water, fertilizer, etc)

Supreme Court’s view:
- The Supreme Court has sought an explanation from the central government on its proposed move to introduce herbicide resistant mustard, cotton and corn in the face of a court-imposed ban on their introduction.
- The top court had in a series of orders passed in February 2007, April 2008 and August 2008 sought to restrain both small-scale and large-scale field trials in any food crops as well as their commercial introduction in the country.

Technology behind GM mustard
- It has been created using GM technology (alteration of DNA), involving incorporation of “Barnase” gene isolated from a soil bacterium called Bacillus amyloliquefaciens.
- It codes for a protein that impairs pollen production and renders the plant into which it has been introduced male-sterile.
- This male-sterile plant is crossed with a fertile parental line, containing, in turn, another gene, “Barstar”, from the same bacterium that blocks the action of the “Barnase” gene.
- The resultant progeny, having both the foreign genes, is a hybrid mustard plant that is not only high-yielding, but also fertile and capable of producing seed/grain.
Way Forward:

- Transparency of data and functioning - is crucial for public and scientific confidence in the GEAC’s decision-making process.
- An independent and autonomous regulator which is insulated against pulls and pressures (envisioned in the lapsed Biotechnology Regulatory Authority of India Bill)
- A legislation to fix the liability of the seed monopoly is also desired.

Previous Year Prelims Question:
"Other than resistance to pests, what are the prospects for which genetically engineered plants have been created? (2012)

1. To enable them to withstand drought.
2. To increase the nutritive value of the produce.
3. To enable them to grow and do photosynthesis in spaceships and space stations.
4. To increase their shelf life.

Select the correct answer using the codes given below:
(a) 1 and 2 only    (b) 3 and 4 only
(c) 1, 2 and 4 only (d) 1, 2, 3 and 4"

Answer: (d)

Previous Year Mains Question:
The human population is slated to grow to 9 billion by 2050. In this context, many scientists predict that plant genomics would play a critical role in keeping out hunger and preserving the environment. Explain.

7.2. WETLAND MANAGEMENT IN INDIA

Why in News?

- The Union government seeks to revisit the existing regulatory framework on wetlands across the country in a bid to enable a greater role and ownership by State governments in their management.

About the Management Framework:

- Earlier the Ministry of Environment and Forests was implementing two separate Centrally Sponsored Schemes (CSS), namely the National Wetlands Conservation Programme (NWCP) and the National Lake Conservation Plan (NLCP). This was later merged into a single scheme called National Plan for Conservation of Aquatic Eco-systems (NPCA).
- Under this scheme a central policy towards the conservation of wetlands is laid down, the programmes are monitored and an inventory of the wetlands is prepared.
- While the conservation and management of wetlands rests with the state governments, their plans are approved by the central government.

Issues in the Existing Framework:

- Presently, only notified wetlands are given protection. Small wetlands get ignored in the process.
- The process of notification is initiated by the State government. So no avenue is available to the local people or bodies who are the major stakeholders.
- No data bank is available on wetlands except on the Ramsar sites. Without data the extent of wetlands is not ascertained and thus encroachment becomes easier.
- The Municipal bodies that are currently responsible for implementation of the rules related to wetlands lack technical expertise to identify a wetland.
Way Forward:

- Involvement of town and country planning board to identify a wetland
- More role to locals including the fishing community, farming and pastoral community must be given. They have experience as well as interest in the management of wetlands.
- Equipping Municipal Corporations with technology.

7.3. NASA’S CORAL CAMPAIGN

Need for a survey:

- Often called ‘rainforests of the sea’ Coral reefs are one of the most important and diverse ecosystems of the world.
- They are, however, very fragile and are under threat from climate change, ocean acidification, improper fishing practices, agricultural run-off, oil spilling etc. Thus, they are getting degraded at a fast rate.
- However, very little of world’s reef area has been studied scientifically.
- Virtually all measurements have been made by expensive, labour-intensive diving expeditions that cover only a few reefs.
- Thus, it is important to estimate the extent of damage to them so that the gravity of the problem is understood and concrete steps be taken towards their protection.

Coral Project:

- NASA has embarked on an air-borne three-year field experiment called the Coral Reef Airborne Laboratory (CORAL), which aims to survey the conditions of the major reefs of the world through remote-sensing.
- It will survey the condition of entire reef systems in Hawaii, Palau, the Mariana Islands and Australia.
- CORAL will involve the aerial deployment of a spectrometer called PRISM (Portable Remote Imaging Spectrometer) which will use optical data, underwater photographs and reef primary productivity data for analysis.

Importance of Coral Reefs:

- Protect shorelines by absorbing the wave energy. The survival of many island is dependent on them
- Controlling the CO2 in the ocean water
- Importance for marine ecology
- Best breeding ground for fishes
- Eco-tourism

UPSC 2012 Prelims

The acidification of oceans is increasing. Why is this phenomenon a cause of concern:
1. The growth and survival of calcareous phytoplankton will be adversely affected.
2. The growth and survival of coral reefs will be adversely affected.
3. The survival of some animals that have phytoplanktonic larvae will be adversely affected.
4. The cloud seeding and formation of clouds will be adversely affected.

Which of the statements given above is/are correct?
(a) 1, 2 and 3 only  (b) 2 only  (c) 1 and 3 only  (d) 1, 2, 3 and 4
7.4. JAL MANTHAN-2

What is Jal Manthan?

- It is an event organized by Ministry of Water Resources, River Development & Ganga Rejuvenation to dwell on issues of optimal use of water resources and accordingly refine the policies.
- It is marked by the participation of the union and state ministers of related ministries/departments, senior officers of government and other stakeholders like representatives of NGOs and eminent water experts.
- The first Jal Manthan happened in November 2014. Its second edition was recently organized.

Highlights Jal Manthan-2:

- Its theme was ‘Integrated Approach for Sustainable Water Management’
- Mission Kakatiya: Helped in raising water levels in Telangana by restoring tanks and water bodies.
- Setting up more reverse osmosis plants to address the issue of increasing levels of arsenic and fluoride in the ground water.
- Need for a National law on water
  a) ‘Water’ broadly falls in state list. There are more than 300 state laws on water. But they do not address the present concerns in a holistic manner.
  b) Considering its critical importance in national development, water needs to be managed with a national perspective based on the acceptance of a few common fundamental principles.
  c) The move also finds support with the 12th five year plan document and the Public Accounts Committee report in 2014-15.
  d) However, this has been opposed by most of the states. Further, neither of commissions on Center-state relations namely the Sarkaria Commission and Punchhi Commission supports it.
- Lastly, the formulation of a River Basin Management law was also considered.

7.5. URBAN SOLID WASTE MANAGEMENT

Why in News?
The Deonar landfill in Mumbai recently caught fire which lasted for days causing severe hardships for the locals. The landfill has been in operation for around 90 years which is much beyond its expiry date.

Management System in India:

- The rules and stipulations are laid down by the Central government under the Environmental Protection Act, 1986
- The Central Pollution Control Board and State Board monitor the compliance of the standards with respect to air quality, water quality etc.
- The management of the waste rests with the respective Municipal Corporations.
  a) They receive construction debris, household waste, waste from public bins and other kinds of refuse
  b) While in some cities the Municipal Corporations undertake all the activities, in others like Chennai and Bengaluru the work of collection and segregation is given to private contractors.

As per World Bank urban solid waste management is the process of collecting, treating and disposing of solid wastes generated by all urban population groups in an environmentally and socially satisfactory manner using the most economical means available.
Issues:

- Segregation is not done at source
- **Unorganized segregation facility**: Ideally more than 50% of the waste could be segregated and composted at the starting stage. After recycling the left over only 10-15% should be left for dumping at the landfills. However, this is not done so in Indian cities.
- **Issues with Landfill management**:
  a) Violations of rules with respect to the scientific requirements for the location of a landfill and the mandatory security-set up like compound walls, CCTV cameras, fire-fighting equipment and water tanks, and regularization of rag pickers.
  b) Occasional fires drawing on air quality and health. (due to methane production)
  c) Many Landfills have been functioning beyond the stipulated timeline.
  d) With the expansion of cities old land fill need to be reclaimed and new sites should be identified.
  e) The demand for alternate sites gets entangled in the tussle between the Municipal Corporations and the State governments as the matter rests with the latter.

- **Processing Facility**
  a) The composting and waste to energy plants run at under-capacity.
  b) Many of the new projects for garbage processing facility are stuck
  c) Financial issues
  d) The facilities of composting of wet waste is not present everywhere

Suggestions:

- An integrated waste management system is required.
- Segregation of waste from houses itself. This should be targeted from sociological and cultural angles for an attitudinal change.
- Strict actions against Municipal Corporations for untreated waste disposal and mismanagement of landfills.
- Standard protocols for landfill management to prevent accidents.
- Integration of workers into waste management with training, strict rules, safety equipments etc
- More cooperation between the municipal corporations and state government with respect to clearing projects for waste treatment plants and alternate landfill sites is needed.
- The work of segregation could be given to private contractors. The challenge is to get enough private contractors on board to take up waste handling.

Recent steps:

- Mandating all power distribution companies to buy electricity from power plants fueled by solid waste
- Mandating all private fertilizer companies to buy compost that is extracted from municipal solid waste.
- There is a provision of penalty if the companies violate the directions.

Significance of the step:

- **Alternate energy**: A step towards realizing Center’s aim of generating 700 megawatts of electricity from solid waste-run plants in the next five years.
- **Effective disposal of solid waste.** Every day about 1.68 lakh ton of solid waste is collected across the country.
- **Boost to the defunct waste-to-energy plants and compost producing plants.** It will also give incentive for setting up of more such plants in the country.
- **Breaking the monopoly of urea producing companies**

Thus, this is a significant and creative step towards turning the mounting waste into a national asset.
7.6. AIR POLLUTION IN INDIAN CITIES

Why in News?

- A recent study by Greenpeace shows that India has overtaken China’s air pollution levels and that the average particulate matter exposure for Indians was even higher than that for Chinese.
- This is particularly high for states along the Punjab to West Bengal corridor.
- In 2005, India’s pollution, though serious, was much lower than eastern China’s.

Strong measures needed:

- Need to put pressure on policymakers and the polluters by improving the functioning of Air Quality Index
- Need to expand coverage from the present 23 cities to all agglomerates with a significant population and economic activity.
- They must be mandated to provide full and regular information within a given time-frame.
- Data must be put in open format to enable multiple channels of dissemination including novel methods like mobile apps.
- An action plan when the quality for air is bad. In China, for instance drastic measures like shutting down of schools, limiting production from factories etc. are taken when air quality goes severely bad.

Measures against vehicular pollution:

- Odd-even policy - being practiced in Delhi.
- Increasing cost of diesel vehicles as proposed by Budget 2016-17, NGT’s direction of banning entry of diesel vehicles older than 10 years, ban on sale of heavy diesel private vehicles.
- Implementation of BS-VI announced by government.
- New measures like Congestion charges, license quota system, registration capping, parking charges, staggered working hours etc. should also be considered.
- Better public transport system and urban planning
- Construction dust and demolition activity control.
  a) Building tarpaulin around area of construction
  b) Covering stored as well as moving construction material
  c) Masks to workers and sprinklers at site

7.7. COMPENSATORY AFFORESTATION FUND (CAF) BILL 2015

Why in News:

- Recently, the Departmental-related Parliamentary Standing Committee on Science & Technology, Environment & Forests held extensive discussions in Goa with representatives of NGO’s/civil society organizations, experts and central and state Government representatives on the CAF Bill, 2015.

About Campa:

- Compensatory afforestation is the process of planting trees to replenish diversion of forest land for non-forest use.
- The money in CAF is collected from the companies and people to whom the forest land is diverted.
- The Compensatory Afforestation Fund Bill 2015 seeks to provide an institutional framework for this.
Key issues highlighted:

- Provisions to be made for providing incentives to persons who are displaced or relocated elsewhere from eco sensitive zone.
- Compensatory Afforestation Fund Management and Planning Authority (CAMPA) funds should be permitted to be used for acquiring lands in eco sensitive areas in order to overcome loss of forests and native species plants should be selected so that ecology of the area is maintained.
- Need for people’s participation at various stages.

Other issues with CAF bill 2015:

- Lack of planning and implementation capacity with the state forest department as per a 2013 CAG report.
- Procuring land for compensatory afforestation is difficult as land is a limited resource, and is required for multiple purposes, such as agriculture, industry, etc. This is compounded by unclear land titles, and difficulties in complying with procedures for land use.
- The compensatory forests are low in quality and lacks in richness of biodiversity of a natural forest.

7.8. JAL KRANTI ABHIYAAN:

- Jal Kranti Abhiyaan is a program of central government for creating awareness on aspects of water security and water conservation.
- Under Jal Kranti Abhiyan two villages, preferably facing acute water scarcity are being selected as “Jal Grams”.
- An integrated water security plan, water conservation, water management and allied activities are being planned for these villages by Panchayat level committee to ensure optimum and sustainable utilization of water.
- From each Jal Grams, one elected representative of Panchayat and one representative of the water users association are being identified as Jal Mitra/Neer Nari and training is being imparted to them to create mass awareness about issue pertaining to water as well as providing necessary guidance in tackling water supply related routine issues.
- A card known as Sujalam Card (with the logo “Water Saved, Water Produced) is being prepared for every Jal gram which would provide the yearly status/information on availability of water for the village from all sources.
- Central Water Commission (CWC) and Central Ground Water Board (CGWB) are the nodal agencies for implementation.

7.9. KUDREMHUK NATIONAL PARK

Why in News?

- The biodiversity of Kudremukh was earlier threatened by a gigantic strip mining operation called the Kudremukh Iron Ore Company Limited (KIOCL).
- But the Supreme Court ordered the closure of the mine by the end of 2005 and an eco-restoration plan for the mine-damaged area.
• It is, however, reported that KIOCL is continuing to encroach upon the land and also runs an eco-tourism resort in the heart of the park. This is in violation of the SC’s directives.

Problem with Resorts in Protected Areas:
• It will entail development of infrastructure such as approach roads, electrical lines, water and sewage lines, buildings, and swimming pools and the like.
• Tourism results in resource consumption, waste generation, vehicular traffic, pollution and other disturbances — all of which pose a chronic threat to the ecological integrity of the park.
• The SC had earlier insisted that all tourism infrastructures be moved out of national parks and sanctuaries that constitute tiger reserves within the next five years. In many areas, these are now being shifted out.

About Kundermukh:
• Kudremukh national park is located in Western Ghats and is part of the world’s 38 ‘hottest hotspots’ of biological diversity.
• It is named after the Kudremukh mountain range in Karnataka.
• Kuduremukh is Karnataka’s 3rd highest peak after Mullayangiri and Baba Budangiri.
• The park is home to unique, threatened and endangered biodiversity including lion-tailed macaques, tigers, Malabar civets and great pied hornbills.
• Important South Indian rivers Tunga, bhadra and Netravati originate from the heart of this park.

UPSC PRELIMS 2013
Q. Consider the following pairs:

<table>
<thead>
<tr>
<th>National Park</th>
<th>River flowing through the Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Corbett National Park</td>
<td>Ganga</td>
</tr>
<tr>
<td>2. Kaziranga National Park</td>
<td>Manas</td>
</tr>
<tr>
<td>3. Silent Valley National Park</td>
<td>Kaveri</td>
</tr>
</tbody>
</table>

Which of the above pairs is/are correctly matched?
(a) 1 and 2  (b) 3 only  (c) 1 and 3  (d) None
8. CULTURE

8.1. NADA KUSTI

- Nada Kusti has made it to the cover page of an international publication, 'Beyond the Body', with 183 black-and-white pictures by renowned Polish photographer Tomasz Gudzowaty that document traditional games that are fading into oblivion.
- It is a traditional form of wrestling, deep rooted in the people of Mysore.
- A sport that has had royal patronage since early 17th Century, Nada Kusti is very popular among those from the lower middle class and rural areas.
- The Indian form of wrestling flourished in Mysore producing classic wrestlers such as Koppal Basavaiah and Channaboranna, who made a mark in the international arena too.
- Today, the sport is no more than a form of rural entertainment and is largely confined to the Dasara festivities.

8.2. GANGA SANSKRITI YATRA

- Ganga Sanskriti Yatra is a festival is being organized from Gangotri to Gangasagar in February-March.
- The objective is to showcase and discover the cultural diversity and heritage of Ganga river basin.
- To spread necessary awareness to the masses about safeguarding and rejuvenating the Ganga.
- It is also pursuing idea of cultural exchange. In view of this, the yatra is divided into part, the central point being Varanasi. The art forms from confluence to Varanasi will be presented in the lower part.
- During the Yatra, a survey and documentation on the art forms and cultural heritage of Ganga will be published at the commencement of the series.
- The main concentration of the festival is to present art forms of Ganga basin which are deeply associated with the river, including Folk songs, Folk dances, Folk Theatre, Dance Drama, documentary/ Films Shows, Street Plays, kavi sammelan, photography exhibitions, film shows, etc.

8.3. RUKMANI DEVI ARUNDALE

Why in News?

- Search engine giant Google celebrated the 112nd birth anniversary of Rukmini Devi Arundale through a doodle.
- It featured a depiction of her in traditional dance attire with flowers in her hair holding up a mudra.

Who was Rukmani Devi Arundale?

- She was an theosophist, dancer and choreographer of Bharatnatyam, and an activist for animal rights.
- She is considered the most important revivalist in the Indian classical dance form of Bharatnatyam from its original 'sadhir' style, prevalent amongst the temple dancers, Devadasis, she also worked for the re-establishment of traditional Indian arts and crafts.
- She was awarded the Padma Bhushan in 1956 and Sangeet Natak Akademi Fellowship in 1967.
- Also an institution-builder who built a public cultural and educational centre known as Kalakshetra.
8.4. MÜZİRIS HERITAGE PROJECT

- President inaugurated the Muziris Heritage Project being implemented by the Tourism Department of the Government of Kerala, with the support of the Ministry of Tourism, Government of India.
- The Muziris Heritage Project, which was initiated six years ago, is an ambitious project comprising the
  - development works of Chennamangalam palaces,
  - Cheraman Parambu, Synagogue and waterfront at North Paravur;
  - a performance centre at Gothuruthu;
  - a Museum at Pallipuram
- The project also envisages the conservation of archaeological monuments within 125 square kilometres spread across Thrissur and Ernakulam districts.
- Muziris was a large port of ancient times on West Coast of Kerala, trading everything from precious stones to spices.
- Muziris was the doorway for cultures, religions and races into India. Large ships of ocean traders frequented it from across the world, including Arabs, Egyptians, Greeks, Romans and Chinese.
- It is believed that a devastating flood that changed the course of the Periyar River or an earthquake in the 14th century led to the decline of Muziris.
- Next phase of the project is the ‘Spice Route Initiative’, which will explore the international connections and linkages that the Malabar Coast had with many parts of the world.
- This phase is to be implemented with the support of UNESCO and United Nations World Tourism Organization.
9. ALSO IN NEWS

9.1. TRAI RULING IN FAVOUR OF NET NEUTRALITY

- The Telecom Regulatory Authority of India (TRAI) barred telecom service providers from charging differential rates for data services.
- It has backed Net Neutrality by referring to ISP License agreement which reads, “The subscriber shall have unrestricted access to all the content available on Internet except for such content which is restricted by the Licensort/designated authority under Law.”
- This effectively prohibits Facebook’s Free Basics and Airtel Zero platform in their current form.
- Data packs that offer unlimited access to a certain type of app or service, like WhatsApp or Facebook, for a small fee will also become illegal. People on existing plans of the kind can continue for a maximum of six months.
- TRAI said a fine of Rs. 50,000 would be levied per day, subject to a maximum of Rs. 50 lakh, for any violation of these regulations.
- An exemption has been made for offering emergency services. The order says that in a situation of public calamity a TSP (service providers) can introduce reduced tariff for accessing or providing emergency services.
- TRAI has rejected the argument that differential pricing could help increase Internet penetration in India.

9.2. ELECTRIC PROPULSION SYSTEM

- The Indian Space Research Organisation (ISRO) plans to use electric propulsion system on satellites for station keeping and orbital manoeuvre in two years.
- Electrically powered spacecraft propulsion system uses electrical energy to change the velocity of a spacecraft.
- While electric propulsion isn’t as powerful as chemical propellants when it comes to producing raw thrust, it can be up to 1,000 times more efficient than chemical propellant, which is why it’s suitable for long-range or long-duration space missions.
- Due to its high efficiency, with enough time, a constant emission of ions will also enable spacecraft to reach higher speeds than a chemical propellant.

9.3. GENETICALLY MODIFIED MOSQUITOES

- In an effort to curb the spread of the Zika virus, a UK-based company Intrexon Corporation has partnered up with Brazilian authorities to introduce genetically modified sterile mosquitoes into the wild to reduce the population and the threat of the virus spreading to humans.
- Sterile genetically engineered mosquitoes are introduced into the highly dense mosquito-infested area to curb their populations and prevent the disease from spreading.
- Once introduced the genetically modified male mosquitoes will seek out female mosquitoes in the wild to mate with them.
- The result of such mating will result in no offspring, and that will eventually reduce the entire mosquito population in the area, drastically reducing their threat to humans.
- It has been successfully tested in the northern Australian city of Cairns is to block dengue transmission to humans.

Concerns:

- There is ecological impact of eliminating a species using genetic modification.
Some experts raised the question of whether there would be an empty ecological niche left that could be filled in by other species. Removing some species could open a niche for others to occupy, and the result of that change are hard to predict.

There are other technical, regulatory and political challenges will have to be crossed. Importantly, people who live in the communities where modified mosquitoes will be deployed must also be convinced that the benefits significantly outweigh the risks.

9.4. VPM 1002

- A potent vaccine against tuberculosis is getting readied at the Pune-based Serum Institute of India Limited.
- The institute started a ‘Phase 2b’ clinical trial in neonates in South Africa late last year using a novel, recombinant BCG (bacillus Calmette-Guérin) vaccine. A ‘Phase III’ trial involving newborns will begin in India once ‘Phase 2b’ ends.
- The new TB vaccine (VPM1002) is more powerful as it contains a gene which makes it easier for the vaccine to be better recognized by cells of the immune system.
- The recombinant BCG vaccine is intended to protect children and possibly adults against drug-sensitive and drug-resistant TB. In comparison, the classical BCG vaccine can only protect against severe forms of the disease in children but cannot prevent pulmonary TB in all age groups, including children.
- The recombinant BCG vaccine has also been found to be superior safety-wise.

9.5. EYERISS

- A team of US researchers from Massachusetts Institute of Technology (MIT) has built an energy-friendly chip.
- It can perform powerful artificial intelligence (AI) tasks, enabling future mobile devices to implement “neural networks” modelled on the human brain.
- It is 10 times as efficient as a mobile GPU (Graphics Processing Unit) so it could enable mobile devices to run powerful AI algorithms locally rather than uploading data to the Internet for processing.

9.6. SEISMIC MICROZONATION REPORT

- Seismic Microzonation reports for Delhi and Kolkata have been released by Union Minister for Science & Technology and Earth Sciences, in New Delhi.
- In order to minimize the damage of natural calamities like earthquake, microzonation is a measure where the emphasis on the impact of earthquake on the habitat is given.
- These would help in designing of safe structures to reduce loss of human life by
  - Proper assessment of Seismic Hazard
  - Implementation of safe building construction codes
  - Adopting appropriate land use planning
- National Capital Territory (NCT) Delhi is located in Seismic zone IV of the macro seismic zoning map of the country.
- Kolkata is placed at the border of Seismic Zone III and IV, necessitating systematic assessment of seismic hazard, vulnerability and risk.

**Seismic Microzonation** is defined as the process of subdividing a potential seismic or earthquake prone area into zones with respect to geological, seismological, hydrological and geotechnical site characteristics.
9.7. 47TH CONFERENCE OF GOVERNORS

- A 2-day conference of all the Governors and Lt. Governors of the states and Union territories was held at Rashtrapati Bhavan.

Key points stated by the President on the Role of Governors:

- Governors have been charged with an onerous responsibility - to preserve, protect and defend the Constitution. It is, therefore, imperative that all their actions are within the framework of the Constitution and conform to the highest ideals enshrined in this living document.
- As holders of high offices they must not only be fair but also be seen to be fair.
- The President said strong monitoring, rigorous follow-up, and validation of progress are essential for the success of the Swachh Bharat Mission. Governors, as the live-link between the centre and the states, can catalyze initiatives.
- Governors can play a catalyzing role in the efforts towards environmental protection.
- Governors may take up smart solutions in their Raj Bhavans which can serve as technology demonstrators.
- They may also ask the universities to make use of the Unnat Bharat Abhiyaan for developing smart villages.
- Governors can also sensitize states/ UTs about adopting a well-knit strategy to achieve the objectives of the Make-in-India programme.
- Governors of eastern states, especially the North Eastern states, should become active participants of the Government’s ‘Act East’ policy.

9.8. SUPREME COURT: USE OF CURFEW POWER

Why in News?

- The Supreme Court agreed with a lower court decision that the State can use its curfew powers to block Internet access on personal mobile phones if there is apprehension that a public agitation can turn aggressive and disturb public tranquility.
- In September 2015 Gujarat High Court upheld that a clampdown on mobile Internet access under Section 144 of the Criminal Procedure Code (CrPC) during the Patidar agitation as only “minimal restriction”.
- Court also opined that it is not a violation of free speech under Article 19 of the constitution.
- Section 144 of the Criminal Procedure Code (CrPC) of 1973, empowers a magistrate to prohibit an assembly of more than ten people in an area.
- According to sections 141-149 of the Indian Penal Code (IPC), the maximum punishment for engaging in rioting is rigorous imprisonment for 3 years and/or fine.
- Every member of an unlawful assembly can be held responsible for a crime committed by the group.
- Obstructing an officer trying to disperse an unlawful assembly may attract further punishment.

9.9. REGIONAL BENCHES OF SC

Why in News?

- Supreme Court admitted a petition for setting up a National Court of Appeal with regional benches (in Chennai, Mumbai and Kolkata) to act as the final courts of justice in criminal and civil cases.
Need

- There are nearly 60,000-odd cases pending in the top court due to appeals arising out of litigations in the high courts.
- People go through difficulties, both physical and financial, because they have to travel to New Delhi to file appeals in the SC.
- The geographical proximity and financial status of citizens in the society are vital factors for every citizen to have access to this court.

Way Forward:

- Division of the Supreme Court into a ‘Constitutional Division’ and a ‘Legal Division’ can be done.
- Principal Constitution Bench can be in Delhi but four regional Benches can be created to hear appeals on High Court orders.
- Creation of a National Court of Appeal that will have four ‘Cassation Benches’ for the adjudication of non-constitutional matters.

9.10. SECTION 295A OF IPC

- Recently, comedian Kiku Sharda was arrested for acting out a spoof on godman Gurmeet Ram Rahim Singh.
- In past also Section 295A has been used at various occasions. It was also used to issue arrest warrants to All India Bakchod, Karan Johar, Ranveer Singh and Arjun Kapoor in the ‘AIB Roast controversy’.
- Section 295 of Indian Penal Code incriminates any act that outrages the religious feelings or sentiments of others.
- The IPC provision is seen as a tool in the hands of the ruling government to curb dissent.
- It is also being perceived as a tool to promote their political cause by pleasing a certain section of community at the cost of others.

Way forward:

The real issue is not the provision itself but its misapplication. The provision clearly states the requirement of ‘malice’ or ‘bad intention’ on the part of the perpetrator. There is a need to read down the provision and give clear guidelines to the police for its application. Misapplication should be strictly dealt with.

9.11. AMENDMENT: DELIMINATION ACT & RPA, 1950

Why in News?

- The Union Cabinet has given its approval to amend section 11 of the Delimitation Act, 2002 and section 9 of the Representation of the People Act, 1950.
- It will enable Election Commission to carry out limited delimitation of Assembly and Parliamentary Constituencies in the Cooch Behar District of West Bengal consequent upon the exchange of 51 Bangladeshi enclaves and 111 Indian enclaves respectively between India and Bangladesh.
This is in pursuance of the Constitution (One Hundredth Amendment) Act, 2015 and also allows for introduction of a Bill, namely, the Election Laws (Amendment) Bill, 2016 in Parliament.

**Delimitation Act**
- Under Article 82 of the Constitution, the Parliament by law enacts a Delimitation Act after every census.
- After coming into force commencement of the Act, the Central Government constitutes a Delimitation Commission.
- This Delimitation Commission demarcates the boundaries of the Parliamentary Constituencies as per provisions of the Delimitation Act.
- The present delimitation of constituencies has been done on the basis of 2001 census figures under the provisions of Delimitation Act, 2002.

### 9.12. MANUAL FOR JUVENILE OFFENDERS

**Why in News?**
- The Supreme Court has directed the Ministry of Women and Child Development to prepare a manual exclusively for juvenile offenders in custody under the new Juvenile Justice (Care and Protection of Children) Act, 2015.
- It has also said that the new manual should be based on the Model Prison Manual which is being prepared by the Union Home Ministry for adult prisoners.
- Ministry is also advised to take into consideration the living conditions and other issues pertaining to juveniles who are in Observation Homes or Special Homes or Places of Safety.

**Juvenile Justice (Care and Protection of Children) Act, 2015:**
- The JJ Act, 2015 provides for strengthened provisions for both children in need of care and protection and children in conflict with law.
- If a person between the ages 16-18 have committed a major crime (7 years or more punishment) then he will be tried as an adult.
- A District Juvenile Justice Board consisting of 1 judicial magistrate and 2 social workers, will be set up to examine the case and determine whether to try the accused as juvenile or as an adult.
- The Juvenile Justice Board is given the option to transfer cases of heinous offences by such children to a Children’s Court (Court of Session) after conducting preliminary assessment.

### 9.13 BETI BACHAO BETI PADHAO SCHEME: UPDATES

**Why in News?**
- The government has decided to expand the Beti Bachao, Beti Padhao scheme to 61 more districts from the current 100.
- Additional districts will be selected from 11 States/UT having CSR below 918.
- Based on the findings of the year-end review report of the ministry, it has been pointed out that more than 50% of the 100 districts had showed signs of improvement after the scheme’s implementation.

*Note: This scheme is covered in detail in Jan, 2015 Vision current affairs. Kindly refer the same for more details.*
9.14 PRIVILEGE MOTION

**Why in News:**
- Recently, opposition member in Lok Sabha has given a notice to move privilege motion against Human Resource Development minister.
- Notice contended that Human Resource Development minister has misled the House and the Nation on the issue of government intervention in Delhi’s JNU and the Hyderabad Central University while intervening in a debate.

**Privilege Motion:**
- It is moved by a member when he feels that a minister or any member has committed a breach of privilege of the House or one or more of its members by withholding facts of a case or by giving wrong or distorted facts.
- Privilege motion can be moved by any lawmaker/MP against anyone accused of breaching parliamentarians' privileges, their special rights and immunities.
- Its purpose is to censure the concerned minister or any other member.
- Each of the two houses, the Lok Sabha and the Rajya Sabha, has separate privilege committees, made up of their members.
- The presiding officers of the two Houses, the Speaker and the Chairperson respectively, can dismiss privilege notices, or refer them to the privilege committee, or get a sense of the House before taking a decision.

9.15 IMPLEMENTATION OF OROP

- While the scheme was announced by the central government in last budget, it is taking much time in taking its final shape.
- Recently, the government released detailed instructions and tables on its implementation. However, the notification had been rejected by ex-servicemen.
- Disagreement between the government and the ex-servicemen on certain technical details like the definition of OROP, composition of the commission for implementation etc.
- The financial burden on government exchequer which in the light of 7th Pay Commission pose bigger challenge.
- The government has shown the requisite will to pursue the justified demands of the ex-servicemen class. But, there is a need for more discussion with them so that there is meeting of minds.

9.16 UNIFORM POLICY TO COMPENSATE RAPE VICTIMS

- The Supreme Court directed all states and Union Territories to formulate a uniform scheme to provide compensation to the victims of sexual abuse and exploitation.
- Court said the authorities should look into the Victim Compensation Scheme under Section 357-A of the Criminal Procedure Code 1973 for providing compensation to the victims or dependents who have suffered loss as a result of such crime.

One Rank, One Pension (OROP) is based on two principles

1. Soldiers retiring at the same rank and after the same length of service should receive the same pension.
2. Any future increases in the rate of pension should automatically be passed on to past pensioners.
• Court directed All the States and Union Territories to take into consideration the scheme framed by the State of Goa for rape victim compensation.
• As of now all states have different compensation policies.

9.17. NORTHEAST’S FIRST SMART VILLAGE

• Barsimaluguri, village which is located about 11 km from the Indo-Bhutan border, in Baksa district has been turned into a model smart village in northeast India.
• This initiative was taken by a few individuals under the aegis of Nanda Talukdar Foundation (NTF).
• The project was funded by India Infrastructure Finance Corporation Limited.
• This village has hundred per cent toilets, solar power and pure drinking water.
• They have also focused on skill development and women participation.
• The yarn bank has been set up in the village which is being managed by the village women committee.
• To maintain the good health of villagers, several health checkup camps have been conducted in the village.

9.18. E-TOURIST VISA

• e-Tourist Visa (e-TV) facility is now extended to citizens of 37 more countries, including Austria, Czech Republic, Denmark and South Africa taking the total count of countries under the scheme to 150.
• TVoA (tourist visa on arrival), enabled by Electronic Travel Authorisation (ETA), popularly known as e-Tourist Visa scheme, was launched on November 27, 2014.

Progress till now:
• Till now the scheme has been extended to 113 countries at 16 Indian airports designated for providing e-Tourist visa service.
• Since the launch of the scheme more than 7.50 lakh visas have been issued under the scheme. At present on an average, 3,500 e-Tourist Visas are being granted daily to foreign nationals.
• According to an official estimate, during January- November of 2015, a total of 3,41,683 tourists arrived on e-Tourist Visa as compared to 24,963 during the corresponding period of previous year, registering a growth of 1268.8 percent.
• The UK accounted for 23.93 per cent share of availing e-Tourist Visa facility during November 2015, followed by the US (16.33 per cent), Russian Federation (8.17 per cent), France (7.64 per cent), Germany (5.60 per cent) and Australia (4.82 per cent).

9.19. BLUE ECONOMY

• The concept ‘Blue Economy’ was introduced by Gunter Pauli’s book, “The Blue Economy: 10 years - 100 innovations - 100 million jobs”.
• The concept is based on using “locally available” resources to shift the society from scarcity to abundance and thus achieving social inclusion and environmental sustainability.
• The blue economy encompasses in it the “green economy”, with focus on the environment, and the “ocean economy” or “coastal economy”.

The National Maritime Foundation defines the blue economy as “marine-based economic development that leads to improved human wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities”.

www.visionias.in
Blue economy seeks to achieve sustainability by:

- Cascading nutrients and energy the way ecosystems do.
- By reducing or eliminating inputs, such as energy, and eliminating waste and its cost.
- Enticing entrepreneurship and innovation.
- Emulating natural systems will mean the deployment of humans rather than machines.
- Includes ideas like eliminating air in freezing, use of food-grade ingredients as fire retardants, growing mushrooms with coffee shop waste, silk as a replacement of titanium, electricity generated by walking, etc.

9.20. RBI RELAXED FDI NORMS TO BOOST START-UPS

- All startups can now raise funds from foreign venture capital investors (FVCIs) under automatic route. Till now automatic approval was available in nine sectors only.
- To enable transfer of shares from foreign venture capital investors to other residents or non-residents.
- Delayed reporting of foreign direct investment transaction to be taken care by building a penalty structure into the regulations itself.
- To help promoters of a start-up, RBI has proposed to permit receipt of deferred consideration and enabling an escrow/indemnity arrangement.
- Regulatory changes to deal with cross-border transactions, particularly relating to the operations of start-up enterprises are also proposed to be taken.
- Other proposals under consideration for helping start-ups are - permitting start up to access ECB, issuance of innovative FDI instruments etc.
- These steps will help in speedy conclusion of deals between startups and foreign investors and improve ease of doing business.

9.21. MEZZANINE INVESTMENT

Why in news?

The government is in the process of setting up a $1.25 billion fund, backed by state-owned and private institutions, to finance renewable energy projects. This fund will make equity and mezzanine investments in renewable energy projects.

What is Mezzanine Capital/Investment?

- Mezzanine capital allows a business to obtain capital through loans without offering any collateral.
- If the business defaults on its loans, the lender can convert its loans to ownership stake by exercising warrants or options built into the deals.
- For example- Ram wants to expand his soda company. Instead of selling his shares, Ram raises money from a mezzanine investor. The lender gets a right of converting his loans into appropriate ownership stakes and sell it to other party to recover his loans should Ram fails to pay the loan.
- The advantage of Mezzanine investment is that it is available in very quick time but as this is done without much due diligence so rate of interest on such funds are typically higher.

9.22. WITHDRAWAL OF CUSTOM DUTY EXEMPTION ON 76 LIFE-SAVING DRUGS

News:

The Finance Ministry has withdrawn exemption of 76 medicines from customs duties. The list includes 10 HIV drugs and at least four cancer drugs, but haemophilia patients are likely to be the most affected by the decision.
Government’s Stand:

- It is to promote indigenous medicines. The Indian drug companies are perfectly capable of manufacturing these drugs for our domestic market.
- It is believed that the removal of duty exemption will promote Make In India.

Impact of the decision:

- It will at once make them more expensive and impact patients who are already paying a high price for such medical treatment.
- Imported active pharmaceutical ingredients (APIs) will also increase the cost of generics made locally.
- Majority of Indians meet health care costs through out-of-pocket expenditure, and any increase is bound to adversely affect them.
- Few drugs which have been removed are either not produced in India or they are not produced in sufficient quantities to meet the local demand.
- Many of the recently launched life-saving drugs which are under patents have not been provided with the custom duty exception.

9.23. BUILD-OPERATE-TRANSNFER ANNUITY MODEL - RAILWAYS

[Please refer our January 2016 and April 2015 issue for background of Annuity model]

Railway has decided to award three projects under BOT annuity model to build third line between-

- Nagpur and Wardha (both in Maharashtra),
- Kazipet (Telangana) and Balharshah (Maharashtra) and,
- Bhadrak and Nergundi (both in Odisha).

Problems with existing BOT Model:

- Under the existing public private partnership model called build-operate-transfer, the developer absorbs most of the risks—financial, operations and maintenance and revenue.
- With slowdown in the economy, existing projects struggle to service their debt.

BOT Annuity Model for Rail Projects:

- The private developer gets a revenue guarantee of 80 per cent of projected revenue at the time of bidding.
- The developer gets a full right to revenue between 80 and 120 per cent and the Indian Railways do not take any share from it.
- Only when actual revenue is above 120 per cent, the additional receipts are shared with the Indian Railways in a staggered manner, the official added.

9.24. PDS REFORMS

- The Government has achieved significant mile stones in the reforms of PDS. Almost 100% (99.9%) ration cards have been digitized across the country.
- Over 42% ration cards have been even linked with Aadhaar cards and Point of Sale Devices, to keep electronic record of allocation to the beneficiaries, have been installed in over 77,000 ration shops.
- These measures will help making PDS more transparent and leak proof.
- This is forward step towards digital India initiative.
9.25. TAX POLICY COUNCIL AND TAX POLICY RESEARCH UNIT

Following first report of Tax Administration Reforms Commission (TARC), the government has taken a decision to create Tax Policy Council (TPC) and Tax Policy Research Unit (TPRU).

Tax Policy Council headed by Union Finance Minister has been created to have :-

- Consistent and coherent approach to the issue of tax policy and for the need to have an interdisciplinary approach.
- It will look at all the research findings coming from Tax Policy Research (TPRU) Unit and
- Suggest broad policy measures for taxation and will be advisory in nature, which will help the Government in identifying key policy decisions for taxation.

Tax Policy Research Unit (TPRU):

- Till now, the two boards i.e. CBDT and CBEC used to consider tax policy and related legislations independently in the Tax Research Unit (TRU) and Tax Policy and Legislation (TPL) wings. Their recommendations lacked coherence and often reached finance minister in separate channels.
- To solve above problem, TARC recommended that Tax Council supported by a common Tax Policy and Analysis (TPA) unit should be established to cater to needs of both direct and indirect taxes.
- Considering above, the government has created a Tax Policy Research Unit (TPRU) comprising officers from the Boards as well as tax administrators, economists, and other specialists such as statisticians, tax law experts, and operation research specialists and social researchers.
- The TPRU will prepare for every tax proposal an analysis covering the following three points:-
  - The legislative intent behind the proposal, i.e., why this proposal is being framed and what is the policy objective.
  - Expected increase or decrease in tax collection through the proposal; and
  - The likely economic impact (positive or negative) through the proposal (other than the effect on tax collection).

9.26. UNIFORM SERVICES: WOMEN

- Punjab and Haryana HC held that women couldn’t be permanently barred from joining the Army Medical Corps for reason of pregnancy.
- HC concluded that forcing a choice between bearing a child and taking up employment interferes both with a woman’s reproductive rights as well as her right to employment, and that such an action has “no place in modern India”.
- The Directorate General, Armed Forces Medical Services, argued that they could not allow a woman to join if she was carrying a child on the date of joining duty — and she would have to undergo the entire process from scratch after she had given birth.

Similar Practices in other Forces:

- Forces like the Ind-Tibetan Border Police, uniformed combatant women doctors are allowed to flexibly join service after the birth of a child.
- The guidelines of the Ministry of Home Affairs also provide that
  - Women should be considered fit for reporting for duty even during pregnancy for all services which do not involve physical training.
  - While in cases of services with physical training, the vacancy should be kept reserved along with protection of seniority — and that such women should be able to join service six weeks after confinement.
9.27. INDIA’S FIRST GENDER PARK

The park is an initiative of the Social Justice Department of the Kerala government to bring together the state, academia and civil society on a common platform to address the gender issues.

Objectives of the Institution:

- To generate a space for **women development activities**, emphasizing entrepreneurship in service and cultural activities.
- To undertake **research and documentation of the history** of the role of women in every field of society of Kerala.
- To strengthen women development activities undertaken by various departments/agencies/civil society movements.
- To create an environment to **share global knowledge and experiences** in reducing gender inequalities
- It would **cover issues pertaining to all three genders** in accordance with the 2015 gender and transgender policies of the state government.

9.28. BAN ON CHILD PORNOGRAPHY

**Why in news?**

- The Supreme Court on Friday asked the central government to inform the court on how it plans to ban child pornography on the Internet.
- The question came during the hearing of a public interest litigation filed to ban pornography websites in the country.

**Apex Court’s Stand:**

- The Centre shall file affidavit to suggest ways and means to curb child pornography.
- It said that one needs to draw a distinct line between art and obscenity and child pornography cannot be justified in the name of freedom of expression.
- The **parameters regarding pornography has to be decided** and it has already held in other cases that freedom of speech and expression as envisaged under article 19 (1)(a) of the Constitution is not “absolute” and is subject to reasonable restrictions.
- It asked the Centre to seek advice from the experts and suggestions from the National Commission for Women (NCW) on banning of websites dealing with adult and child pornography.

**Government’s Stand:**

- As per Government that agencies like Interpol and the CBI are taking necessary steps to block sites that specifically deal in child pornography.
- The government has also maintained that it cannot (and will not regulate all pornography) but block only child pornography.
- It not possible to ban pornographic websites as they are not under any country's jurisdiction

**Why it is difficult to ban porn?**

- To tackle pornography, the government has usually relied on getting Internet service providers (ISPs) to block access to a particular website’s URL. This method is usually ineffective as most such websites continue to operate by simply changing their URLs.
9.29. REVAMP OF REHABILITATION SCHEME

- To liberate children, transgender and others trapped in human trafficking, begging or any such forms of forced labour, the Union government has proposed a **major revamp of the rehabilitation scheme** for rescued bonded workers, raising aid from the present Rs. 20,000 to Rs. 3 lakh.
- Also, the government has finalized a proposal to institute a three-tier rehabilitation funding scheme.
- Under this scheme rescued transgender or disabled person will get Rs. 3 lakh, women or children Rs. 2 lakh and adult men Rs. 1 lakh.
- To ensure a sustainable flow of money, a significant chunk of the rehabilitation sum will be credited to the bank accounts of the rescued persons in the form of fixed monthly deposits.
- Under the new system, the Collector will be able to keep a tab on the rescued workers as he or she will have to sign the money deposit slip every month.

9.30. SUNRISE PROJECT

- **Injecting drug users** (IDUs) continue to be the prime factor for the spread of HIV/AIDS in north-eastern region even as the government has increased medical facilities for testing and treatment.
- **Five-Year SUNRISE Project** has been launched aiming at upscaling of HIV interventions in the north-east region with special **focus on IDUs** in 20 priority districts.
- The Center for Disease Control, a US government body is supporting this programme, which will adopt innovative strategies like increasing availability of safe needle, syringes in remote areas, community based testing for HIV and pilot studies on ‘take home’ policy for opioid substitution drugs.
- **Budget for the National AIDS Control Programme has been increased by 15 percent during the current Financial Year.**
- The government has also decided to make it a Central Sector Scheme in which all the funds would be provided by the Center.

9.31. INTEGRATION OF HOMOEOPATHY/YOGA WITH NPCDCS

- Ministry of AYUSH and Ministry of Health & Family Welfare launched the pilot project ‘Integration of Homoeopathy/Yoga with National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS) in Krishna District’ at Gudivada near Amaravathi, AP.
- The program aims to aid in reduction of Non Communicable Diseases (NCDs) burden by providing primary prevention of common NCDs through an integrated approach of
  - health education (promotion of healthier life styles including yoga),
  - timely screening of population for early detection/diagnosis of NCDs and
  - Early management of NCDs through homoeopathic treatment alone or as add on to standard care.

9.32. REPORT ON ROHINGYAS COMMUNITY

**Brief of findings:**

- Rohingya crisis became the Regional issue involving countries of South and Southeast Asia.
- Around 40,000-50,000 refugees are reported to settle in India.
The Rohingyas from Bangladesh prefer the camps in Jammu, Hyderabad and Delhi for better economic opportunities. Disintegration of the “refugee family” and the accompanying trauma are major issues.

**India’s perspective:**

- At a time when refugee crisis is spreading over Europe, we may also suffer similar crisis involving the Rohingyas.
- India is not party to the 1951 Refugee Convention or its 1967 Protocol and does not have a national refugee protection framework.
- The Government of India’s approach to refugee issues results in different standards of protection and assistance among refugee groups.

**UPSC mains 2013**

How illegal trans-border migration does pose a threat to India’s security? Discuss the strategies to curb this, bring out the factors which give impetus to such migration.

### 9.33. WILFUL DEFAULTERS

- The Standing Committee on Finance recommended that state-owned banks make public the names of their respective top 30 stressed accounts involving wilful defaulters.
- This will act as a deterrent and enable banks to withstand pressure and interference from various quarters in dealing with the promoters for recoveries or sanctioning further loans.
- The committee recommended amending the RBI Act and other laws and guidelines.

**Background:**

- Willful defaulters owe PSU banks a total of Rs.64,335 crore or 21 per cent of total non-performing assets (NPA).
- The banks have “evidently failed” to notice the early signs of stress on the loans disbursed by them.
- The sharpest increase in NPAs in the banking industry was observed in mid-size corporates.
- Reports point to the concerning increase in stressed loans portfolio of the banks (nearly Rs. 6.8 lakh crore as against Rs. 5.91 lakh crore in the Sep,14).

**Other Recommendations:**

- The committee also recommended that specially-tasked committees be mandated to continually monitor the status of large loan portfolios and submit periodical reports to government and Parliament on the findings.
- Since diversion of funds by promoters to unrelated businesses and poor pre-sanction due-diligence have been cited as key reasons for bank loans turning toxic, the committee said it was of the view that forensic audits should be made mandatory for specific class of borrowers.

### 9.34. INDIAN BASMATI RICE

- According to the recent judgment passed by IPAB, basmati rice cultivated in the Indo-Gangetic Plains on the foothills of the Himalayas, covering areas of the rice grown in Punjab, Haryana, Himachal Pradesh, Delhi, Uttarakhand, Western U.P. and two districts of Jammu and Kathua, will now be issued the GI tag.
Why it is important?

- Article 22 of the TRIPS agreement says that unless a geographic indication is protected in the country of its origin, there is no obligation for other countries to extend the reciprocal protection.
- It confers legal protection and prevents misuse of a registered GI.
- Also, the GI tagging boosts exports and helps in promoting economic prosperity of the producers.

Background of GI in India:

- The Indian Parliament passed the Geographical Indications of Goods (Registration and Protection Act) in December 1999 which aimed at providing a registration and also protection of GI of the goods in India.
- This Act is administered by the Controller General of Patents, Designs and Trade Marks, who is also the Registrar of Geographical Indications.

9.35. BHARAT NET PROJECT

Why in news?

- TRAI recommended for PPP model in form of Build-Own-Operate Transfer/Build-Operate-Transfer models for roll out of Bharat Net project.
- BharatNet project aims to connect all households of India, particularly in rural areas, through broadband (2-20 Mbps) by 2017. It is a remodelled version of National Optical Fibre Network(NOOFN) started in 2011 to connect all 2,50,000 gram panchayats
- Bharat Broadband Network Limited (BBNL), a special purpose vehicle, has been set up under the telecom ministry for the establishment, management and operation of NOFN.
- BSNL, Railtel and Power Grid are executing agencies for the project in the ratio of 70:15:15.

Need for PPP:

- Rural broadband provision is prone to market failure as well as Government failure (delay in implementation of the project)
- TRAI wants to include private sector companies in not just deployment but also implementation of the optic fibre cable (OFC) network.

9.36. THE AWARE PROJECT

- The Atmospheric Radiation Measurement West Antarctic Radiation Experiment (AWARE) project is located at McMurdo station in Antarctica.
- It has been undertaken by the United States to study the influence of weather patterns in Antarctica over mid-tropics and tropics latitude.
- Antarctica contains 90 percent of the ice on Earth and could raise sea levels worldwide if it were to melt. The study is needed to improve Earth system models to predict how the climate in the region will continue to change.
Significance of Antarctica:

- **Atmospheric circulation**
  a) The temperature gradient between the equator and the poles essentially drives the atmospheric circulation in the southern hemisphere in the form of three north-south systems: the polar cell, the mid-latitude Ferrel cell and the tropical Hadley cell. These cells are dynamically linked together.
  b) Warming of Polar Regions changes the location of the boundary between the Polar and Ferrel cells. The strength of tropical circulations also changes.

- **Increasing precipitation**
  a) A change in Antarctic cloud properties that led to a warming of Antarctica weakened the Southern Hemisphere Ferrel cell, and allowed the Hadley Cell on the other side to strengthen, which in turn resulted in more rainfall due to increased latent heat release over Southern Hemisphere tropical regions.

- **Climate warming:** An expanding Hadley cell is generally expected to result from a globally warming atmosphere, so the Antarctic warming from cloud property change is a positive feedback on a warming climate.

- **Global heat sink:** Antarctica acts as a global heat sink as there is no insolation (i.e. solar radiation reaching the surface) but it loses more energy to space. Changes in this would affect global climate.

- **Wind system:** The wind system in Antarctica prevents warm air from the northern latitudes of the southern ocean from reaching the interior of eastern Antarctica which remains a cold, isolated desolate region, losing energy to space.

9.37. WASTE WATER TREATMENT IN URBAN AREAS

**Importance:**

- **To meet the water problem:** The water crisis in India is increasing at an alarming rate especially in cities. As per the 2013 CAG Report there is an annual shortage of 302 Million Cubic Meters of water in Delhi.
- **Environmental impact:** Untreated waste water pollute the streams and have adverse environmental, agricultural and health impacts
- **Problems with alternate mechanisms:** The current method of reliance on groundwater extraction is not sustainable
- In this light waste water treatment provides an interesting alternative.

**Waste water treatment in India:**

- There are two types of treatment in India- Sewage treatment & Effluent Treatment
  d) Sewage treatment: It includes treating of water which contains waste generated by human beings
  e) Effluent treatment: Includes waste generated from industrial segments
- The norms and guidelines are primarily set by Central Pollution Control Board (CPCB)

**Issues with present waste water treatment system:**

- **Low capacity:** Only around 31% of wastewater generated and that too with huge inter city variations.
- **Technological backwardness of treatment plants**
- **Non-competitive pricing:** Thus, it does not appeal to industries.
- **Treatment quality is low:** Use of treated water limited to some low-end industrial purposes like gardening, service water.
- **Distribution network is weak:** to transport treated water

**Solutions:**

- There is an urgent need to develop new and better technology for treatment
9.38. AVIATION SECURITY FORCE

**Why in news?**

- Due to recent tussle between CISF and AAI staffs in Calicut Airport
- Ministry of Civil Aviation’s proposal for a dedicated security force called the Civil Aviation Security Force for manning the security of airports.
- Aviation Security Group of the CISF is taking care of security of 53 Airports.

**Why there is need?**

- Aviation security, in contrast to general security, is a highly technical task.
- Aviation security is to be carried out as per set standards, contained in Annexure 17 to Chicago Convention of International Civil Aviation Organization (ICAO)
- Question marks over the effectiveness of the existing coordination mechanism between various agencies involved in providing security at airports.
- The post of the Commissioner of Security (Civil Aviation) under Bureau of Civil Aviation Security (BCAS) lying vacant since last 3 years.