

VISIONIAS

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CURRENT AFFAIRS JUNE 2016

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1. POLITY AND GOVERNANCE

1.1. NATIONAL CONSUMER DISPUTES REDRESSAL COMMISSION

Why in News?

- The National Consumer Disputes Redressal Commission had ordered a hospital in Mumbai to pay Rs 12,000 to a patient who had contracted HIV 20 years ago after blood transfusion.
- Based on the data revealed by The National Aids Control Organisation, in India, at least 2,234 people are reported to have been infected with HIV while getting blood transfusions in the last 17 months.

About NCDRC

- It is a quasi-judicial commission set up in 1988 under the **Consumer Protection Act of 1986**.
- The commission is headed by a sitting or retired judge of the Supreme Court of India.
- Section 21 of Consumer Protection Act, 1986 posits that the National Consumer shall have jurisdiction:
 - ✓ To entertain a complaint valued more than one crore.
 - ✓ It also has Appellate and Revisional jurisdiction from the orders of State Commissions or the District fora as the case may be.
- Section 23 of the Act provides that person aggrieved by an order of NCDRC, may Appeal to Supreme Court of India within a period of 30 days.

The Consumer Protection Act, 1986

- It is a benevolent social legislation that lays down the rights of the consumers and provides for promotion and protection of the rights of the consumers.
- The Act mandates establishment of Consumer Protection Councils at the Centre as well as in each State and District, with a view to promoting consumer awareness.
- The Central Council is headed by Union Minister In-charge of the Dept. of Consumer Affairs and the State Councils by the Minister In-charge of the Consumer Affairs in the State Governments.
- It also provides for a 3-tier structure of the National and State Commissions and District Forums for speedy resolution of consumer disputes.

1.2. PRESIDENT REJECTS THREE BILLS PASSED BY MANIPUR

Why in news?

- Recently, President Pranab Mukherjee returned three bills the Manipur Assembly had passed on August 31, 2015.
- Since last year Manipur has been experiencing various forms of agitations in connection with these bills.
- The contentious bills are the Manipur Land Reforms and Land Revenue (7th Amendment) Bill, 2015, the Manipur Shops and Establishment (2nd Amendment) Bill, 2015 and the Manipur Protection of Peoples Bill, 2015.
- Experts will now re-examine the first two bills for a “reasonable conclusion” and in the case of the third bill, legal and constitutional experts will re-examine it for a “new legislation taking into consideration all aspects of the hill and valley people of Manipur.”

Background

- Manipur merged with India on October 15, 1949. Before the merger, entry into the State was regulated by a permit system, which was later abolished.
- This permit system known as Inner Line Permit (ILP) was introduced by the British colonial government to protect its commercial interests. Later, it was used as an instrument to protect the tribal people and their cultures.
- Since Manipur is not officially a tribal state, there are constitutional challenges to implementing the ILP system.

- As per the Bill, “Manipur people means persons of Manipur whose names are in the National Register of Citizens, 1951, Census report 1951 and village directory of 1951 and their descendants who have contributed to the collective social, cultural and economic life of Manipur.”
- This census is considered to be flawed as the census exercise that year did not cover the entire State. The infrastructure at that time was not enough and many people were left out in the process. So as per the bill many of the hill people (the Kukis and the Nagas) could have found themselves declared non-Manipuris.
- There is a lingering apprehension among the hill people that the state government would use the bills as a strategic political ploy to gain control over their land.
- The unwillingness on the part of the state government to implement the Sixth Schedule in the hill areas has exacerbated the concerns of the tribal people.
- People of the hill areas were not consulted in the process of drafting the bills

Note: For details please refer to September 2015 Current Affairs

1.3. MODEL CODE OF CONDUCT: PARLIAMENTARY COMMITTEE REVIEW

- The Model Code of Conduct (MCC) for polls is under review by a Parliamentary Committee.
- Parliamentary Standing Committee will also suggest ways to check distribution of cash and freebies during the elections after an in depth study and interactions with stakeholders.
- The move comes after it took cognizance of the cancellation of polls in Aravakurichi and Thanjavur constituencies in Tamil Nadu recently following evidence of use of money and gifts to influence the voters.
- The central government appoints observers for a poll bound state to check such activities. But at times things can be beyond their control for the fact that they are outsiders and may not know the local ways of distribution of cash, freebies and other irregularities.
- Panel had last year tabled its report in both Houses of Parliament which favoured holding simultaneous elections to the Lok Sabha and state assemblies.
- The Panel had, in an earlier report submitted three years ago, recommended reducing the time between enforcement of the model code and the day of polling which is yet to be implemented by Government.

What is MCC?

- It is a set of guidelines laid down by the Election Commission to govern the conduct of political parties and candidates in the run-up to an election.
- It is intended to provide a level playing field for all political parties, to keep the campaign fair and healthy, avoid clashes and conflicts between parties, and ensure peace and order.
- Its main aim is to ensure that the ruling party, either at the Centre or in the states, does not misuse its official position to gain an unfair advantage in an election.
- The Model Code of Conduct comes into force the moment an election is announced and remains in force till the results are declared.
- It applies to all political parties, their candidates and polling agents, the government in power, and all government employees.

1.4. ELECTORAL REFORMS

- The Election Commission of India sought amendment to RPA to include specific powers to **postpone or countermand polls** on the grounds of use of money power.
- At present, there is no specific provision in the law to this effect and commission has to resort to extraordinary powers under Article 324 of constitution which, it feels should be used sparingly.
- Clause 58 A empowers the Election Commission to cancel polls only if there is an evidence of booth-capturing or use of muscle power.
- Thus, EC seeks a new clause ‘**58 B’ in the Act** for dealing with use of money power in elections or amendment to this effect in the existing clause ‘58A’.

1.5. SCRAPPING OF RAIL BUDGET

Why in News?

- The NITI Aayog has submitted a 20-page note to the PMO arguing that the convention of presenting a separate railway budget every year be done away with.

Summary of NITI Aayog Note

- Note says that railway budget had failed to be of use to the sector and had become a **“mechanism to announce popular measures”**.
- Railway Budget has no concomitant focus on addressing Railways’ structural requirements, or funding needs.
- The Railway Budget has led to ‘more Government’ without any increase in ‘Governance’.
- At present, Rail finances are not as big as they used to be in 1924, when they were separated. It’s smaller than the Defence Budget.
- Hence, report suggests scrapping railway budget exercise, and observes that the Railway Act of 1989 grants the “Central Government” the power to change tariffs without consulting Parliament.

Benefits

- The step will help depoliticize the Railways.
- It would help the government to take decisions without losing track of commercial viability.
- This will help in bringing more reforms to the sector by making Railways **more agile and efficient**.
- It will also facilitate account reforms.
- Indian Railways cannot afford to wait for annual changes through Railway Budget.
- It needs to react more swiftly with greater flexibility to the rapid changes in the wider economy.
- Even though it is a state monopoly it faces increasingly tough competition from roads and civil aviation.

Cons

- There is no evidence to show that customer service would improve if the Railways became a part of the government.
- If the budgets are merged, the Railways would move even further into the government, instead of moving further away from the government.

Way Forward

- The government needs to be more fleet footed in the way it runs the railways, instead of focusing excessively on the spectacle of a separate budget.
- A better option can be to allow zones to become corporations. Let manufacturing units compete with private players. Let the zones follow standard commercial accounting practices and attract investments.
- In this process, the rail budget will become irrelevant and wither away automatically.

1.6. PARLIAMENTARY SECRETARY ISSUE IN DELHI

Why in News?

President has refused to give his consent to the amendment to the Delhi Members of Legislative Assembly (Removal of Disqualification) Act, 1997, to exempt the post of Parliamentary Secretary from the purview of ‘office-of-profit’.

Parliamentary Secretary in Other States

- At present, the posts do exist in various states such as Gujarat, Punjab and Rajasthan.
- Various petitions in the High Court have challenged the appointment of Parliament Secretary.
- In June 2015, Calcutta HC quashed appointment of 24 Parliamentary Secretaries in West Bengal dubbing it unconstitutional.

Definition of Office of Profit

‘Office of profit’ is not defined in the Constitution. However, based on past judgments, the Election Commission has noted five below **tests** for what constitutes an office of profit:

- Whether the government makes the appointment
- Whether government has the right to remove or dismiss the holder.
- Whether the government pays remuneration.
- What the functions of the holder are.
- Does the government exercise any control over the performance of these functions.

- Similar actions were taken by the Bombay High Court, Himachal Pradesh High Court, etc.

What is the Issue All About?

- In 2015, Delhi Govt. had appointed 21 parliamentary secretaries to six Ministers.
- This post was not exempted from the definition of “Office of Profit”.
- Delhi govt. brought an amendment to Delhi Members of Legislative Assembly (Removal of Disqualification) Act, 1997, to make the position of Parliamentary Secretary exempt from definition of “Office of Profit”.
- But the President has refused to give his consent to the amendment.
- Due to the special status of Delhi as a Union Territory, a Bill passed by the Assembly is not considered an applicable “law” unless it is passed by the Delhi Lieutenant Governor and the President of India.
- The Delhi govt. argues that as Parliamentary Secretaries are not eligible for any remuneration or perks from the government, the post should be exempt from the office of profit.

Constitutional Provisions

- Under **Article 102(1)(a) and Article 191(1)(a)** of the Constitution, a person shall be disqualified as a member of Parliament or of a Legislative Assembly/Council if he holds an “Office of Profit” under the central or any state government (other than an office declared not to disqualify its holder by a law passed by the Parliament or state legislature).
- Parliamentary Secretary’s post is also in contradiction to **Article 164 (1A)** of the Constitution which provides for limiting the number of Ministers in the State Cabinets to 15 per cent of the total number of members of the State Legislative Assembly because a Parliament Secretary holds the rank of Minister of State. (The limit is 10% for Delhi, owing to its special status)

Future Actions

- Now, the Election Commission of India has to decide whether the terms and conditions of appointment of Parliamentary Secretaries constitute an “Office of Profit.”
- The President’s decision cannot be challenged in any court as it is his executive power under the Constitution of India. The Supreme Court cannot interfere.
- However, any decision taken by the ECI can be challenged before the Delhi High court by the aggrieved party. This means that the AAP can approach the court if the EC decides to disqualify the MLAs.

1.7. CREATIVITY VERSUS CENSORSHIP

Why in News?

- The Central Board of Film Certification had asked makers of Bollywood film “Udta Punjab” to remove all references to Punjab.
- Later, The Bombay High Court ordered that the film be granted a certificate in the ‘Adult’ category and allowed it to be screened with one cut and a disclaimer.
- This incident renewed the ongoing debate with respect to balance between one’s Freedom of Speech, art of creativity versus censorship.

Analysis

- The reasonable restrictions under Article 19(2) have been invoked often to curb free speech and expression.
- Though these restrictions were never meant to include such things as whether people found something in poor taste, offensive or against the grain of social or political opinion.
- In our country sentiments has been used routinely to seek curbs on all manner of creative expression - in books, music, art and film. Eg – Ban on Taslima Nasreen’s book in West Bengal.
- In a mature democracy like ours, organs of the state should not be allowed to erase or alter creative work according to its anxieties or neuroses of the day.

Way Forward

- There have been many efforts to secure the freedom of expression for example the G.D. Khosla report in 1969 recommended independent members on the Board, then called the Central Board of Film Censors.
- Even if full autonomy of the Board is ensured, there is no guarantee that the institution would be any less scissor-happy.
- **Shyam Benegal Committee** has offered a practical solution: **CBFC should only certify a film** and its scope should be restricted to categorizing the suitability of the film according to the intended audience group.

1.8. UNIVERSITY GRANTS COMMISSION (UGC)

Why in News?

- Recently, **T.S.R. Subramanian committee's** recommendation in the National Education Policy, recommended that the UGC Act should be allowed to lapse and replaced by a new National Higher Education Act.

Issues with UGC

- **Instances of delay in fellowships** have become a regular affair, placing underprivileged research scholars in problem.
- It has **failed in ensuring quality standards**. According to QS Higher Education System Strength Rankings, India ranks 24th in higher education system strength out of 50 countries.
- Its policies suffer from two diametrically opposite issues: **under-regulation and over-regulation**.

Way Forward

- To begin with, the UGC should resolve its many problems with respect to placements, and understaffing at the lower rungs.
- It could then reinvent itself in line with the committee recommendation, retaining a leaner version of the commission as a nodal organization and creating a separate mechanism for disbursement of fellowships.
- This will enable it to focus on the more relevant issue of quality education.

About UGC

- The University Grants Commission (UGC) of India is a statutory body set up by the Union government in accordance to the UGC Act 1956 under HRD Ministry.
- It has been mandated to initiate important decisions and dialogues which have an important bearing on the entire student population of the country
- The three primary functions of UGC include
 - ✓ Overseeing distribution of grants to universities and colleges in India.
 - ✓ Providing scholarships/fellowships to beneficiaries, and
 - ✓ Monitoring conformity to its regulations by universities and colleges.

1.9. SPECIFIC RELIEF ACT

Why in News?

- A Central government-appointed expert committee has submitted its report recommending changes to the Specific Relief Act 1963.

Need for changes in the Act

- There is a provision in the act which says that there will be no specific performance of those contracts where
 - ✓ Monetary compensation is sufficient,
 - ✓ The contract involves performance of a continuous duty which the court cannot supervise.
- However, it is left to the court to decide whether specific performance should be given to a party asking for it. **This gives rise to uncertainty in contracts.**
- Uncertainty in contracts often means investors become wary of getting entangled in legal trouble. The government wants to ensure that there is **ease of doing business**, and the specific relief law is a hindrance.

What is Specific Relief Act?

- As per the act, in an event where the actual damage for not performing the contract cannot be measured or monetary compensation is not adequate, one party can ask the court to direct the other party to fulfill the requirements of the contract.
- **This is called specific performance of a contract.**
- This extends to infrastructure contracts, like construction of housing societies or sale and purchase of land.

Committee Recommendations

- The committee has recommended **for specific performance to be made the rule and not an exception.**
- This would mean that even if contractual obligations cannot be met, the court could ask the parties to fulfill terms of the contract. Monetary compensation will be an alternative when contracts cannot be fulfilled.
- It has also suggested guidelines to the courts for exercising discretion in these matters, in order to streamline how courts interpret the provisions.
- It said that there was need to see whether intervention of courts in public works should be minimal

Impact

- This will reduce uncertainty in projects for infrastructure or those involving huge public investments.
- The recommendations are aimed to ensue that public works contracts happen without unnecessary delays.

1.10. DRAFT NATIONAL WATER FRAMEWORK BILL

What is it?

- It provides an overarching national legal framework to manage water in a better and efficient way.
- As water is a state subject, these guidelines will not be binding on states.
- The guidelines are based on principles for protection, conservation, regulation and management of water as a vital and stressed natural resource

Why is it needed?

- The water problem is escalating and we have witnessed acute drought situation in certain parts
- Also against a backdrop of climate change, the frequency of such situations may increase.

Highlights of draft bill

- **“Water for life”**
 - ✓ It defines “water for life” as the “fundamental right of life of each human being” needed for basic purposes including drinking, cooking, sanitation, requirement of women etc.
 - ✓ It shall not be denied to anyone on the ground of inability to pay and would take precedence over all other uses, including agricultural, industrial and commercial.
 - ✓ The appropriate governments from time to time would determine this minimum water requirement.
- **Graded pricing system:** The law wants to introduce “graded pricing system” for domestic water supply with
 - ✓ ‘full cost recovery’ pricing for high-income groups
 - ✓ ‘affordable pricing’ for middle-income,
 - ✓ ‘certain quantum of free supply’ to the poor
 - ✓ Alternatively, a minimal quantum of water may be supplied free to all.
- **National water quality and footprint standards**
 - ✓ A “binding” national water quality standards for every kind of use is proposed to be introduced.
 - ✓ A “binding” national water footprint standards for “every activity or product” are also sought to be evolved to reduce water footprint of all entities. For example -
 - Industries have to state their water footprint in their annual reports
 - Denial of water supply services beyond a threshold
 - penalties to discourage profligate use
- **Integrated river basin development and management plan**
 - ✓ For rejuvenation of river systems by ensuring Aviral Dhara (continuous flow), Nirmal Dhara (unpolluted flow) and Swachh Kinara (clean and aesthetic river banks)
- **Other provisions**
 - ✓ The establishment of “appropriate institutional arrangements” to deal with inter-state water disputes
 - ✓ The upper basin state to adopt a cautious approach while interventions in the inter-state rivers as none of the states in a basin “owns the river”
 - ✓ The state “at all levels” would hold water “in public trust” for the people.

1.11. SWACHH YUG CAMPAIGN

- As part of its efforts to make villages located along Ganga open defecation-free, Government has launched a campaign '**Swachh Yug**'.
- It is a collaborative effort of three Union Ministries, to bring about behavioural change among people staying in villages along the river.
- There are 5,169 villages located along Ganga falling under 1,651 gram panchayats in 52 districts of five states - UP, Uttarakhand, Bihar, Jharkhand and West Bengal from where the river flows.
- A nodal officer has been identified for each district to work on making area under their jurisdiction open defecation free (ODF) in a "mission mode" and clean through proper solid and liquid waste management.
- In addition to monetary incentive offered under Swachh Bharat Mission, extensive interpersonal behaviour change communication training will be given to local trainers through network of virtual classrooms.

Ministries involved in campaign

- The Ministry of Drinking Water and Sanitation – mission mode strategy to focus on cleanliness of village through proper solid and liquid waste management.
- Ministry of Youth Affairs and Sports under the coordination of the Nehru Yuva Kendra Sangathan, will enlist support of youth agencies like Bharat Scouts and Guides, Nehru Yuva Kendras and National Service Scheme.
- Ministry of Water Resources, River Development and Ganga Rejuvenation

1.12. NEW PRINT MEDIA ADVERTISEMENT POLICY

Why in News?

Ministry of Information & Broadcasting has framed a New Print Media Advertisement Policy for Directorate of Advertising & Visual Publicity (DAVP) with the objective to promote transparency and accountability in issuing of advertisements in print media.

Key Highlights of the New Policy

- For the first time the policy introduces a New Marking System for newspapers to incentivize Newspapers who have better professional standing.
- It includes **circulation verification Procedure** for empanelment of Newspapers/Journals with DAVP.
- The policy also stipulates the empanelment procedure for **Multi-Editions of a newspaper**.
- To promote equity based regional outreach, the policy emphasizes that the budget for all India release of advertisements shall be divided among states based on total circulation of newspapers in each State /Language.

2. INTERNATIONAL/INDIA AND WORLD

2.1. INDIA-AFRICA

President Mukherjee paid visit to 3 African nations - Ghana, Cote d'Ivoire (Ivory Coast) and Namibia.

A. INDIA-IVORY COAST

It was the first visit of an Indian president since the establishment of diplomatic relations between the two countries in 1960. India had established its Embassy in Abidjan in 1979, while Cote d'Ivoire (also called as Ivory Coast) opened its Resident Mission here in 2004.

Highlights of visit

- President Mukherjee has been accorded the country's **highest honour, Grand Cross National Order**.
- Inked an agreement to re-establish the headquarters of the **Exim Bank in Abidjan**.
- **Trade:** bilateral trade grew from \$344.99 million in 2010-11 to \$841.85 million in 2014-15.
- Cote D'Ivoire, the **world's largest producer of cocoa**, sought investment from India's private sector, particularly in processing the main ingredient in chocolates, to strengthen trade ties.
- It is the biggest exporter of **cashew nuts** to India, which procures nearly 80% of its cashew nuts exports.
- India, within the rubric of South-South Cooperation, has extended lines of credit amounting to USD 156.3 million for developmental projects in diverse fields such as public transportation, rural electrification, rice self-sufficiency, cashew nut processing, coconut fibre processing and IT and Bio-technology Park.

B. INDIA-GHANA

It was first ever visit of Indian President to Ghana. India and Ghana signed three bilateral agreements to strengthen co-operation in varied fields.

Following are list of agreements/MoUs

- Agreement on exemption from visa requirement for holders of diplomatic and official passports.
- Memorandum of understanding on the establishment of a joint commission.
 - ✓ The commission will periodically review various aspects of the multi-dimensional ties.
- **MoUs** between the Foreign Service Institute (India) and Ministry of Foreign Affairs (Ghana).

Nuclear cooperation

Ghana has sought India's civil nuclear cooperation to explore the possibilities of reducing its dependence on traditional energy sources to cut costs and focus on cleaner environment.

Trade relation

- India's cumulative investments in Ghana hover around \$1 billion, whereas bilateral trade is \$3 billion in 2015-16.
- Ghana's main trade consists of gold imports; it's nearly 80 per cent of total trade.
- India is the largest foreign investor in Ghana, with more than 700 projects. More than 200 of these are in the manufacturing sector.
- India intends to expand its bilateral trade with Ghana from 3 to 5 billion in the next three years.

Cooperation in other fields

- India would establish a Chair on Indian Studies in the University of Ghana, Accra. It will be funded by the Indian Council for Cultural Relations (ICCR).
- India is supporting many major socio-economic projects such as Komenda Sugar Plant and Elmina Fish Processing Plant by way of grants and Lines of credit.
- India has also approved a Line of Credit for setting up a Foreign Policy Training Institute.

C. INDIA-NAMIBIA

During President's visit following MoUs have been signed.

- MoU on Establishment of a Centre of Excellence in Information Technology (CEIT).
- MoU concerning technical cooperation in the area of capacity building of public officials.

Nuclear cooperation

- Namibia signed an agreement with India in 2009 for uranium supply. The treaty sets the framework for long term supply of uranium but it is pending ratification by Namibian Parliament.
- Namibia being a member of the **African Nuclear Weapon-Free Zone Treaty (ANWFZT)**, it is barred from trading in uranium with India, which is **not a signatory of Nuclear Non-Proliferation Treaty (NPT)**.
- Namibia is the fourth largest producer of uranium.
- Namibia asked New Delhi to come up with similar agreements with other countries to help it convince the ANWFZT members.

African Nuclear Weapon-Free Zone Treaty (ANWFZT)

- The ANWFZT, also known as the **Treaty of Pelindaba**, is named after South Africa's main Nuclear Research Centre.
- Pelindaba was the location where South Africa's atomic bombs of the 1970s were developed, constructed and subsequently stored.
- The Pelindaba Treaty signed in 1996 **aims at preventing nuclear proliferation and preventing** strategic minerals of Africa from being exported freely.

Importance of Namibia

- Namibia is member of **Southern African Customs Union (SACU)**. The SACU consists of Botswana, Lesotho, Namibia, South Africa, and Swaziland.
- The strength of Namibian economy is mineral with mining sector which contributes around 11 per cent to the GDP.
- India will offer assistance to Namibia in setting up Mining Engineering trading set up.

Analysis of visit

- President visit to African Nations highlights India's commitment continued in the form of **South-South Cooperation** through developmental assistance and sharing resources for the development of nations in Africa.
- After hosting the third **India Africa Forum Summit (IAFS)** in New Delhi in October 2015, India is working on a plan to consolidate and further strengthen its engagement with Africa.
- **India's outreach to Africa**, mostly in the form of development assistance, comes amid China's fast inroads in building infrastructure and investments in the vast mineral-rich continent.
- African continent is going to be one of the fastest growing economies in the world.
- African continent is endowed with natural resources; India is trying to tap vast resources to fuel its economy.

2.2. HARMFUL PROVISIONS IN RCEP

Why in News?

- **Médecins Sans Frontières (MSF) or Doctors without Borders**, an international NGO has warned India that it will no more remain 'the pharmacy of the developing world' if the proposed proposals in the Regional Comprehensive Economic Partnership (RCEP) agreement are adopted.

Detrimental Proposals

- As per the intellectual property text which is being discussed at the RCEP negotiations, two of the most worrying are the demands for '**Data Exclusivity**' and '**Patent Term Extensions**'.

- **Data exclusivity** is a form of legal monopoly protection for a drug, over and above the patent protections. This is given expressly to compensate for the investment made during clinical trials. It implied that regulators cannot approve a similar drug with similar data for the next five years.
- **Patent term extensions** are given to compensate the company for delays in processing patent applications. A patent term extension will give another five-year monopoly to the innovator company.

Impact

- It will **increase drug costs** by creating new monopolies and delaying the entry of affordable generics in the market.
- It will undermine India's role as a major suppliers of generic medicines for people in the developing world, including both low- and middle-income countries such as Cambodia, Indonesia, Laos, Myanmar etc.
- Access to affordable generic medicines is vital for these countries to address public health challenges, including HIV, tuberculosis, viral hepatitis and non-communicable diseases.

2.3. VICE PRESIDENT VISIT TO NORTH AFRICAN NATIONS

Vice President paid official visit to the North African nations of Morocco and Tunisia.

A. India - Morocco

India and Morocco signed two agreements on culture and diplomacy

- to reinforce cooperation in the field of music, art and archives, cultural heritage, cultural activities through the exchange of expertise and information in the related fields.
- to exchange information on training programs for diplomats, experts and researchers, strengthen communication and exchange of expert visits.

Trade relations

- The India-Morocco Chamber of Commerce and Industry (IMCCI) was launched by Vice President and Moroccan PM Abdelilah Benkirane.
- Bilateral trade between the two countries stood at \$ 1.26 billion in 2015 with Indian exports forming roughly 25 per cent of the trade volume.

B. India - Tunisia

Highlights of visit

- Signed two MoUs on promotion of handicrafts and IT and communication and digital economy
- India will train 350 Tunisian students in next five years and the two sides will promote each other's traditional handicraft as per the agreements.
- The trade between the two countries last year was a little over 340 million US dollars. India accounts for around 50 per cent of Tunisia's global phosphoric acid exports.
- Tunisia supports India's bid for a place in an expanded UN Security Council.

Tunisia's is the '**cradle of Arab Spring**', the string of popular uprisings that swept the Arab world in 2011. The **Jasmine Revolution** in Tunisia was the trigger for Arab uprisings.

2.4. SHANGRI LA DIALOGUE: ASIA SECURITY SUMMIT

The IISS Asia Security Summit was launched in 2002 by British think tank the International Institute for Strategic Studies and the Singaporean government.

- This annual dialogue brings together defence ministers and military chiefs from 28 Asia-Pacific countries to talk about security in the region.
- It gets its name from the location of the meeting, the Shangri-La hotel in Singapore.
- India's defence Minister participated in the 15th Shangri-La security summit.

2.5. GLOBAL PEACE INDEX (GPI) 2016

The **Global Peace Index (GPI)** is an attempt to measure relative position of nations' and regions' peacefulness. It is the product of **Institute for Economics and Peace (IEP)** and developed in consultation with an international panel of peace experts from peace institutes and think tanks with data collected and collated by the **Economist Intelligence Unit**.

Highlights of GPI-2016

- India is ranked as the 141st country (out of 163 countries) in GPI 2016. Violence impacted India's economy by \$679.80 billion in 2016, 9% of India's GDP, or \$525 per person.
- Iceland** has been ranked as the most peaceful country followed by Denmark and Austria.
- Syria** has been named as the least peaceful, followed by South Sudan, Iraq, and Afghanistan.

Nation	GPI-2016
Bhutan	13 th
Nepal	78 th
Bangladesh	83 rd
Sri Lanka	97 th
India	141 st
Pakistan	153 rd
Afghanistan	160 th

2.6. MALABAR EXERCISE

Exercise Malabar is a trilateral naval exercise involving the US, Japan and India as permanent partners. Originally a bilateral exercise between India and the US, Japan became a permanent partner in 2015.

- The primary aim of this exercise is to increase interoperability amongst the three navies and develop common understanding of procedures for Maritime Security Operations.
- This year (2016) exercise was held in Japan.

2.7. HAGUE CODE OF CONDUCT (HCOC)

The **International Code of Conduct against Ballistic Missile Proliferation**, also known as the **Hague Code of Conduct (HCOC)**, was established in 2002 to prevent the proliferation of ballistic missiles.

- HCOC is **voluntary, legally non-binding**, preventing the spread of ballistic missiles that can deliver weapons of mass destruction.
- India joined the HCOC on 1 June 2016.
- The number of signatories of HCOC is 138.
- China, Pakistan, Israel and Iran** have not joined the voluntary regime yet.

2.8. MISSILE TECHNOLOGY CONTROL REGIME (MTCR)

India became the **35th member** of the MTCR. India's efforts to get in got a boost after it joined the **Hague Code of Conduct**, dealing with the ballistic missile non-proliferation arrangement.

Significance of membership

- The MTCR membership will provide a boost to **India's space and missile technology**, besides the government's Make in India initiative.
- India's space programme will be an obvious beneficiary, albeit belatedly – in the 1990s, New Delhi's pursuit of **Russian cryogenic engine** technology was stymied by the MTCR.
- It will enable India to buy **high-end missile technology** and also enhance its joint ventures with Russia.
- It will ease the way for **export of supersonic BrahMos cruise missile**, co-developed with Russia
- India will be able to **import Predator drones** from the US.

About MTCR

The Missile Technology Control Regime (MTCR) is a multilateral export control regime. It is an **informal and voluntary partnership** among 35 countries to prevent the proliferation of missile and unmanned aerial vehicle technology capable of carrying above 500 kg payload for more than 300 km.

- China, Israel and Pakistan are not members of MTCR.
- USA, UK, Russia, France, Japan, Italy, Germany, Brazil, South Korea and Australia are prominent members of the group.

2.9. INDIA-QATAR

Prime Minister paid his first official visit to gas-rich Qatar. During the visit 7 agreements were signed.

- MoU between National Investment and Infrastructure Fund (NIIF) and Qatar Investment Authority (QIA), aimed to facilitate participation of Qatari institutional investors in Infrastructure projects in India
- Agreement on Cooperation and **Mutual Assistance in Customs Matters.**
- MoU between Financial Intelligence Unit - India (FIU-IND) and the Qatar Financial Information Unit (QFIU) concerning cooperation in the exchange of intelligence related **to money laundering, terrorism-financing and related crimes.**
- MoU for Cooperation in **Skill Development and Recognition of Qualifications.**
- MoU on cooperation in **Tourism.**
- The First Executive Programme for MoU in the **field of Youth and Sports.**
- MOU for Cooperation in the field **of Health.**

Importance of Qatar

- Bilateral trade in 2014-15 stood \$15.67 billion of which India's exports accounted only \$1 billion.
- It is also one of India's key sources of crude oil.
- India is the third largest export destination for Qatar after Japan and South Korea, with LNG being the major item of trade.
- Indians comprise the single largest group of migrants in Qatar.
- The Prime Minister has been focusing on improving ties with the **Gulf region** which is crucial for **India's energy security**. He has already visited UAE and Saudi Arabia.
- Qatar is member of Gulf cooperation council (GCC).

2.10. SHANGHAI COOPERATION ORGANIZATION SUMMIT

Shanghai Cooperation Organization (SCO) annual summit was held **in Tashkent, Uzbekistan.**

- At the summit, for the first time, the SCO will be expanded to accommodate new countries and make them permanent members of the group.
- India and Pakistan signed the memorandum of obligations on 24 June 2016 at Tashkent, thereby starting the formal process of joining the SCO as a full member
- India's entry into the SCO as a full member will provide it an opportunity to have extended cooperation with member countries in areas of defence, security and counter-terrorism.
- The Prime Minister highlighted the need to adopt zero tolerance to terror and the need for a comprehensive approach to fight terrorism at all levels.
- India attached great importance to ties with Central Asia and always sought to expand economic and people-to-people ties with the region.

2.11. INDIA-VIETNAM

The Defence Minister paid an official visit to Vietnam.

Defence cooperation

- Vietnam, which is building a naval deterrent to China with Russian-made Kilo-class submarines, is keen on India training its submarine personnel.
- It also has expressed interest to acquire Indian-made BrahMos supersonic cruise missile.
- India has recently provided Vietnam with a US\$100 million Line of Credit which is being utilised by Vietnam for procurement of Offshore Patrol Boats for their Border Guards.
- Defence Minister Visit indicates that India is keen to deepen military engagement with Vietnam with a view to counter China's increasing footprint in the Indian Ocean region.

2.12. INDIA-AFGHANISTAN

Prime Minister Modi and Afghan President Ashraf Ghani jointly inaugurated the Afghan-India Friendship Dam in Herat province, Afghanistan. Prime Minister was conferred with Afghanistan's highest civilian honour, **the Amir Amanullah Khan Award**.

- The Afghan govt. in 2015 changed the name of the project from Salma dam to Afghan-India Friendship Dam.
- The 42 MW dam will boost the agricultural and industrial sectors of Herat.

India's contribution in institution and infrastructure building:

- India has contributed close to \$ 2 billion in institution and infrastructure development in Afghanistan.
- It has also signed the **TAPI pipeline project** that aims to bring natural gas from Turkmenistan through Afghanistan and Pakistan to India.
- For India, Afghanistan has immense strategic potential. More important; a friendly, stable regime in Kabul is geopolitical insurance against Pakistan's deep state.

2.13. INDIA-USA

Prime Minister Modi paid fourth official visit to USA.

Highlights of Joint statement

	What India gave	What India got
Climate and Energy	Work towards an HFC amendment in 2016 "with an ambitious phasedown schedule" under the Montreal Protocol pursuant to the Dubai Pathway	US to pursue membership of the International Solar Alliance(ISA)
	Pursue negotiations at the International Civil Aviation Organization Assembly to reach a "successful outcome" to address greenhouse gas emissions from international aviation.	Six AP 1000 reactors to be built by Westinghouse ; India and the U.S. Export-Import Bank to work together toward a competitive financing package for the project.
	Announcement of a \$20 million US-India Clean Energy Finance (USICEF) initiative, supported equally by both countries.	
	\$40 million U.S.-India Catalytic Solar Finance Program , also supported equally.	
	US to designate India as a "major defence partner."	US re-affirmed support for India's entry into the NSG, the Missile Technologies Control Group, the Australia Group and Wassenaar Arrangement. Technology sharing with India to a level commensurate

Export Control and Defence Cooperation		<p>with that of its closest allies and partners. It will give India access to almost 99 per cent of latest U.S.'s defence technologies</p> <p>India would receive license-free access to a wide range of dual-use technologies in conjunction with steps that India has committed to take to advance its export control objectives.</p> <p>support to India's Make In India initiative and to the development of robust defense industries and their integration into the global supply chain</p> <p>Over the last one decade the defence trade between India and the U.S. has increased from being almost non-existent to more than \$14 billion. This is expected to increase manifold as India embarks on a major defence modernisation drive.</p>
	Text of the Logistics Exchange Memorandum of Agreement "finalised."	US welcomed India's offer to host the Summit on Countering Weapons of Mass Destruction Terrorism in 2018
	The U.S.-India Joint Strategic Vision for the Asia-Pacific and Indian Ocean Region would be the guide for collaboration in years to come.	India to receive license-free access to a "wide range of dual-use technologies", but in accordance with US law.
		MoU for exchange of earth observation satellite data "finalised"
Cyber	A "commitment" to promote the free flow of information.	Closer cooperation among agencies to combat cybercrime
	India supports norm against conducting or supporting ICT-enabled theft of IP, including trade secrets or other confidential business information for commercial purposes.	US commits to strengthen "critical Internet infrastructure" in India.
	Greater cooperation on cybersecurity standards and security testing.	Norm to tackle malicious cyber activity emanating from one's territory
Counter-terrorism		Express iteration of Pakistan's responsibility to "bring the perpetrators of the 2008 Mumbai and [for the first time] 2016 Pathankot terrorist attacks" to justice
		US re-affirmed its support for a UN Comprehensive Convention on International Terrorism.
Trade	Work towards concrete progress on IPR issues and enhance bilateral cooperation among the "drivers of innovation" in both countries.	
	Re-affirm trilateral cooperation with African partners, "including in areas such as agriculture, health, energy".	

2.14. WORLD TRADE ORGANIZATION (WTO)

WTO Director General has welcomed India's proposal for a Trade Facilitation Agreement (TFA) in Services. India had proposed it after the December 2015 WTO ministerial conference in Nairobi (Kenya).

- The proposed TFA in Services is on the lines of the WTO's TFA on goods that is aimed at easing customs rules to expedite trade flows.
- The proposed TFA in Services envisages, among other things, easier temporary movement of skilled workers, to boost global services trade.
- India has already ratified the TFA on goods. Services account for over half of India's GDP.

2.15. NSG PLENARY

The annual plenary session of the Nuclear Suppliers Group was held in **Seoul**. At the session, NSG did not take decision on India's application to join the group as a full member.

Opposition to India's membership

Both India and Pakistan, which have applied for NSG membership, have not signed the NPT. While India's case is pushed by the US, China is backing Pakistan.

- 38 countries out of 48 were in favour of India's membership.
- China has strongly opposed India's membership citing to **procedural hurdles (not signatory of NPT)**.
- Ireland and New Zealand took the line that the **criteria for admission for non-NPT** states should be discussed first while India's membership can be taken up later.
- Six countries, including Brazil and Switzerland, said they wanted a discussion on **criteria and India's membership to take place simultaneously**.

Importance of NSG membership

- India is keen to become a member of the NSG, apart from being stakeholders in the Wassenaar Agreement and Australia Group, **to expand its nuclear power generation and also enter the export market**.
- Membership with the NSG will **provide greater certainty and a legal grounding for India's nuclear regime**, evoking confidence of countries that invest billions to set up ambitious projects in India.
- With India committed to reducing dependence on fossil fuels and ensuring that 40% of its energy is sourced from renewable and clean sources, there is a need **to scale up nuclear power production**.
- With access to latest technology, India can **commercialize production of nuclear power** equipment. This in turn will boost innovation and high tech manufacturing and can be used for economic and strategic benefits.
- India's entry into the NSG will **strengthen the global non-proliferation regime**.
- It will **formalize 2008 waiver** that India got from NSG.
- Not being a member, India does not have any full control over **future amendments**. It means that the waiver that India enjoyed, in a sense, **can be reversed by subsequent amendments**.
- There has been one major change in guidelines in **2011**, adopted a new rule which introduced a **non-proliferation treaty criterion** for export of **reprocessing and enrichment (ENR) equipment**.

Why India should get NSG membership

- **India's track record** in observing the provisions of NPT and NSG while not being a member of either body is impeccable.
- India has aligned its rule related to nuclear commerce in the line with NSG guidelines. Its civilian nuclear installations are under IAEA supervision.

2.16. BREXIT

Brexit is the inelegant shorthand for Britain's withdrawal from the European Union. The UK opted for a momentous change of course by voting to leave the European Union in a closely fought referendum.

How UK voted?

- The referendum turnout was **71.8%, with more than 30 million people voting**.
- This was the second referendum on Britain's relationship with the European project. In 1975, in a referendum on whether the U.K. should stay or leave the **European Community (Common Market) Area**, the country voted for staying in with a resounding 67.2 per cent vote.

	Leave	Remain
United kingdom	52%	48%
Scotland	38%	62%
Northern Ireland	44%	56%
England	53.4%	46.6%
Wales	52.5%	47.5%

Argument put up by both sides during run up of referendum

Issues	Remain side argument	Exit side argument
Immigration	The pro-EU members argue that EU migrants contribute more to the national economy than they take out.	The anti-immigration parties argue this puts a severe strain on national resources and add up to welfare expenditure.
Security	In the era of international terrorism, cooperating with EU will make UK safer	The security risk will increase if the U.K. does not have control over its borders.
Employment	As three million jobs are tied to the EU there could be a jobs crisis if the UK leaves the EU.	There will be a jobs boom without the fetters that EU regulations impose.
Trade	Access to the single European market, free of tariffs and border controls, is critical for the UK as 45 per cent of its trade is with the EU	The EU needs British markets and individual trade deals with European countries can be easily negotiated.
Economy	May put dominance of London as Europe's financial centre at risk as banks will move out	London's status is unassailable as it is already a global power base.

Britain's exit process

- To begin the withdrawal process, Britain must invoke **Article 50 of the EU's Lisbon treaty**, which has never been used before.
- The first step is to inform the European Council of member states which sets the clock ticking on a **two-year timetable of negotiations**.

Impact on United Kingdom

1. Unity of kingdom

The first is threat to the geographical integrity of the UK. Scotland and Northern Ireland had voted in favour of remain in Brexit referendum.

- Scottish National Party declared that it would block **the exit** from the European Union.
- Scotland may hold a **second independence referendum from U.K.**
- If Scotland gets another independence vote, calls for **Northern Ireland to be merged with the Republic of Ireland**, an EU member, could gain momentum.
- **Londoners** (the petition addressed to Mayor Sadiq Khan has already attracted a million signatures), has even called for it to declare independence from the UK.

2. Economic impact

- **Depreciation of Pound:** The immediate effect can be seen in the drastic fall of the pound.
- Chances of **investment moving from UK** to other EU countries
- In long run London may lose its prominence place as financial Hub in Europe.
- Economic uncertainty at least for two years due to negotiation with EU to leave and forming new architecture of economic relation.

Impact on India

- Can impact the inflow from **foreign portfolio investors (FPIs)** to India and **affect GDP growth**.
- Domestic investors are concerned about the direct negative impact that some of the India-based companies and sectors that have **investments and exposure to Britain will suffer**.
- A third of the Indian investment in the UK is in the **IT and telecom sector**. With Britain's exit, a requirement for **separate headquarters for Europe and Britain might crop up**.
- With the reactionary fall in the pound, **Indian investors stand to gain in the short run** as they can acquire property in the UK at a cheaper rate.
- Weaker pound to benefit **Indian tourists, students**.
- India is negotiating a **Free trade agreement** with EU, Britain's exit means redrafting of FTA text.
- Currency depreciation will further increase **risk aversion** and put more pressure on the weak Asian currencies.
- Rupee depreciation may accentuate Balance of Trade (increase in current account deficit).

Impact on EU

- The biggest worry about the Brexit vote is that it has opened a Pandora's Box.
- The biggest fear was of contagion, with immediate calls by **far-right leaders in France** and the **Netherlands** for their countries to hold their own votes on EU membership.
- EU urged Britain to leave as "soon as possible" amid fears the devastating blow to European unity could spark a chain reaction of further referendums.
- **Anti-immigration groups** and forces of **nationalism and Sub-nationalism** will gain ground in EU.
- The fallout could also hit **Europe's fragile growth**. Rapid depreciation of Euro will impact competitiveness of EU market.
- There are chances that Europe may adopt **strong immigration act**.
- Deepens fears across Europe about the rise of **eurosceptic, anti-establishment parties**.
- **Financial impact**: Much of the EU's money comes from its member states. And the UK is one of the larger contributors.
- **Political impact**: UK is a permanent member of United Nations Security council (UNSC), Britain's exit will reduce political clout of EU in world Affairs.
- **Expansion of EU**: it will have impact on those countries (Like Turkey) that are willing to join European Union.

Norway model – middle ground

- Norway, along with Liechtenstein and Iceland is a member of the European Economic Area (EEA).
- EEA countries have a separate secretariat in Brussels to manage the relationship between the EU and EEA.
- They make contributions to the EU budget and have access to the single market while staying out of the EU.

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3. ECONOMY

3.1. INDIA POST'S PAYMENT BANK

Why in news?

Union Cabinet has approved the setting up of India Post's payments bank at a total project cost of Rs 800 crore.

Highlights

- India Post Payment Bank (IPPB), which will generate employment opportunities for about 3,500 skilled banking professionals, will set up 650 branches and 5,000 ATMs across the country.
- IPPB expects to break even by year seven of its operations.
- IPPB will start operations in March 2017 in about 50 districts and will cover the entire country by the end of FY 2018-19.

Significance

- Extensive reach and spread of Indian postal system to blocks, taluks and villages ensuring last mile connectivity.
- Old setup, ease of access, years of trust and familiarity of rural people.
- Brick and mortar banks are unviable to setup in many of the remote areas.
- Helpful for migrants, labourers, MSME, poor household, enhancing access to financial services and promoting financial inclusion.
- Provision of debit facility.

Challenges

- Low revenue: can't undertake any lending businesses and the income stream is initially restricted to remittances.
- 75% has to go into government securities. This limits their ability to earn from the deposit base as well.
- Banks are already offering most services that payments banks can and hence, for payments banks to offer a new and differentiated proposition will not be easy.
- Some of the private players (Ex: Mahindra) have given up their plan to set up a payments bank due to some challenges.

What are payment banks?

- Payment banks are non-full service banks, whose main objective is to accelerate financial inclusion.
- Payments banks will mainly deal in remittance services and accept deposits of up to Rs 1 lakh.
- They will not lend to customers and will have to deploy their funds in government papers and bank deposits.
- They can accept demand deposit, issue ATM/debit cards but not credit cards.
- The promoter's minimum initial contribution to equity capital will have to be at least 40% for the first five years.

3.2. FIXING PSU BANKS

Background

- Our banks are saddled with too many non-performing loans and credit expansion has slowed dramatically. This is called as '*Balance Sheet Syndrome with Indian characteristics*' – by Economic survey.
- Growth in industrial credit (year on year) has slowed to less than 5% in the first quarter of 2016. This is not enough for creating growth conditions >7%.

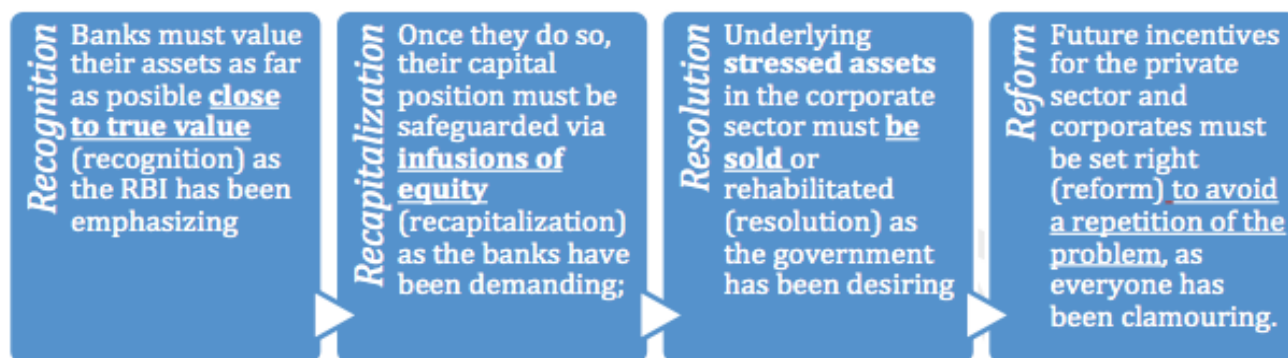
The nature of the problem

- Failure in Recognition: Assets which are in reality NPAs were not classified as such by banks, but were being 'ever-greened' into new loans as revealed by RBI's asset quality review
- When NPAs were being recognized due to RBI's initiative, this has led to large losses in to the tune of Rs. 30 crore for PSBs (excluding the SBI).
- All pervading crisis of PSBs: Since all the PSBs have balance sheet problem, the NPAs have to be resolved urgently.
- Indispensability of PSBs for healthy economic growth. Though the private sector banks are in much better shape, but they account for only a quarter of total lending.

- Contracting credit conditions: Corporate profits are low while debts are rising, forcing firms to cut investment to preserve cashflow.

Solutions

- This requires action on 4 fronts or 4 **Rs**: *Recognition, Recapitalization, Resolution, and Reform*.



Need for Recapitalization of public sector banks

- For reviving growth PSBs loans have to increase by 12% which requires an additional Rs.2.4 trillion of capital by end-March 2019 to meet the Basel III requirements.
- Rs.70,000 crore was to come from the budget. The budgetary contribution was to be Rs.25,000 crore in each of 2015-16 and 2016-17 which is grossly inadequate.
- Both restructured assets and stressed assets are currently shown as performing, but a large part could well turn into NPAs in the next two years. In that case:
 - The contribution of profits to building up capital is likely to be very small.
 - The prospects for raising capital from the markets also need to be revised downwards because PSU bank shares have taken a beating in the markets
- **Steps taken:** *Recapitalization using special declaration of dividends from the built-up reserves in RBI, as proposed in the Economic Survey.*
 - *Indradhanush scheme is being implemented.*

Resolving the NPA problem

- Some assets are best classified as loss assets and should be written off in the books, even as efforts are made to recover whatever value can be recovered through liquidation.
- New bankruptcy code is a potential game changer, but may take time to operationalize.
- Banks ought to take a large enough haircut on existing debt to make the restructured project attractive for ideas of SDR, S4A, ARCs, NIIF to work:
- Selling assets to privately managed asset reconstruction companies (ARCs), which can then organize the turnaround.
- A government-owned “bad bank” which purchases problem loans from the banks, and concentrates on turning the projects around, possibly with the help of private ARCs.
- Steps taken:
 - ✓ RBI has devised two schemes for the purpose of fresh capital from investors and new management. Strategic debt restructuring scheme and Scheme for Sustainable Structuring of Stressed Assets (S4A).
 - ✓ The proposed National Infrastructure and Investment Fund (NIIF), operating with private partners, will provide both equity and new credit to stressed infra projects going through the SDR mechanism.

Improving the quality of lending

- Improve the quality of lending by PSBs in future so that the same problem does not arise again.
 - ✓ Increase the autonomy of the banks to operate as commercial entities.
 - ✓ Reducing the government’s shareholding to say 33%, with the remainder dispersed among the public.
- Government should be away from the management:
 - ✓ The **P.J. Nayak committee** had suggested creating a public sector holding company and vesting the government’s shares in the holding company.

- ✓ PSBs should deal with only one regulator, RBI, and the extensive quasi-regulatory control exercised by the department of financial services should be ended
- PSBs should be **board-managed institutions**: with the board responsible for all appointments, including that of the chief executive officer (CEO).
 - ✓ Banks Board Bureau is a first step in this direction.
 - ✓ Separate the post of chairman and CEO is important only if the institution becomes fully board-managed.

3.3. SCHEME FOR SUSTAINABLE STRUCTURING OF STRESSED ASSETS

Objective

To strengthen the lenders' ability to deal with stressed assets and put real assets back on track by providing an avenue for "reworking the financial structure" of big corporate entities "facing genuine difficulties".

Highlights

- Banks can split the overall loans of struggling companies into sustainable and unsustainable based on the cash flows of the projects.
- The unsustainable debt could be converted into equity or a convertible security. However at least 50% of the debt should be serviced in the same period as that of the existing loan.
- Once the unsustainable debt is converted to equity, banks can sell this stake to a new owner who will have the advantage of getting to run the business with a more manageable debt.
- An advisory body called **Overseeing Committee (OC)** will be constituted, which will review the resolution plans submitted by the Banks. It will check the reasonableness and adherence to the guidelines and give an opinion.
- Projects with a loan of at least Rs 500 crores and have commenced commercial operations are eligible to be restructured under S4A.

Magnitude of the problem

- Bad loans surging to as high as Rs 6 lakh crores, 4.35% of total bank loans, there is a lot of stress in the system.
- Total stressed assets (bad loans + standard restructured loans) are estimated to be 15% of total bank loans.

Other steps taken by RBI

- 5:25 Scheme: It allows banks to extend long-term loans of 20-25 years to match the cash flow of projects, while refinancing them every 5 or 7 years.
- Compromise settlement schemes.
- Strategic Debt Restructuring (SDR) - consortium of lenders converts a part of their loan in an ailing company into equity, with the consortium owning at least 51 per cent stake
- Corporate Debt Restructuring (CDR) mechanism and Joint Lenders' Forum

3.4. FDI POLICY REFORMS

Why in news?

The government has made changes to the FDI policy. This is the second biggest reform in FDI since those announced in November 2015.

Important changes in different sectors




- **Defence Sector:** The policy has been tweaked to allow 100 per cent FDI by doing away with the condition of access to "**state of the art**" technology. It has now been modified to "**modern or for other reasons**", a move that will widen the scope of investment by foreign players. The new norms have also been made applicable to manufacturing of small **arms and ammunitions covered under Arms Act 1959**. Under the current policy, FDI up to 49 percent was allowed under automatic route and beyond that under the approval route on case-to-case basis.

WHAT THE CHANGES MEAN

Sector	Proposed FDI regime	Existing FDI regime	Implication
Defence	100% FDI in defence via govt approval	49% for foreign entities under automatic route and beyond 49% on government approval on a case-by-case basis subject to access to state-of-the-art technology	Foreign defence firms can set up manufacturing facilities in India
Pharmaceuticals	74% FDI through automatic route in brownfield	100% FDI in brownfield through govt approval	More private equity deals in pharma as new regulation clears uncertainty over FIPB approvals
Aviation	100% FDI for foreign entities	49% for foreign entities	Local airlines can attract more capital
Broadcast			
• Cable networks			More investment opportunities
• Direct to home (DTH)	100 % FDI allowed via automatic route	100% FDI allowed, only 49% allowed via automatic route	No FDI expected till cross-media ownership cap removed
• Headend-in-the sky (HITS)			

Source: Department of industrial policy and promotion

- **Pharmaceutical Sector:** In this sector, 74% FDI would be allowed in the pharmaceutical sector under the automatic route in existing domestic companies (Brown Field projects). Currently, FDI up to 100% is permitted in new projects in the pharma sector (Green field projects).
- **Aviation Sector: 100% FDI under automatic route in brownfield airport projects.** FDI beyond 74% for brownfield projects is under government route. Earlier, the FDI policy on airports permitted 100% FDI under automatic route in Greenfield projects.
- **Animal Husbandry:** 100% FDI allowed in Animal Husbandry. The clause of controlled conditions for 100% FDI under the automatic route for animal husbandry has been done away with.
- **Food products:** 100% FDI under government approval route. It will include trading in food products including through e-commerce, in respect of food products manufactured or produced in India.
- **Single Brand Retail Trading:** The new policy relaxes local sourcing norms upto three years and a relaxed sourcing regime for another five years for entities undertaking Single Brand Retail Trading of products having 'state-of-art' and 'cutting edge' technology.

THE BIG BANG EFFECT			
In sweeping reforms to FDI norms, the Centre has opened up defence, civil aviation, single-brand retail and pharma sectors to more investments			
 <p>Defence</p> <p>➔ Earlier, FDI beyond 49 per cent was permitted through approval route in cases of access to modern and 'state-of-the-art' technology</p> <p>➔ Now, the govt. has done away with 'state-of-the-art' technology clause</p>	 <p>Aviation</p> <p>➔ 100 per cent FDI under automatic route in brownfield airports (where funds are pumped into an existing airport) has been permitted</p> <p>➔ Earlier, it was 74 per cent for this category</p>	 <p>Retail</p> <p>➔ Single brand retail: Local sourcing norms eased for three years and a relaxed sourcing regime introduced for five years</p>	
		 <p>Pharma</p> <p>➔ It has been decided to permit up to 74 per cent FDI under automatic route in brownfield projects; approval route beyond 74%</p>	
<p>FDI continues to be prohibited in</p> <p>Lottery, gambling, atomic energy, Real Estate Investments Trusts and railway operations</p>			

Way Forward

The above changes has led to 100% FDI under government approval route for almost every sector, including defence except in few sectors mentioned in the **small negative list**.

3.5. P2P LENDING

Why in news?

- Recently, the RBI released a consultation paper on developing regulatory norms for P2P lending.
- It has proposed 6 key areas to frame regulatory guidelines - permitted activity, reporting, prudential and governance requirements, business continuity planning and customer interface.
- RBI proposes a balanced approach to help P2P players flourish as well as safeguard them from various risks of business fallouts. Proper regulation will raise credibility of P2P entities and thus help in their growth

What is Peer-To-Peer Lending (P2P)?

- It is a method of debt financing that enables individuals to borrow and lend money - without the use of an official financial institution as an intermediary.
- It gives access to credit to borrowers who are unable to get it through traditional financial institution.
- P2P lending boosts returns for individuals who supply capital and reduces interest rates for those who use it. However it demands more time and effort from them, and entails more risk.
- The basic business model of an online P2P player is to provide a platform to connect lenders with borrowers. The lender will put their savings/investment into an account for it to be loaned out to borrowers and get a good rate of return.
- Two prominent online lending portals in the country are Faircent and ilend.

Advantages of P2P lending for Indian economy

- It could simultaneously reduce cost and increase access to capital.
- If the general population can lend and finance each other under a robust system, it potentially frees up funds for infrastructure and other capital expenditures.
- A promising alternate form of investment platform.
- Easy, fast online application process – reduces transaction cost for consumers.
- Borrowers can gain access to lending quickly and at more competitive rates than traditional bank loans.
- Lenders can be individuals or institutions and can invest a lower amount but earn more interest.
- As one can invest in a portfolio of hundreds or thousands of loans, risk is diversified.
- There could be a charitable aspect to the lending i.e. funds could be used for social purposes.

Why the need to regulate?

- There are a number of players like Faircent, LenDen club, etc. entering the P2P market.
- Without regulations there is fear of repeat of chit fund, microfinance and the Para banking segment.
- The regulations are also important to balance the interests of consumers as well as the industry.

Challenges and Disadvantages of P2P lending

- High rate of interest hovering from 16 to 20 percent.
- Many borrowers are excluded because they do not have good credit history.
- Chances of default are high, particularly if the borrower has been rejected by traditional intermediaries.
- **P2P investing isn't a get-rich-quick scheme as many people think.**
- **There is huge risk as a lender could lose all money if not invested with proper risk diversification.**
- The loan selection and bidding process employed in some online platforms demand a level of financial sophistication many people don't have.
- The prevalence of black money and potential of P2P lending to launder/clean such money will invite "shady" participants.

Way forward

- India being one of the biggest offline peer-to-peer (P2P) lending markets in the world with nearly 50 per cent of all credit circulated amongst friends, families, and communities presents huge potential to technology-enabled P2P lending.

- The consumers need to be educated about this innovative credit access model
- The RBI and SEBI should frame and harmonise regulations on this sector.

3.6. NATIONAL MINERAL EXPLORATION POLICY

Why in news?

- The Union Cabinet has approved the National Mineral Exploration Policy (NMEP).
- To encourage mineral exploration in the country, the Mines Ministry has already notified the National Mineral Exploration Trust (NMET).

Need

- The Ministry of Mines has, in the recent past, taken a series of measures for the growth of the mineral sector, including allowing 100% FDI. However, these initiatives have fetched only limited success.
- Of India's entire Obvious Geological Potential (OGP) area, identified by GSI, only 10 per cent has been explored and mining is undertaken in 1.5-2 per cent of this area.
- Further, over the years the dynamics of the mineral sector have undergone sea change thereby creating new demands and imperatives.

Salient Features

- The NMEP primarily aims at accelerating the exploration activity in the country through enhanced participation of the private sector.
- States will also play a greater role by referring exploration projects, which can be taken up through NMET.
- NMEP has proposed that private entities engaged in carrying out regional and detailed exploration would get a certain share in revenue in mining operation from the successful bidder after the e-auction of the mineral block.
- The revenue-sharing could be either in the form of a lump sum or an annuity, to be paid throughout the period of mining lease with transferable rights.
- Selection of private explorer is proposed to be done through a transparent process of competitive bidding through e-auction.
- For this, reasonable areas or blocks for regional exploration will be earmarked or identified by the government for auctioning.

Major Impacts

- The pre-competitive baseline geoscientific data will be created as a public good and will be fully available for open dissemination free of charge. This is expected to benefit public and private exploration agencies.
- The collaboration with scientific and research bodies, universities and industry for the scientific and technological development necessary for exploration in public- private partnership.
- Government will launch a special initiative to probe deep-seated/concealed mineral deposits in the country.
- A National Aerogeophysical Mapping program will be launched to map the entire country with low altitude and close space flight to delineate the deep-seated and concealed mineral deposits.
- Government will engage private agencies for carrying out exploration in identified blocks / areas with the right to certain share in the revenue accruing to the State government through auction.
- Public expenditure on regional and detailed exploration will be prioritized and subject to periodical review based on assessment of criticality and strategic interests.

3.7. NATIONAL HIGHWAYS GRID

Why is it needed?

- In India the lack of scientific road network pattern has created a problem for drivers who can't take a straight road to reach from one place to the other.

What is being done to check this?

- National Highway Authority of India is proposing a 'National Highway Grid' which will include 27 horizontal and vertical highway corridors spread across the country.
- The corridors, spaced at a distance of 250 kilometres, will crisscross and connect with each other.
- Out of the total 36,600 km, about 30,100 km are already NHs, but only 18,800 km of them are of four-lanes.
- The rest, either single or two lanes and missing NH link of about 6,500 km, which are either state highways or major district roads, will be made NH and widened to 4 lanes.
- The total project is worth Rs 25,000 crores and will help the government re-designate the NHs for easy identification.
- Numbering of all highways running from east to west with even numbers, and north to south roads with odd numbers may also be done.
- The grid will connect 12 major ports, 26 state capitals and more than 45 cities and thus help in quick evacuation and transport of cargo from one end to the other.

3.8. INCOME DECLARATION SCHEME

Why in news?

- The Finance Act 2016 passed in the budget session provided for Income Declaration Scheme which gives an opportunity to all persons to declare their undisclosed income.
- The Scheme becomes effective from 1st June and will be valid till 30th September for filing declarations and 30th Nov for payment of penalty.

Key Features of the Scheme

- Undisclosed income will be taxed at 30% plus a "Krishi Kalyan Cess" of 25% on taxes payable and an additional penalty of 25% on taxes payable, which in totality amounts to **45% of income declared** under the scheme. (30%+ (25+25)% of 30%)
- The scheme shall apply to undisclosed income whether in the form of investment or assets pertaining to year 15-16 or before.
- In case of investment the undisclosed income will be based on Fair Market value as on 1st June 2016.

Protection available under the Scheme

- The declarants are given immunity from prosecution under Income tax Act, Wealth Tax Act and Benami Transaction Act.
- However, foreign assets or income to which the Black Money Act 2015 applies are not eligible for declaration under this scheme.
- Undisclosed income acquired through corruption is not covered under the scheme.

Critical Analysis

If successful it can be a big source of revenue for the government as recent tax report points out that only 1% of population pays taxes. However the scheme may not see much success due to the following reasons:

- Fear of being investigated under other legislations like Excise Act, Service Tax Act etc.
- Very high tax rate of 45%.
- Calculation of investment value based on Fair Market value as on 1st June 2016 can be higher than the original value of investment.

- Assets will be liable for capital gains tax in future.
- No immunity provided for cases covered under Black Money (Undisclosed Foreign Income and Assets) Imposition of Tax Act, 2015 as well as FEMA.

Therefore for the success of the scheme, a much wider immunity from prosecution and harassment under other laws is required.

3.9. CENTRAL PORT AUTHORITIES BILL 2016

Why in news?

- The shipping Ministry has come up with a new Central Port Authorities Bill 2016 to replace the 5 decade old Major Port Trust Act 1963.
- The new Bill when enacted will enable the 11 major ports to function like corporate entities as many of the provisions are in line with the Companies Act, 2013.

Key features of the Bill

- The draft bill has proposed a simplified structure for the board by bringing it down to nine members that includes three functional heads of major ports as members apart from a Government nominee member and a labour nominee member.
- To increase their functional autonomy, the ports have been delegated powers to raise loans and issue securities for the purpose of capital expenditure and working capital requirement
- Ports will now be able to lease land for port-related use for up to 40 years, and for non-port related activities up to 20 years.
- The ports have to comply with the auditing and accounting standards as prescribed in the Companies Act, 2013, i.e. they will conduct internal audit of their activities and functions.
- Power of Central Govt. to take over the control of the Port Authority is limited to the event of grave emergency or in case of persistent default in performance of their duties.
- Provisions of CSR & development of infrastructure by Port Authority have also been introduced in line with Companies Act, 2013.

3.10. MSP FOR PULSES

Why in news?

Centre announced a hike by up to Rs. 425 per quintal (including a bonus of Rs 200 per quintal) in the minimum support price (MSP) for pulses, after Cabinet Committee on Economic Affairs (CCEA) has given the approval.

Pros

- Encourages farmers to grow more pulses. Pulses enjoy the lowest cost of production with negligible use of fertilizer and insecticides with higher potential of production. They are well in accordance with Agro-Climatic region of this country.
- Increases acreage and invest for increase in productivity of pulses.
- Recovery in prices in context of growing labour and input costs.
- India's pulses import is estimated to set the new all-time high record at 4.5-5 million tones, the severity of which may reduce.
- A nominal Rs 50 increase in the minimum support price (MSP) in paddy. This is very important as relative attractiveness of Pulses vis a vis paddy and wheat increases.

Cons

- Hike is too little, too late - MSPs that have been declared are way below the market prices to influence planting decisions of farmers.

What is MSP?

MSP is the rate at which government agencies like Food Corporation of India (FCI) and other state government-owned agencies procure the grain from farmers besides it also taken as benchmark prices in the market.

- MSP increase in wheat will result in farmers producing more wheat,
- Negligible impact on pulse production in India because of ground level reach of MSP which is <6% of farmers.

3.11. KRISHI KALYAN CESS

Why in news?

Imposition of **Krishi Kalyan Cess** of 0.5% as announced in the Budget.

What is it?

- KKC is a cess, applicable on all services. It is to be solely used towards financing activities for the improvement of agriculture and farmer welfare.
- Hence new effective Service Tax hence increased to 15% from 14.5%.
- **Budget target for Krishi Kalyan Cess is Rs. 5000 crore.**

Why is it important?

- The KKC is based on the idea that levying a cess on a thriving sector service sector (58% of GDP) of the economy can help fund a lifeline to a sector that is in distress (Agriculture).
- The problem is particularly acute this year after two consecutive years of monsoon failure.
- Over the long-term, improvement in agricultural productivity will help farmers earn higher income and consumers benefit and low inflation from lower prices as a result of better supplies

Difference between cess, surcharge, levy and tax

- Tax: Any money the government takes from you for doing any economic activity is tax.
- Levy is the act of charging tax.
- “**Cess**” means tax levied by the govt to raise funds for a specific purpose. It is also a tax on tax.
- Surcharge is a charge on any tax, charged on the tax already paid. Govt can spend it anywhere.
- Duty: This is an on-border tax charged on goods

3.12. FUND OF FUNDS FOR FUNDING SUPPORT TO START-UPS

Why in news?

The Union Cabinet has approved the establishment of “**Fund of Funds for Startups**” (FFS), an initiative of Department of Industrial Policy & Promotion (DIPP).

What is it?

- The corpus of FFS is Rs.10,000 crore which shall be built up over the 14th and 15th Finance Commission cycles subject to progress of the Startup India scheme and availability of funds.
- The expertise of SIDBI would be utilized to manage the day-to-day operations of the FFS.
- The monitoring and review of performance would be linked to the implementation of the Start Up Action Plan to enable execution as per timelines and milestones.

Significance

- A corpus of Rs. 10,000 crore could potentially be the nucleus for catalyzing Rs. 60,000 crore of equity investment and twice as much debt investment.
- This would provide a stable and predictable source of funding for Startup enterprises and thereby facilitate large-scale job creation.
- Accelerating innovation driven entrepreneurship and business creation through Start-ups is crucial for large-scale employment generation.

3.13. ASIAN DEVELOPMENT BANK - GANGA BRIDGE LOAN

- Asian Development Bank (ADB) has approved \$500 million (approximately Rs 3350 crore) loan for constructing a bridge across Ganga.
- Once built, the 9.8 km road bridge in Bihar will be country's longest river bridge.
- The bridge would provide vital transport links between the northern and southern parts of the state and with neighbouring country Nepal.
- The project will run for about 4 years and is expected to complete by the end of December 2020.
- Along with ADB's loan and \$900,000 (approximately Rs 6 crore) in technical assistance to improve bridge operation and management, Bihar government will provide support equivalent to \$215 million (approximately Rs 1460 crore).

About ADB

- The Asian Development Bank was conceived in the early 1960s as a financial institution that would be Asian in character and foster economic growth and cooperation in one of the poorest regions in the world.
- ADB assists its members, and partners, by providing loans, technical assistance, grants, and equity investments to promote social and economic development.
- ADB is composed of 67 members, 48 of which are from the Asia and Pacific region.
- India became a member of the Asian Development Bank (ADB) as a founding member in 1966.
- India is holding 6.33% of shares in ADB as on 31st December, 2012. India has 5.36% voting rights.
- Japan and the US represent the largest shareholders.

3.14. RAJASVA GYAN SANGAM

Why in news?

The PM has addressed the tax administrators of both Central Board of Direct Taxes (CBDT), and the Central Board of Excise and Customs (CBEC), at Rajasva Gyan Sangam.

Suggestions

- The necessity of digitization, voluntary tax compliance, facilitation for taxpayers, increasing the tax base, upgradation of digital and physical infrastructure for tax administrators etc.
- Tax evaders should be brought to heel. But the Law enforcement agencies v/s taxpayer friendly departments dilemma, while collecting due taxes from people, should be resolved.
 - They both are not essentially at loggerheads, but can be complementary to each other.
- PM has suggested: People should not fear tax administrators.
- Need for tax administrators to engender trust in the system.
- Simplification - User-friendly procedure to increase the tax payments.

The Prime Minister outlined a 5-point charter for tax administrators, RAPID:

- R for Revenue,
- A for Accountability,
- P for Probity,
- I for Information (for non-intrusive tax assessment)
- D for Digitization (to record them)

3.15. "SURYAMITRA"

Who are Suryamitras?

Suryamitras are skilled technicians who can install, operate, repair and maintain, provide servicing for solar powered panels, solar power plants and equipment (For ex: solar cookers, solar heaters, solar pumps etc.)

Suryamitra initiative

- "Suryamitra" is a residential program which is 100% funded by Govt. of India and implemented by NISE across the country.

- The institutes like universities, polytechnics, ITIs etc. are executing the “Suryamitra” skill development program at various locations in the country.
- Thus Suryamitra is creating job opportunities to the unemployed youth. About 80% of the Suryamitras are placed in various solar industries with decent salaries. The rest are becoming entrepreneurs in the field of solar energy.
- Suryamitra initiative is also a part of Make in India. Suryamitra course is a 600 hours (i.e. 3 months) skill development program designed to create skilled manpower in installation, commissioning, and Operation & Maintenance of solar power plants and equipment.
- MNRE set a target of 50,000 “Suryamitras” of skilled manpower in solar energy sector in next 3 years. As on date more than 3,200 Suryamitra are trained under the program. The target for FY 2016-17 is to train 7,000 Suryamitra’s.

Suryamitra mobile app

- “Surya Mitra” is a GPS based mobile App developed by National Institute of Solar Energy (NISE).
- This App is a high-end technology platform, which can handle thousands of calls simultaneously and can efficiently monitor all visits of Suryamitras.

Significance

- To achieve and maintain the target of 100 GW solar power plants for 25 years, India requires about 6.5 lakh personnel, trained in solar energy sector (estimated by CII). This course is designed and oriented as per requirement of solar industry.
- To serve customers at their doorsteps with quality installation, repair, and O&M services and thereby create job opportunities.
- Suryamitra Mobile App would act as an effective catalyst in creating demand for solar products in the country and in offering employment and business opportunities for Suryamitras.

About National Institute of Solar Energy (NISE)

- An autonomous institution of Ministry of New and Renewable (MNRE), is the apex National R&D institution in the field Solar Energy.
- The Government of India has converted 25 year old Solar Energy Centre (SEC) under MNRE to an autonomous institution in September, 2013 to assist the Ministry in implementing the National Solar Mission and to coordinate research, technology and other related works.

3.16. NATIONAL SOLAR MISSION

Aim

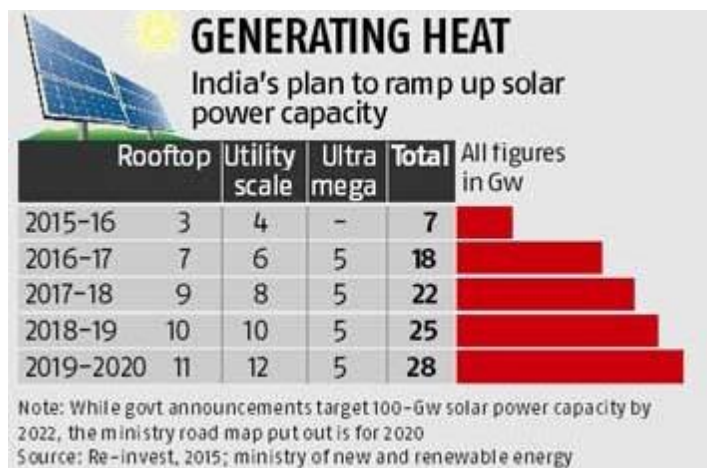
- Generating 100 GW of solar power by the year 2021-22
- To generate 60 GW ground mounted grid-connected solar power and 40 GW through roof-top grid interactive solar power.
- The target for the current year is 2,000 MW and next year target is 12,000 MW.

Work being done

- States step up
 - ✓ This year India had 6,762 megawatts (MW) of grid-connected solar power projects. Of this, Rajasthan tops the list with around 1,269MW.
 - ✓ states like Telangana (527.8MW), Andhra Pradesh (573MW) Tamil Nadu (1,061.8) and Gujarat (1,119.1MW) are also doing well

Solar power potential in India

As per the study conducted by ministry of new and renewable energy (MNRE), India’s solar power potential is as high as 748 GW, against our country’s cumulative installed capacity from all sources at around 275 GW.



- ✓ Bridge to India report released in April highlighted that states such as Maharashtra and Uttar Pradesh that are large power consumers have been relatively slow to grow
- To achieve above stated objective, the Ministry of New & Renewable Energy has initiated several projects like:
 - ✓ Scheme for Development of Solar Parks and Ultra Mega Solar Power Projects;
 - ✓ Scheme for Development of Solar PV Power Plants on Canal Banks/ Canal Tops;
 - ✓ Scheme of setting up 1000 MW of Grid-Connected Solar PV Power Projects by CPSUs with Viability Gap Funding.

Challenges

- Availability of land: for solar units is a major problem.
- Land ownership and the willingness of the owners to part with these lands are an issue that needs to be addressed.
- Evacuation of power from remote areas is difficult. Wasteland is available, but the problem is that they are typically in remote locations.
- RPOs: The lifting of solar power by the distribution companies is also a question mark because of their poor financial health, and because renewable energy purchase obligations may not be effectively enforced.
- Many investors are asking deeper questions about viability. Nearly one square kilometre of land is needed to put up a 40-60 MW solar plant. Such large chunks of land are not readily available except in isolated areas from which evacuation of power becomes even more difficult.

Solar power getting cheaper

- Solar panels made from materials called perovskites.
- Recent bids by companies such as SkyPower, SunEdison were at Rs. 5-6/ unit which is very much comparable to thermal power plants.

Less practical than conventional energy

- Solar energy works only when the sun is shining
- Solar systems do not operate efficiently during monsoons or winters when there is fog.
- Blending of solar energy in the grid with thermal energy – and that poses all sorts of practical problems.
- Capital costs of solar installation are also higher.
- **Domestic manufacturing** remains a weak link:
 - ✓ Indian products are of low technology.
 - ✓ Self-sufficiency is needed for success of Make in India. Will save \$42 billion in equipment imports by 2030 and create 50,000 direct jobs and at least 125,000 indirect jobs.

Way Forward

- Germany has become a world leader in Solar Energy because of the system of Feed-in-Tariffs (FITs - fixed per kWh for 20 years, covering investment)and guaranteed priority grid connections to renewable energy producers
- Farmer co-operatives to harvest solar fields, especially in areas that have low irrigation and cropping intensity, like Marathwada and Bundelkhand. This will also supplement in the income of farmers.
- Resolution of WTO solar dispute and finding out alternatives for increasing the domestic production.

3.17. WORLD INVESTMENT REPORT 2016

Why in news?

UN Conference for Trade and Development (UNCTAD) has released the World Investment Report 2016.

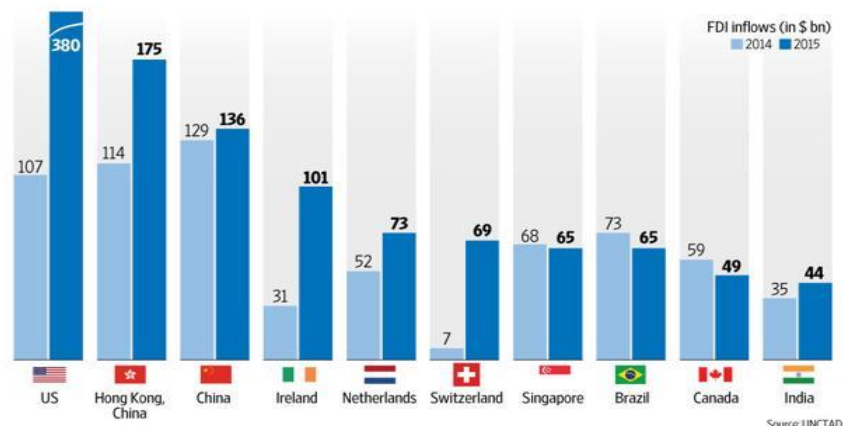
Salient points

- **Global Investment Trends**
 - ✓ Recovery in FDI was strong in 2015. Global FDI flows jumped by 38 per cent to \$1.76 trillion, their highest level since the global economic and financial crisis of 2008–2009.
 - ✓ Looking ahead, FDI flows are expected to decline by 10–15 per cent in 2016, reflecting the fragility of the global economy, persistent weakness of aggregate demand, sluggish growth in some commodity exporting countries, effective policy measures to curb tax inversion deals and a slump in MNE profits.
- **Regional Investment Trends**
 - ✓ After three successive years of contraction, FDI inflows to developed countries bounced back sharply to the highest level since 2007, reach a new high of \$765 billion, 9 per cent higher than in 2014

- ✓ India continues to be among the top ten countries in terms of foreign direct investment (FDI) inflows globally and the fourth in developing Asia
- ✓ India's FDI inflows have increased to \$44 billion in 2015 as compared to \$35 billion in 2014

FDI RANKINGS

The US tops in FDI inflows, with China at third place and India at 10th.



• Causes for increased FDIs

- ✓ Make in India initiative, alongside liberalization measures and reforms initiated by the Government.
- ✓ The recent announcement of increasing FDI in seven new sectors, including civil aviation, defence, food products and pharmaceuticals, has huge potential for attracting FDI.
- ✓ Huge potential offered by India, the fastest growing major economy,

• Outflows

- ✓ In terms of outflows, there has been a decline in most developing and transition regions.
- ✓ The declining trend in India's outflows can be explained by the collapse in the commodity side.

• Investment Policy Trends

- ✓ Most new investment policy measures continue to be geared towards investment liberalization and promotion.
- ✓ Governments' space for applying national security regulations needs to be balanced with investors' need for transparent and predictable procedures.
- ✓ Necessity for striking the right balance between liberalization and regulation to promote investment for sustainable development.

About UNCTAD

- **United Nations Conference on Trade and Development (UNCTAD)** is the principal organ of the United Nations General Assembly dealing with trade, investment, and development issues. The organization's goals are to: "maximize the trade, investment and development opportunities of developing countries."
- It organizes: World Investment Forum
- It publishes reports like:
 - ✓ World Investment Report
 - ✓ Technology and Innovation Report

3.18. MODEL GST LAW

Why in news?

The Government has unveiled a draft version of the 'Model GST Law' for comments from various stakeholders. Once implemented, the GST will subsume all existing indirect tax provisions under customs law, central excise law, service tax law, VAT laws, etc.

What is GST?

GST is a value added tax that will replace all indirect taxes levied on goods and services by the Government, both Central and States, once it is implemented. GST would amalgamate various taxes and create a single tax which would mitigate cascading or double taxation.

Features

Model GST law contains two parts - the Goods and Services Tax Act, 2016 and the Integrated Goods and Services Tax Act, 2016.

- The GST law will comprise of Central GST (CGST), State GST (SGST) and Integrated GST (IGST) which will be levied on the same taxable value.
- The CGST and SGST shall be simultaneously imposed on intra-state supply of goods and services, while the IGST on interstate supplies.
- Taxable event under GST is 'supply of goods and services' instead of the existing multiple taxable events like manufacture, rendering of service and sales of goods.
- The GST law maintains distinction between goods and services. The definition 'goods' is in line with the Sales of Goods Act, 1930 and services has been defined to mean anything other than goods. Therefore, all intangible services fall under 'services'.
- GST rate will be specified in the schedules of this law.
- It also provides for tax deduction at source (TDS) for online transactions, clearly bringing ecommerce under GST fold.
- The law provides for appointment of three classes of officers, viz.,
 - CGST officers
 - SGST officers and
 - IGST officers who will be responsible for administering the respective GST law.
- The law gives central and state GST officers above a certain rank the powers to conduct audit and inspection as well as search and seizure operations in cases of tax evasion.
- Suppliers are liable to be registered in each State from where supply of goods and/ or services is made.
- The law provides for the constitution of a National GST appellate tribunal by the Centre, with a branch in each state to hear disputes. Appeals must be filed within 3 months from the date of communication of order.

Challenges

- To ensure that States adopt and enact the model law in its fullest form, to ensure uniformity of the levy and its consistent administration, as also the concept of "unified market" that has been central to the proposed GST regime since its inception.
- **GST Dispute Settlement Authority:** is not included in the Bill. This is a serious lacuna that must be filled. GST council may not be able to deal objectively due to political contingencies.
- **Voting pattern within the GST Council:** is unduly weighted in favour of the Centre. Centre getting one-third share in voting rights. On the other hand, states' collective share will be limited to two-third. This was pointed out by Tamil Nadu CM.
- **Rewarding destination states:** GST, by nature, is a destination-based consumption tax.
- **Disparity in IT connectivity:** GST aims to achieve a tectonic shift to a singular digitised compliance set-up.
- **Dependence of GST on IT:** The proposed GST is also highly dependent on IT. For instance, the Integrated Goods and Services Tax (IGST mechanism), which enables the crucial fungibility of taxes across States, will be unworkable outside an automated set-up, especially given the sheer volume of transactions that the GST will subsume. The proposed IT infrastructure will have to be suitably equipped, as any snags would effectively render the levy dysfunctional.
- **Conflict between the Centre and the States:** past precedent has shown that such dual taxing power has resulted in complete chaos at the cost of assesses.
- **Issues of place of supply:** Though this is a loop-hole where Centre and States can assert to garner tax revenue, Model Law has taken enough care of this.

GST council

A council will be set up to recommend rates of tax, period of levy of additional tax, principles of supply, special provisions to certain states, resolve disputes etc. The GST Council will consist of the Union finance minister, Union minister of state for revenue, and state finance ministers.

Way forward

- All the states have united recently, for the passage of GST bill. This is a good sign.
- States have rejected the provision for a constitutional cap on the GST rate. There has been complete consensus on no constitutional cap, as exigencies may arise in future to revise the rates.
- The government has made it clear that there was no deadline for the implementation of the GST, which makes further negotiations easy.
- The government aims to introduce the GST Constitution Amendment Bill in the Rajya Sabha in the monsoon session of Parliament.

3.19. LOAD GENERATION BALANCE REPORT

What is LGBR report?

- The government used to plan generation with deficit of power in the past in its LGBRs, which are brought out every year to project electricity demand and supply situation.
- The report covers the month-wise anticipated energy requirement and availability as well as peak demand and availability for the year against an all India annual generation target.
- The LGBR is finalised by the Central Electricity Authority and approved by the Power Ministry after detailed discussions with the States/ utilities and Central/State/Private generation companies.

Highlights

- To make the country energy surplus with a target of generating 1,178 billion units, leading to a 1.1 per cent overall electricity surplus this fiscal.
- Among the States where power surplus is anticipated in the current fiscal are: Delhi at 18.6 per cent, Madhya Pradesh at 11.9 per cent, Maharashtra 7.4 per cent and Tamil Nadu at 11.2 per cent, among others.
- The States where electricity deficit is anticipated are Jammu and Kashmir, Uttar Pradesh, Uttarakhand, Bihar and Jharkhand, among others.
- **Increase in availability:** Import of Power from Generation Projects in Bhutan and also availability from non-conventional and renewable energy sources in the country.
- During the year 2015-16, a total of 28,114 circuit-km of transmission lines and 62,849 MVA transformation capacity was added.
- With the commissioning of these transmission lines, the inter-state and intra-state capability of power transfer in the country enhanced considerably.
- A generating capacity above 16,654.5 mw has been considered in the LGBR for 2016-17

State / Region	Energy				Peak			
	Requirement	Availability	Surplus (+)/ Deficit (-)		Demand	Met	Surplus (+)/ Deficit (-)	
	(MU)	(MU)	(MU)	(%)	(MW)	(MW)	(MW)	(%)
Northern	357,459	351,009	-6,450	-1.8	55,800	54,900	-900	-1.6
Western	379,087	405,370	26,283	6.9	51,436	56,715	5,279	10.3
Southern	310,564	320,944	10,381	3.3	44,604	40,145	-4,459	-10.0
Eastern	151,336	135,713	-15,622	-10.3	21,387	22,440	1,053	4.9
North-Eastern	16,197	14,858	-1,339	-8.3	2,801	2,695	-106	-3.8
All India	1,214,642	1,227,895	13,252	1.1	165,253	169,503	4,250	2.6

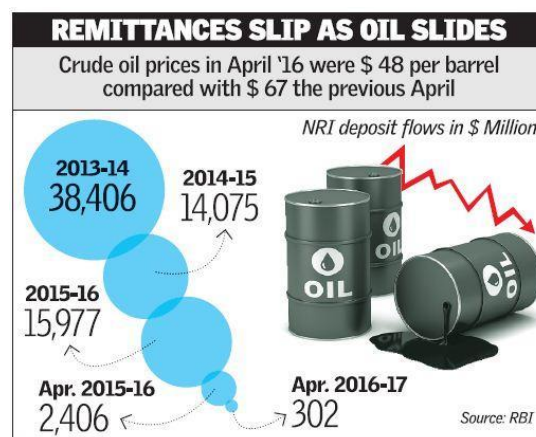
3.20. FALL IN NRI REMITTANCES

What is the Issue?

- Sixty per cent of the India's remittances come from Gulf countries.
- Due to slide in oil prices the suppliers i.e., gulf countries are most affected. Remittances by non-resident Indians (NRIs) fell 87 per cent in April.
- The biggest fall was registered in the Non-Resident (External) Rupee Account (NR(E)RA) category, which saw inflows decreasing to \$203 million in April. It was \$2,200 million in the year-ago period.

Impact on India

- Healthy current account deficit has been one of the redeeming features of the country's external sector and prevented crisis.
- A huge drop in the import bill has compensated Indian economy.
- According to Moody's diversified location of Indian workers overseas will balance out falling remittances from Gulf.
- Further, relatively diverse occupations of their workers would provide a buffer against an oil-related slowdown in remittances.
- Negative Impact:
 - ✓ Certain regions in country (for ex: Kerala) are significantly affected.
 - ✓ Lay-offs in many Gulf countries have increased the unemployment conditions in India.



3.21. SINGAPORE INTERNATIONAL ARBITRATION CENTER

Why in news?

Singapore International Arbitration Centre (SIAC) in June 2016 signed a Memorandum of Agreement (MoA) with Gujarat International Finance Tec-City Company Limited (GIFTCL) and GIFT SEZ Limited (GIFT SEZ) to establish a representative office in India.

Aim: To resolve international commercial disputes with the collaboration of SIAC and the Singapore International Mediation Centre (SIMC) with Indian companies.

Highlights

- As per the agreement, GIFTCL, GIFT SEZ and SIAC will collaborate to promote the use of arbitration, mediation and other dispute resolution mechanisms
- It also includes the innovative '**Arb-Med-Arb**' service (Arbitration - Mediation - Arbitration).
- SIAC's representative office will promote its international arbitration services to Indian users.

Arb-Med-Arb

Arb-Med-Arb is a process where

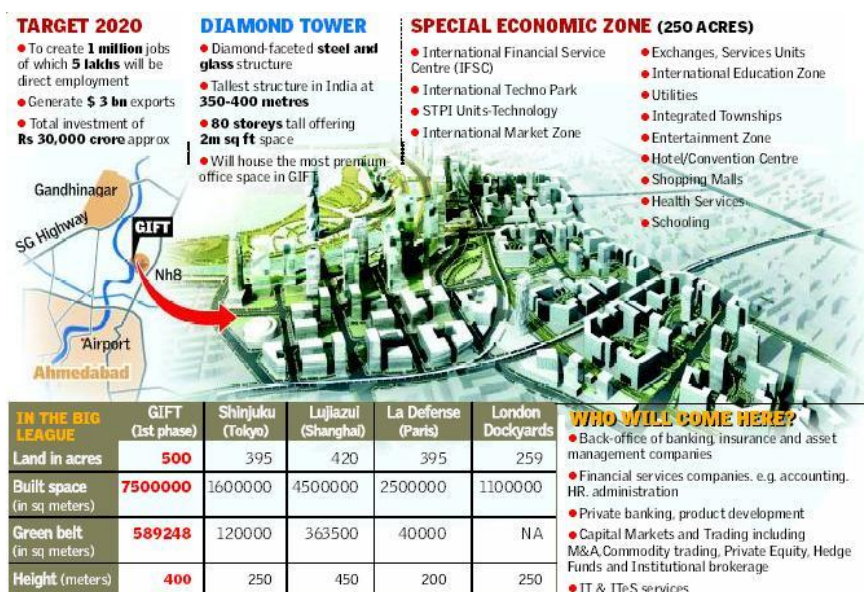
- A dispute is first referred to arbitration before mediation is attempted.
- If mediation works, mediated settlement may be recorded as a consent award.
- If mediation fails, they may continue with the arbitration proceedings.

Economic implications

- Promote SIAC's arbitration services to Indian users.
- Indian parties are among the top five foreign users of SIAC in the last five years & India was the top foreign user of SIAC in 2013 and 2015.
- GIFT city can bring back money lost to other rival financial centres i.e., IFSCs of Dubai, Singapore and Hong Kong.
- Strengthens the GIFT city as International Financial Services Centre (IFSC) as any successful IFSC requires an efficient dispute resolution mechanism.
- SIAC increases the 'Ease of doing business' by improving the contract enforcement, reducing delays, protecting investors, resolving insolvency etc.

Gujarat International Finance Tec-City or GIFT

- It is first of the 100 smart cities.
- GIFT city is the first IFSC (International financial services centre) and to be set up in a SEZ.
- As part of the budget, a reduced Minimum Alternate Tax (MAT) rate of 9% was proposed for the IFSC in an SEZ in Gujarat, while retaining 18.5% MAT on all other SEZs.
- GIFT City is a US\$20-billion project combining state-of-the-art connectivity, infrastructure and transportation with sustainable growth.
- From offshore banking to currency convertibility, re-insurance, commodity and securities trading and capital raising all kinds of financial activity can take place inside this IFSC.



3.22. CIVIL AVIATION POLICY

Why in news?

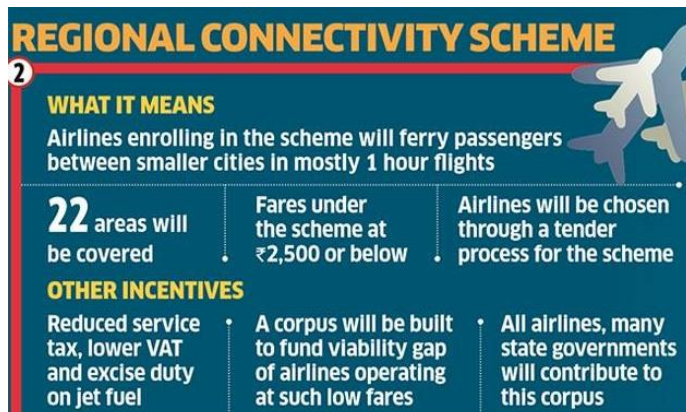
The Union Cabinet recently cleared the Civil Aviation Policy in order to boost the domestic aviation sector and provide passenger-friendly fares. This new policy aims at providing various benefits to domestic airline passengers.

The Policy aims at

- India to become 3rd largest civil aviation market by 2022 from 9th.
- Domestic ticketing to grow from 8 crore in 2015 to 30 crore by 2022. To grow domestic passenger traffic nearly four-fold to 300 million by 2022.
- Airports having scheduled commercial flights to increase from 77 in 2016 to 127 by 2019.
- Cargo volumes to increase by 4 times to 10 million tonnes by 2027.
- Enhancing ease of doing business through deregulation, simplified procedures and e-governance.
- Promoting 'Make In India' in Civil Aviation Sector.
- Ensuring availability of quality certified 3.3 lakh skilled personnel by 2025.

Highlights of NCAP

- The cornerstones of the new civil aviation policy are
 - ✓ competition
 - ✓ consumers
 - ✓ connectivity (within India and with the rest of the world)
 - ✓ investment-both from domestic and foreign investors
- Regional Connectivity Scheme**
 - ✓ **Capping of fare:** Rs 1,200 for 30 minutes and Rs 2,500 for hour-long flights.
 - ✓ Revival of airstrips/airports as No-Frills Airports at an indicative cost of Rs.50 crore to Rs100 crore
- Route Dispersal Guidelines (RDG)**
 - ✓ **MoCA** will categorize the air traffic routes into 3 categories.



- **5/20 rule scrapped.**
 - ✓ Replaced with a scheme which provides a level playing field
 - ✓ All airlines can now commence international operations provided that they deploy 20 aircraft or 20% of total capacity, whichever is higher for domestic operations.
- **Bilateral Traffic Rights**
 - ✓ GoI will enter into 'Open Sky' ASA on a reciprocal basis with SAARC countries and countries located beyond 5000 km from Delhi. i.e., these countries will have unlimited access, in terms of number of flights and seats, to Indian airports, leading to increased flight frequencies with these countries.
- **Ease of doing business**
 - ✓ A single window for all aviation related transactions, complaints, etc.
 - ✓ More focus on ease-of-doing business as government plans to liberalize regime of regional flights.
 - ✓ Permission for Indian carriers to get into code-sharing agreement with foreign carriers for any destination within India.
 - ✓ The earlier proposed 2% cess on all regional flights has been done away with. The cess was proposed to collect funds to improve regional infrastructure.
- **Infrastructure development**
 - ✓ **Restoration of air strips** at a maximum cost of Rs 50 crore through Airports Authority of India (AAI).
 - ✓ Four **Heli-hubs** to be developed. Helicopter Emergency Medical Services to be facilitated
 - ✓ Development of **Greenfield and Brownfield airports** by State government, private sector or in PPP mode to be encouraged.
 - ✓ Future tariffs at all airports will be calculated on a 'hybrid till' basis
- Strategic partnership between Ministry of Skill Development and Entrepreneurship and Ministry of Civil Aviation to boost skill initiatives in aviation sector.



Shortcomings in the new policy

- **Structural reforms ignored**
 - ✓ There has been no direction on improving institutional capability in the Ministry of Civil Aviation.
 - ✓ The policy also **doesn't provide the civil aviation sector with the institutional infrastructure** required for long-term growth.
 - ✓ The policy gives no direction for professionalizing the Directorate General of Civil Aviation (**DGCA**) and Bureau of Civil Aviation Security (**BACS**), independent **Civil Aviation Authority (CAA)**. Airports Authority of India (**AAI**).
 - ✓ AAI is important as India's massive airport infrastructure development plans requires a strong entity to see the execution through and AAI needs to be revamped.
- **Other shortcomings**
 - ✓ Rs 2,500 for a one-hour flight ticket - and subsidising private airlines in case the ticket prices exceed this per-determined rate. Arbitrary price curbs and bureaucratic interference in the affairs of private airlines may lead to rent-seeking.
 - ✓ NCAP remains silent on increasing Foreign Direct Investment (FDI) in Airlines.
 - ✓ Scrapping away 5/20 rule may not help new carriers like Vistara and AirAsia India significantly as they cannot fast track expansion owing to a resource crunch.
 - ✓ The helicopter industry will structurally change with the announced measures, but its success is dependent almost entirely on DGCA, BCAS and infrastructure development.

3.23. SEBI ISSUES STRICTER KYC & DISCLOSURE REGIME FOR P-NOTES

Background

- Special Investigation Team (SIT) on black money has suggested ensuring that P-Note route is not used for money laundering.
- Earlier in 2007, Offshore/overseas derivative instruments (ODIs) used to account for as high as 55% of the total foreign fund flows in Indian capital markets, now their share has fallen to a record low level of 9.3%.

Facts

- Under the new norms, all the users of P-Notes would have to follow Indian KYC and Anti Money Laundering (ALM) Regulations, irrespective of their jurisdictions.
- Henceforth, P-Note issuers will be required to file suspicious transaction reports with the Indian Financial Intelligence Unit.
- ODI holders have to report monthly reports on ODIs all the intermediate transfers during the month.
- ODI issuers have to carry out reconfirmation of the ODI positions on a semi-annual basis.

What are offshore derivatives instruments (ODIs)?

- (ODIs) are investment vehicles used by overseas investors for an exposure in Indian equities or equity derivatives.
- These investors are not registered with SEBI, either because they do not want to, or due to regulatory restrictions.
- These investors approach a foreign institutional investor (FII), who is already registered with SEBI. The FII makes purchases on behalf of those investors and the FII's affiliate issues them ODIs.
- P-Notes are a type of offshore/overseas derivative instruments (ODIs)

Financial Intelligence Unit – India: was set by the Government of India in 2004 as the central national agency responsible for receiving, processing, analyzing and disseminating information relating to suspect financial transactions.

3.24. SEBI RELAXES RULES FOR REITS, OFFSHORE FUND MANAGERS

Why in news?

The Securities and Exchange Board of India (Sebi) has relaxed rules on Real Estate Investment Trusts (REITs) by allowing them to invest more in under-construction projects, rationalised unit holder consent on related party transactions and removed restrictions on special purpose vehicle (SPV) to invest in other SPVs holding the assets.

- The current regulations cap investment of REITs' assets in under-construction projects at 10%, which will be raised to 20%.
- Sebi also proposed to raise the number of REIT sponsors, which is now capped at three.
- Additional relaxation is also proposed on clearing related-party transactions and the number of shareholders needed to pass a resolution.
- The Sebi board has also approved changes to portfolio manager regulations to allow a foreign fund manager to relocate to India as an eligible.
- However, the intent to allow REIT to invest more in under-construction assets may dilute the idea of a REIT. Globally, REIT is composed of only stable assets. Allowing more investments in incomplete projects may improve return on investment but on the flip-side it will also increase risks,

3.25. NRI CAN APPLY TO NPS ISSUE

- The Centre has announced that non-resident Indians (NRIs) can now open National Pension Scheme (NPS) accounts **online**. Earlier NRIs could only make paper-based applications to banks.
- Through e-NPS, NRIs will need just an Internet connection and an Aadhaar/PAN card.
- In addition, NRIs will get to open NPS accounts on both repatriable and non-repatriable basis.
- For both, they will be able to join through their NRE/FCNR/NRO accounts. At the time of maturity or during partial withdrawal, the NPS funds would be deposited only in their NRO.

Repatriable Accounts: Legally Indian rupees can be transferred back to foreign currency, that is money can be converted to any foreign currency.

- Ex: NRE Account (Non-resident External Account): Savings, Current & Time Deposits
- FCNR-B Account (Foreign Currency Non-resident Bank Deposits)

Non-Repatriable Accounts: Money cannot be converted to any foreign currency.

NRO Account (Non-resident Ordinary Rupee Account) – Savings, Current and Time Deposits accounts

Significance

- India has the second-largest diaspora in the world, with around 29 million people living in over 200 countries and out of these 25 per cent live in the Gulf countries.
- Both repatriable and non-repatriable schemes will greatly appeal to NRIs who intend to return to India after their employment abroad.
- Most of the Indians going to the Gulf and some other countries go for employment and return to India after having worked abroad for a certain period.
 - ✓ NPS can provide a long term solution to their old age income security.
 - ✓ It is also attractive due to NPS scheme's active returns, low cost, flexibility for NRIs
- Also NPS is being regulated by the PFRDA, which gives the confidence and trust factor very important for pension dependent old-age population.

3.26. INCENTIVES OFFERED FOR TEXTILE SECTOR

Why in news?

The Centre has announced a **Rs. 6,000 crore special package** to help create one crore jobs, mostly for women, in the next three years.

What is in it?

- The package includes several tax and production incentives. The package also provides the sector more flexible labour laws and financial incentives.
- **Labour welfare:** Overtime hours for workers shall not to exceed eight hours per week - in line with International Labour Organisation norms.
 - ✓ Fixed term employment will be introduced for the sector to mitigate seasonal nature of employment.
- **Employees Provident Fund:** Govt. is to bear the entire employer's contribution of 12 per cent under the EPF Scheme, for new employees of garment industry earning less than Rs. 15,000 per month, for the first three years.
- **A New scheme:** will be introduced to refund the state levies which were not refunded so far. Of the Rs.6,000 crore package, Rs.5,500 crore is for an additional 5% duty drawback for garments.
 - ✓ Drawback at 'all industries rate' would be given for domestic duty paid inputs even when fabrics are imported under 'Advance Authorization Scheme.'
 - ✓ Rs.500 crore will be for additional incentives under Amended Technology Upgradation Funds Scheme (ATUFS), also the subsidy in this scheme is increased from 15% to 25%, providing a boost to employment generation.

- From **input-based to outcome-based incentives** i.e., to disburse subsidy only after expected jobs have been created.

Significance

- Compared with Bangladesh and Vietnam India was the leader in apparel exports between 1995 and 2000. They have surpassed India.
- With the package the Indian textile and apparel sector would be strengthened by improving its cost competitiveness in the global market. With policy support, India can again regain its position in the next three years.
- The government hopes the package will create one crore new jobs in three years, attract Rs. 74,000 crore in investment and generate \$30 billion in exports earnings.

"You are as strong as your foundation"

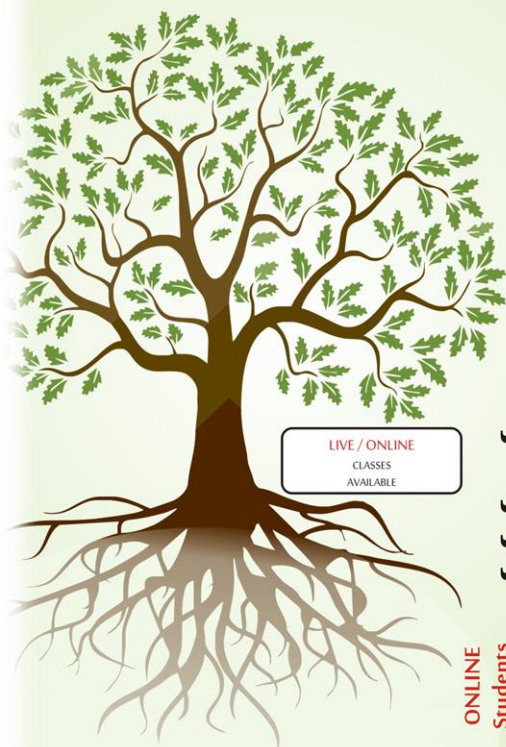
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4. SOCIAL

4.1. NATIONAL COMMITTEE ON RAMAYAN AND KRISHNA CIRCUIT

- The first meeting of the National Committee on the Ramayan and Krishna Circuits under the Swadesh Darshan Scheme was held recently.

Swadesh Darshan Scheme

- It was launched with the aim of developing theme based tourist circuits in the country, under Ministry of Tourism and Culture.
- Under the scheme thirteen thematic circuits have been identified for development.
- These are North-East, Himalayan, Coastal, Krishna, Desert, Tribal, Eco, Wildlife, Rural, Spiritual, Ramayana and Heritage Circuits.

Ramayan Circuit

- This circuit includes places associated with the legends of Lord Rama in various states, but dominantly in Uttar Pradesh.
- Under this circuit eleven destinations spread across six states have been proposed.
- The destinations covered are Ayodhya, Nandigram, Shringherpur & Chitrakoot in UP; Sitamarhi, Buxar & Darbhanga in Bihar; Hampi in Karnataka and Rameshwaram in TN.

Krishna Circuit

- This circuit has places associated with the legends of Lord Krishna in various states.
- Under this circuit twelve destinations spread across five states have been proposed.
- The destinations are Dwarka in Gujarat; Nathdwara, Jaipur and Sikar in Rajasthan; Kurukshetra in Haryana; Mathura, Vrindavan, Gokul, Barsana, Nandgaon and Govardhan in UP and Puri in Odisha.

4.2. SUBRAMANIAN COMMITTEE REPORT ON EDUCATION

Why in news?

- Recently a committee headed by T.S.R. Subramanian has submitted its report for evolution of a National Education Policy
- Two previous education policies had come one in 1968 and another in 1986, under Indira Gandhi and Rajiv Gandhi govts respectively. The National Education Policy (NEP) of 1986 was revised in 1992.

Why India needs a new education policy?

- Globally average spending on education is 4.9% of GDP while in the case of India it is just 3.4%.
- Dearth in the availability of good quality teachers.
- Insufficient focus on research and creativity.
- Money laundering in the name of capitation fees.
- Poor employability of graduates.
- Political interference especially in the higher education.
- Insufficient focus on teaching values and morality.
- Despite having number of premier education institutes, only one features in the top 500 world universities.

Important observations from the Report

- The quality of instruction or learning in the school system has declined despite improvement of infrastructure facilities in them.
- The inadequate stress in early childhood has “severely contributed to poor learning outcomes at successive secondary and higher education periods”
- There are serious gaps in teacher motivation and training, sub-optimal personnel management in the education sector.

- The education sector is facing “crisis of credibility” due to outside interference, absence of accountability, unregulated commercialization and lack of standards.

Main recommendations of the Report

- Total public spending on education must increase from current 3% to 6% of GDP with immediate effect.
- Compulsory licensing or certification for teachers in government and private schools should be made mandatory, with provision for renewal every 10 years based on independent external testing.
- Pre-school education for the age group of 4-5 years should be declared as a right and should be followed by a programme of implementation.
- The ambit of Mid Day Meal scheme should be expanded to cover students of secondary schools.
- Teacher Entrance Tests (TET) should be made compulsory for recruitment of all teachers. Also for admission to B.Ed courses minimum marks at graduate level should be 50%.
- The no detention policy must be continued for children until class V when the child will be 11 years old. At the upper primary stage, system of detention shall be restored subject to the provision of remedial coaching and at least two extra chances being offered to prove capability to move to a higher class.
- The 25% economically weaker section quota in private schools should be extended to minority institutions, as number of schools claiming religious or linguistic minority status has increased tremendously.

Other recommendations

- UGC Act must be allowed to lapse once a separate law is created for the management of higher education. UGC's role and responsibilities be reduced to disbursement of scholarships and fellowships.
- Top 200 foreign universities should be allowed to open campuses in India.
- An Indian Education Service (IES) should be established as an all India service under HRD ministry with officers being on permanent settlement to the state governments.
- Since level of malnutrition and anaemia continue to be high among adolescents therefore mid-day meal (MDM) program should now be extended to cover students of secondary schools.
- A National Level Test open to every student who has completed class XII from any School Board should be designed.

Criticism

- The panel of experts entrusted with the task of formulating draft new education policy had just one academician among its members, while four others were ex-bureaucrats.
- Experts believe that decades old institution of UGC be reformed rather than completely scrapping it and replacing with a new body.
- Proposal for consolidation or merging of small, non-viable schools will lead to cancellation of the RTE Act provision of schools being located within a walking distance of one kilometre for children upto Class 5th.

Way forward

- The committee has reiterated long standing demands and rightly mentions, in order to not convert India's demographic 'dividend' into 'disaster' in few years, it is imperative that dire steps are needed
- The recommendations of the panel needs to be discussed in various forums and after due deliberation needs to be turned into much needed New Education Policy.

4.3. VIDYANJALI SCHEME

- The Ministry of HRD recently launched the Vidyanjali scheme aimed at boosting the education system by delivering volunteer teachers to government schools.
- Volunteers who fulfill the criteria can apply through the government portal www.mygov.in
- It will not replace the regular and professionally qualified teachers in the government schools
- The volunteer's responsibility is towards overall development of the child, not academics.
- The volunteer service will be used in developing skills like public speaking, creative writing, counseling, music and dance.

- The project is being started in 2200 schools across 21 states in its first phase, it will be gradually expanded to the all the government run schools of the country.

Eligibility and Selection

- No qualification is required to volunteer for this scheme.
- Foreign nationals can also apply if they have an OCI Card in their charge.
- Block Development Officer has been given the responsibility for scrutinizing the applications of the volunteers.

Significance

- The programme would help in the development of the overall personality of the child in areas where education has yet to make inroads.
- Since it provides no monetary returns to the volunteers, it ensures that people who volunteer are really enthusiastic about the job.

4.4. ROAD SAFETY IN INDIA

Why in News?

An official report released by Union Road Transport and Highway Ministry said that 1.46 lakh people lost their lives in road accidents in India in 2015.

Highlights of the Report

- The number of deaths in road accidents in 2015 is 5% more than in 2014.
- A majority of those killed in 2015 were in the age group of 15 to 34.
- Thirteen States, including TN, MP, Karnataka, Kerala and UP, accounted for most accidents.
- Among cities, Mumbai had the highest number of accidents (23,468), while Delhi saw the most number of such deaths (1,622).
- Driver's fault was responsible for 77 percent of the accidents, deaths and injuries mainly because of over speeding.

GoM Recommendations

- A GoM formed on the issue has made 34 recommendations on road safety.
- Recommended formation of a **National Road Safety and Traffic Management Board** which will advise the government on road safety standards and guidelines.
- Need to strengthen the rural transport system for which Centre will roll out a scheme.
- The Central government would provide 50 per cent funding (rest from states) to introduce new transport vehicles in luxury and semi-luxury categories.
- To improve transport utilities, exempting STU (state transport undertaking) buses from taxes and de-regulating the luxury segment to shift people from personal to public transport.
- To address the issues of hill states separately. It also sought to raise accident insurance cover along with covering of property loss in the insurance.
- To improve mechanism for helping accident victims and trauma care facilities by launching a comprehensive scheme.
- To liberalise intra-city taxi permits and other automobile aggregation policies like improving parking facilities for the taxis including other public transport vehicles.
- Steps to promote low-cost last mile connectivity solutions and a barrier-free movement of the freight transport across the states.

Significance of Road Safety

- As a signatory to **Brasilia Declaration**, India is committed to reduce the number of road accidents and fatalities by 50 per cent by 2020.

- The road transport sector plays a major role in the economy of the country and bears 75 per cent of the total load of passenger and freight transportation.
- Its share in the country's GDP is close to 4.5 per cent.

4.5. GLOBAL GENDER GAP REPORT

- The World Economic Forum Global Gender Gap Report ranked India at 139 out of 145 countries on the economic participation and opportunity gap.
- India's overall female labour force participation (FLFP) rate has dropped from 35% in 1991 to 27% in 2014 while the world average is around 50%.
- India is ranked among the worst of 48 countries in terms of female leadership as per a nonprofit researcher, the Conference Board's extensive survey.
- A widely covered IMF estimate points out that shrinking the gender differences in employment could expand India's GDP by 27%.
- In Sep 2015 the twentieth anniversary of **Beijing Declaration** (Sep, 1995) was celebrated.
- Beijing Declaration was an attempt to advance women's rights, such as the right to live free from violence, to go to school, to participate in decision-making and to equal pay.

Measures to Increase Female Employees

- Diversity targets to push organizations to identify women with potential and employ them.
- Extending maternity leave from the grossly insufficient legally sanctioned three months.
- Deep organizational belief in the benefit of increasing women's participation.
- Questioning the 'ideal worker' definition which mostly subscribes to the male stereotypes in terms of twenty four-seven responsiveness and long work hours.
- Creating and celebrating female role models, encouraging women employees to do better.
- Encouraging flexibility across workplace like sabbaticals and option of working from home.
- Creating awareness against unconscious and conscious gender biases.

4.6. RECURRENCE OF POLIO

- Telangana was under national and international attention after a polio strain was detected from a sewage sample collected near the Secunderabad Railway Station.
- The samples from the state showed the presence of **Type 2 vaccine derived polio virus (VDVP)**, which had undergone ten nucleotide changes.
- If the weakened type-2 virus used in oral polio vaccine [OPV] continues to multiply for long, mutations may arise.
- If six or more nucleotide changes happen then it is called vaccine-derived poliovirus (VDVP).
- VDVP is extremely rare and found in children with immune-deficiency and among populations with low immunity levels.

Vaccination Drive

- Although no cases of Polio was found in the state, as a precautionary measure, Telangana will soon see the largest ever mass vaccination drive with **Inactivated Polio Vaccine (IPV)**.
- Trivalent OPV used until now contained live but weakened type 1, 2 and 3 polio viruses.
- Subsequently, the country switched to bivalent oral polio vaccine or BOPV by dropping type 2 as this variant was responsible for vaccine-derived polio cases.
- Following this, the **injectable IPV** was introduced, containing killed viruses of all three types; viral-shedding is a non-issue with IPV.
- IPV is made from heat-killed virus that cannot cause the disease in any case, because the pathogen is not alive.

4.7. PRIVATE HOSPITALS FINED FOR NOT TREATING POOR

- The Delhi government recently issued fines of 600 crores on some prominent private hospitals in Delhi owing to their failure to treat the poor.
- Since 1964 the Delhi Development Authority has been leasing land at subsidised rate to hospitals, schools and charitable institutions under “**Nazul**” laws.
- ‘Nazul’ land is land that belongs to the government and includes buildings on such land.
- The lease given to one hospital, at Rs 1 per month, obligated it to ensure 33 per cent bed capacity and 40 per cent out patient (OPD) services for poor patients.
- The penalty has been imposed based on a High Court order of 2007 on a PIL demanding the Implementation of free treatment to the poor and action against erring hospitals.

4.8. RIGHT TO SAFE WATER

- The Union Ministry of Water Resources has recently uploaded two draft legislations that regulate the extraction of groundwater and ensures safe drinking water to all.
- The Bills are called the National Water Framework Bill and the Model Bill for Conservation, Regulation and Management of Groundwater.

Model Bill for Conservation, Regulation and Management of Groundwater

- The Bill seeks to do away with the British Common Law concept, that those owning the land can extract unlimited groundwater.
- The bill proposes fines between Rs 5000 and 5 lakh depending on the level of infraction and who the perpetrators are.
- Groundwater will not be a free resource and even those who can pay for it need to ensure it is equitably available for all.
- The corporations and industries extracting groundwater have to submit plans to ensure that water is being used responsibly and any possible contamination is remedied.
- The Bills says that top priority in the use of groundwater should be in drinking, sanitation, food security, sustenance agriculture, needs of women and only after that industry.
- There would be an incentive for those who cultivate less water-intensive crops.
- There would also be groundwater security boards and groundwater protection zones that would be overseen by State bodies.
- The bill aims to decentralise water management and gives more power to panchayats and gram sabhas to decide how water can be better used.

4.9. NEED FOR BASIC INCOME

Why in News?

- Recently, Swiss people have voted against the idea of a Universal Basic Income. Three-quarters of Swiss voted against the referendum.
- Switzerland is the first country to hold such a vote.

What is universal basic income?

- A basic income is an income unconditionally granted to all citizens on an individual basis, without means test or work requirement.
- It is a form of minimum income guarantee that is being paid irrespective of any income from other sources.

Relevance in India

- In Indian welfare model, multiple authorities give out different subsidies (money, food, housing, travel, education, healthcare), guided by their own priorities and targets (the young or the old, the mother or the child, the poor or the indigent).
- So, in this context, it is right time to ask the question **“Why not have one universal basic subsidy”** that covers everything and let people decide how they will spend it, rather than trying to target subsidies based on our imperfect knowledge of what people need and deserve.
- In shorter run, this will help in reducing poverty at faster pace and free up bureaucracy to do other things.
- The poor will also be liberated from having to worry about where their next meal or school fee will come from. They might plan their lives better and invest more effectively in their children and their businesses.

4.10. HYSTERECTOMY AMONG YOUNG WOMEN: SURVEY

Why in News?

- A Hyderabad-based NGO undertook a door-to-door survey and recorded 728 such cases of hysterectomy in the villages of Kowdipally mandal of Medak district.
- They have published the comprehensive data on the rampant practice of hysterectomy among young women.
- Also, for the first time, the National Family Health Survey-4 has included a question on hysterectomies. This data is yet to be published.

Findings of the report

- Many of the women were in their 20s and 30s and they had gone to private doctors for the procedure and had sold their jewellery to fund the procedure.
- Hysterectomies have been reported from rural pockets of about half a dozen States which includes Rajasthan, Bihar, Chhattisgarh, Karnataka, Maharashtra, especially in the last six years.
- Poor illiterate women are prescribed the procedure for white discharge, irregular menstrual cycles, and even abdominal pain.
- And due to fear of cancer (which doctors convince them of), they easily opt for this procedure.
- Loss of daily wages during menstruation makes the prospect for opting this procedure more appealing.

Government Action

- Rajasthan government has set up an inquiry committee and licences of involved doctors have been cancelled.
- In Karnataka, three inquiry committees have been formed and their reports are still awaited.
- In Chhattisgarh, two inquiry committees were formed. However, the second one let the doctors go scot-free.

Way Forward

- Publish the National Family Health Survey as soon as possible. This data will provide the clear picture of the trends across the country.
- There is a need for regulation like in the case of the PNDT (Pre-Conception and Pre-Natal Diagnostic Techniques Act) that doesn't allow an ultrasound without proper documentation.
- The government should set up guidelines for private hospitals, and tighten norms of insurance schemes.

What is Hysterectomy?

A hysterectomy is **an operation to remove a woman's uterus for different reasons**, which generally includes:

- Cancer of the uterus, cervix, or ovaries
- Endometriosis
- Abnormal vaginal bleeding
- Chronic pelvic pain
- Adenomyosis, or a thickening of the uterus

Hysterectomy for noncancerous reasons is usually considered only after all other treatment approaches have been tried without success.

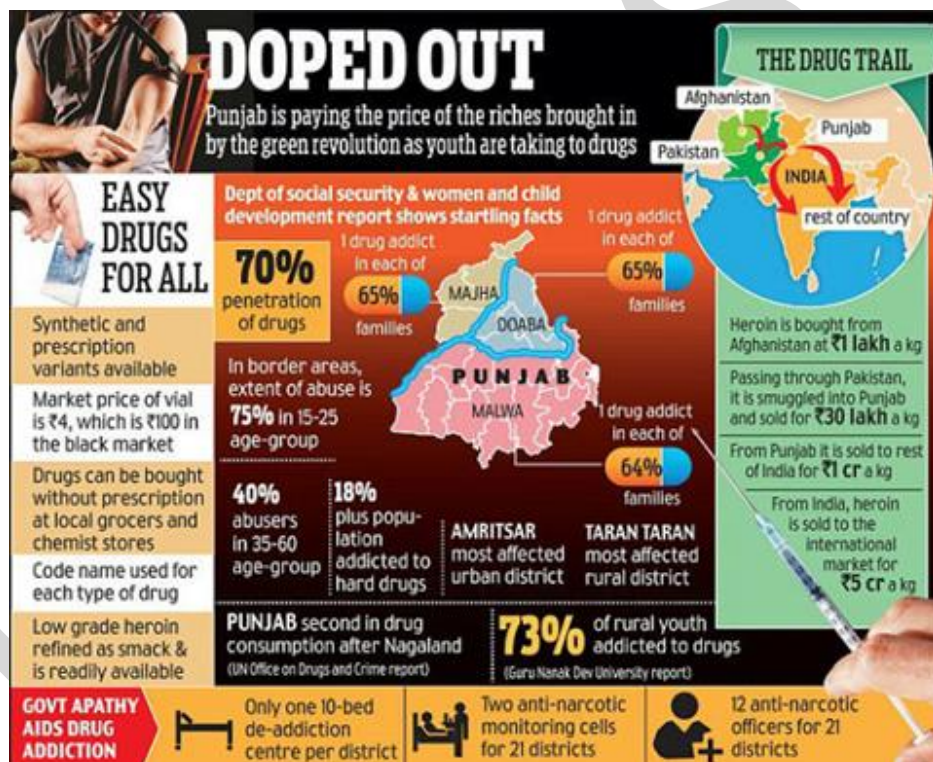
4.11. PUNJAB'S DRUG PROBLEM

How big is the problem?

- Drug addiction is a serious problem in the region of Punjab.
- It is estimated that 4 out of 10 men are addicted to some drug and up to 50% of those are young farmers.
- While 15% of those are addicted to poppy husk (known as bhukki), 20% are addicted to synthetic drugs manufactured by Pharmacy companies.
- The Punjab Opioid Dependence Survey, found that 230,000 people in the state were drug users; 836 drug users per 100,000 people in the state.
- Children as young as 12 years of age are seen to be involved in the drug trade. Drugs are openly sold and easily available.

Causes

- The reasons for widespread drug addiction in Punjab are many: **worsening agrarian distress coupled with growing unemployment and lack of alternative jobs for the majority of youth.**
- Pharmaceuticals such as pain relieving opioids and sedatives are easily available from chemists without prescriptions.
- The culture for **heavy drinking and partying** as well as habit of landowners supplying raw opium to farm labourers to make them to work harder, that has contributed to the problem.
- There is a **steady supply of drugs from across the border** is another reason. Heroin smuggled is in from Afghanistan and Punjab is a part of the transit route for drugs.
- Ineffective administrative and political setup has compounded the problems and in some cases it has been reported that there is a support for drug cartels from local administration.



Way Forward

- Governmental approach should emphasize a holistic approach integrating demand reduction, harm reduction and supply reduction.
- Providing clean needles, sterilization equipment etc. to drug users has proved to be effective in Manipur and other countries in reducing secondary damage like spread of AIDS and Hepatitis C.
- Effective affordable rehabilitation centres should be open up across the states.
- Focus on high-prevalence drug groups such as sex workers, transportation workers and street children, and simultaneous economic development and redressal of unemployment situation.
- A zero-tolerance policy towards drug cartels, syndicates and peddlers.
- Preventing diversion of legal cultivation of opium and opiate pharma drugs, checking illicit cultivation of opium and closing porous borders.

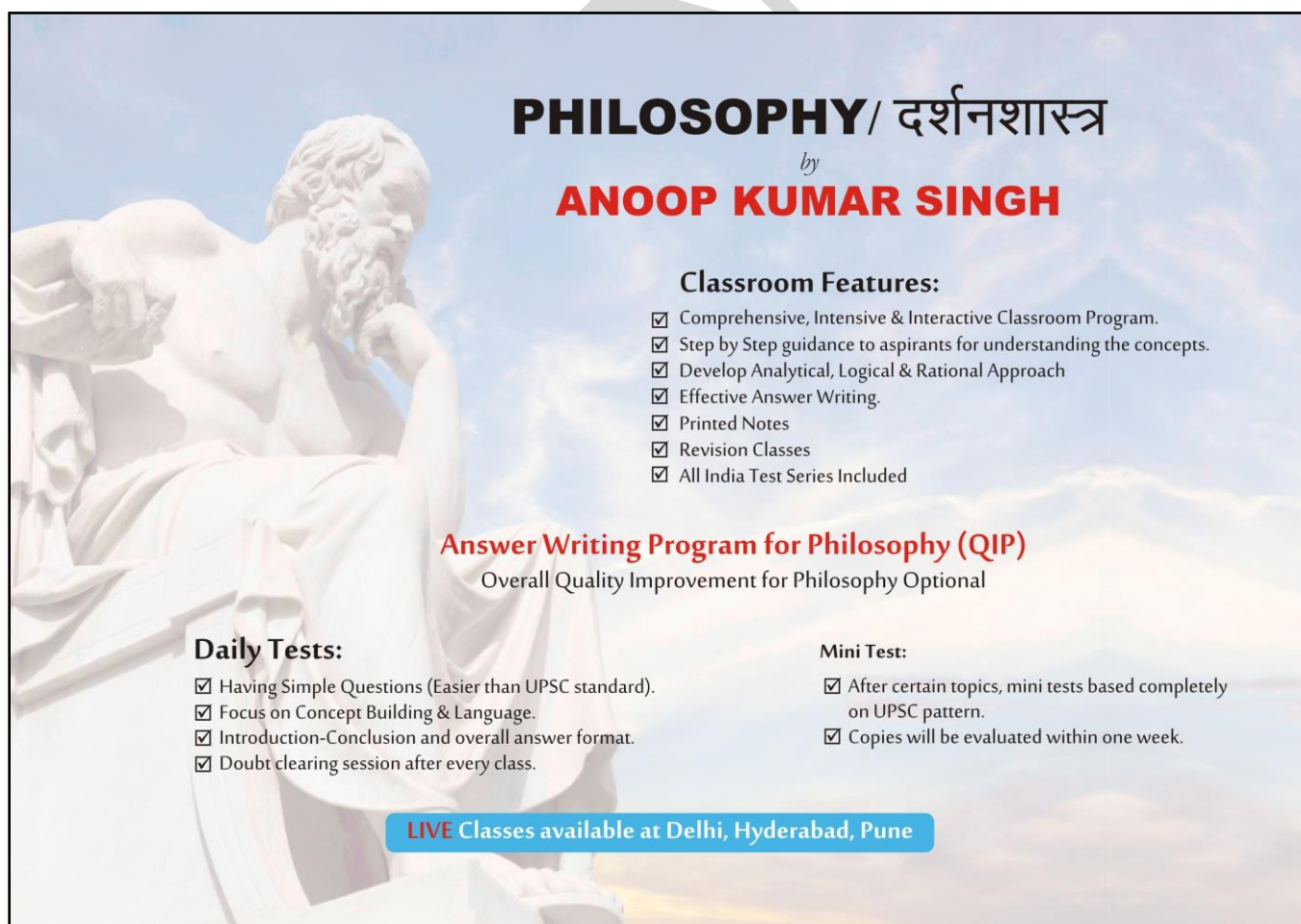
4.12. NEW CENSUS DATA ON MEDIAN AGE OF MARRIAGE

Why in news?

- New Census data released by the government on Monday shows that the median age at the time of marriage has increased across categories of people and genders.
- The data, released by the Registrar-General and Census Commissioner, show that the median age for men increased to 23.5 at the time of the 2011 Census, from 22.6 as per the 2001 figures. These numbers were 19.2 years and 18.2 years for women in the respective years.
- As per experts, this trend will continue due to the socio-economic changes taking place in the country.

Reasons for the upswing

- Increasingly mobile and migratory nature of work in the country.
 - ✓ This migrant population has different priorities which have an effect on the ages the people get married at.
 - ✓ However, migration is only part of the explanation since the increase in the age at the time of marriage was seen among marginal workers and non-workers as well.
 - ✓ The median age for marginal workers increased from 21.8 to 22.5 for men and from 17.6 to 18.7 for women.
 - ✓ For non-workers, the age at the time of marriage increased from 22.8 to 23.5 for men and from 18.5 to 19.4 for women.
- The other reason for the change could be higher levels of school enrolment. School enrolment is about 90 per cent everywhere, across most castes.



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5. SCIENCE AND TECHNOLOGY

5.1. HUMAN GENOME PROJECT-WRITE (HGP-WRITE)

Why in news?

On June 2, 2016, scientists from multiple academic institutions in the US published a perspective in the journal Science proposing a second human genome project, called Human Genome Project-Write (HGP-Write)

Background

- The original Human Genome Project was referred to as HGP-Read.
- HGP-read aimed to “read” a human genome. Many scientists now believe that to truly understand our genetic blueprint, it is necessary to “write” DNA and build human (and other) genomes from scratch.

What is the Genome Project-write?

- It will be an open, academic, international scientific research project led by a multi-disciplinary group of scientific leaders who will oversee a reduction in the costs of engineering and testing large genomes, including a human genome, in cell lines by over 1,000-fold within ten years,
- They will also be developing new technologies and an ethical framework for genome-scale engineering as well as transformative medical applications.
- The overarching goal of such an effort is to further our understanding of the blueprint for life provided by the Human Genome Project (HGP-read).

How will HGP-write benefit humanity?

Some potential applications include, but are not limited to:

- Growing transplantable human organs, thus saving the lives of thousands of patients globally who die waiting for donated organs from those who die from disease or accidents
- Engineering immunity to viruses in cell lines
- Engineering cancer resistance into new therapeutic cell lines
- Enabling high-productivity, cost-efficient vaccine and pharmaceutical development using human cells and organoids that makes precision medicine more affordable and universal

How will HGP-write benefit biomedical research?

- Similar to sequencing and computation, DNA synthesis is a foundational technology. HGP-write is therefore expected to accelerate research and development across the spectrum of life sciences, supporting basic research and the development of new bio-based therapies, vaccines, materials, energy sources, and foods.

Additionally, the project will develop enabling tools of broad applicability throughout biomedical research, such as:

- Computational tools, which allow the redesign of any genome, followed by compilation and testing of the redesigned code in silico before hitting the print button

The Human Genome Project (HGP) was a large, international and multi-institutional effort that took 13 years [1990-2003] and \$2.7 billion to produce a blueprint of the sequence of genes and spaces between genes that make up a typical human genome.

Achievements of HGP

- The Battelle Technology Partnership Practice has compiled the true economic benefit of HGP-Read and suggested that, among other outputs, the US economy received a return of \$141 for every \$1 invested by the US government.
- The availability of the human genome sequence has aided our understanding of the function of many human genes; in the discovery of new genes linked to human characteristics; in studies on genetic diversity between humans and other humanoids, apes and primates; in studies on genes related to intelligence, cognitive functions and speech; and finally in better comprehending the characteristics linked to BEING HUMAN.
- The best examples of the usefulness of the human genome sequence are in the realm of disease-gene discovery for many monogenic disorders and personalised medicine in oncology
- One specific and significant example is the cancer genome sequencing efforts which provides us with opportunities to develop new drugs by exploring the link between metabolism and cancer.

- Phenotypic screening platforms such as organoid cultures, which allow characterization of performance of synthetic DNA and variants of unknown significance
- Cheaper, more accurate and longer DNA synthesis and assembly.
- Targeted delivery to specific cell types or systemically throughout multiple organ systems.

Benefits to India

- The potential benefits of HGP-write to India include providing new solutions to diseases like malaria, dengue and chikungunya.
- One of the strategies against combating these deadly diseases could be to introduce sterile mosquitoes into the environment, incapable of producing offspring after mating with their wild type mates and/or by building pathogen resistance in mosquitoes, both by genome engineering.
- **Tools** generated through HGP-write may aid this process by making synthetic vector genomes incapable of hosting the parasite and/or the virus.
- **Vaccine development:** One can accelerate the process tremendously by producing viruses synthetically and then use those for vaccine development.
- This, in addition to saving lives, can add to our economy, where India is already an acknowledged world leader.
- Big projects require large funding and it's better for India to share the cost and risks (technical, scientific and financial) with other countries in executing such large projects.
- Additionally, projects like HGP-write will provide Indian scientists access to knowledge and expertise of a renowned group of global thought leaders.

Concerns: The concerns range from the ethical to the scientific.

- There are genuine fears among a section of the society that one day, humans will be able to play god by synthesising new genomes that may create new creatures with potential for misuse. For example, sterile, genetically-rewritten mosquitoes could create imbalances in ecological niches and wipe out entire populations of insects.
- Then there are the unintended side-effects of releasing modified mosquitoes into the wild, who which could transfer their genes to non-target species.
- Designing tighter and high containment-level field trials are essential to control this.
- The correct answer may not be to eliminate the mosquito population but to make the mosquito either harmless or an unviable host for deadly pathogens.

Way forward

- India should not shy away from participating in science-led activities but to do it correctly from the beginning within a transparent policy framework.
- India did not participate in HGP-read but a large number of scientific discoveries that originated in India in the last decade owe their success to the availability of a reference human genome sequence.
- India has reached a stage in world science where the consequences of not participating in such international efforts may bring more harm than good in the long run.
- As government programmes like universal Internet connectivity reach our nation's hinterland, India's technologically-savvy youth are waiting to harness the benefits of human genome to innovate and contribute to our economy. HGP-write will add to this.

5.2. EXPLORING METALS IN INDIAN OCEAN

- Cabinet approved signing of a 15 year contract between its Earth Sciences Ministry and the International Seabed Authority (ISA) for undertaking exploration and other developmental activities related to **polymetallic sulphides** in the Indian Ocean.
- The exploration will be done in the allotted area of 10,000 sq km in parts of Central and South - West Indian Ridges (SWIR), in the Indian Ocean.
- It will enhance India's presence in the Indian Ocean where other players like China, Korea are active.

- These polymetallic sulphides in the Ocean Ridges have attracted worldwide attention for their long term commercial as well as strategic values.
- This comes after the ISA, under the United Nations Convention on Law of the Sea (UNCLOS), approved an application submitted by India for allotment of 10,000 square km area along with 15 years plan of work for exploration of polymetallic sulphide (PMS) along these two areas.
- The program will be implemented by the Ministry of Earth Sciences with the participation from various national institutes and research laboratories and organizations.

Related Information:

International Seabed Authority (ISA)

- The International Seabed Authority is an autonomous international organization established under the 1982 United Nations Convention on the Law of the Sea and the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea.
- The Authority, which has its headquarters in Kingston, Jamaica, came into existence on 16 November 1994, upon the entry into force of the 1982 Convention.
- It was established to organize, regulate and control all mineral-related activities in the international seabed area beyond the limits of national jurisdiction, an area underlying most of the world's oceans.

Polymetallic nodules (manganese nodules)

- These are small potato-sized (from millimetres to tens of centimetres in diameter) lumps of material precipitated from seawater and sediment pore water at slow rates over millions of years and occur mainly on the deep-seafloor.
- They contain approximately 24% manganese, compared to 35 to 55% manganese in land ore bodies, so they do not offer solid economics as a manganese source, but they also contain iron (14%), copper (>1%), nickel (>1%), and cobalt (0.25%).
- The last three metals together, can make up to 3 wt. %.
- Apart from these metals, nodules include trace amounts of molybdenum, platinum and other base metals.

Cobalt-rich ferromanganese crusts

- Cobalt-rich ferromanganese crusts occur at shallower depths of <400 to about > 5000 meters in areas of significant volcanic activity.
- The crusts grow on hard-rock substrates of volcanic origin by the precipitation of metals dissolved in seawater in areas of seamounts, ridges, plateaus and where prevailing currents prevent deposition of unconsolidated sediments and occupy large areas on top of these topography highs.
- In many cases, the deposits occur within the exclusive economic zone (EEZ) of the countries.
- Similar in general composition to the polymetallic nodules, cobalt crusts are attracting investment in exploration for higher cobalt percentage (up to 2%), platinum (0.0001%) and Rare Earth Elements (REE) besides Nickel and Manganese.
- In addition, crusts can also contain significant amounts of nickel, lead, cerium, molybdenum, vanadium and other minor metals including those of the platinum group elements.
- ISA has signed exploration contracts for cobalt-rich crusts with Japan, China and Russia.
- The mining technology for these deposits is more complex than the polymetallic nodules.

Polymetallic sulphides (PMS)

- PMS are formed by precipitation of metals leached by hydrothermal fluid as it interacts with the cooler ambient seawater at or beneath the seafloor at hydrothermal vent sites.
- PMS are typically composed of iron pyrite, but contain varying proportions of pyrrhotite, pyrite/marcasite, sphalerite/wurtzite, chalcopyrite, bornite, isocubanite and galena.
- Copper and zinc are the most likely metals to be recovered, but some deposits exhibit significant gold (0–20 ppm) and silver (0–1200 ppm) grades as well.
- Submarine massive polymetallic sulphide bodies are principally found along the earth's major tectonic belts.

- Up to 40% of the known deposits occur at shallower depths in back-arc basins and on submarine volcanic ridges within 200 nautical miles of the coast and within the jurisdiction of national exclusive economic zones (EEZs).

5.3. POTASSIUM BROMATE

- The government banned the use of potassium bromate as a food additive following a Centre for Science and Environment (CSE) study that found its presence in bread caused cancer.
- As far as potassium iodate is concerned, it has been referred to a scientific panel.”
- Potassium iodate is also used as a food additive and it too is said to be carcinogenic, it has been also referred to a scientific panel
- A CSE study had found that 84 per cent of 38 commonly available brands of pre-packaged breads, including pav and buns, tested positive for potassium bromate and potassium iodate.
- The two food additives are banned in many countries and are listed as “hazardous” to public health.
- According to the CSE, potassium bromate typically increases dough strength, leads to higher rising and gives uniform finish to baked products. Potassium iodate is a flour treatment agent.

According to the CSE, potassium bromate typically increases dough strength, leads to higher rising and gives uniform finish to baked products. Potassium iodate is a flour treatment agent.

5.4. LIDAR

Why in News?

- Unprecedented new details of medieval cities in Cambodia near Angkor Wat have been revealed using Lidar, shedding new light on the civilisation.
- In Telangana, the State government proposes to use LiDAR (Light Detection and Ranging) technology in preparation of high resolution maps for use in various engineering works and projects that the State is planning.
- Last year, the Telangana State government had conducted Light Detection and Ranging (LiDAR) survey on the river flow of Godavari last year

About LiDAR

- Lidar stands for **Light Detection and Ranging**, is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth.
- These light pulses—combined with other data recorded by the airborne system— generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.
- In other words, LiDAR is a remote sensing technology that measures distance by illuminating a target with a laser and analysing the reflected light.
- A LIDAR instrument principally consists of a laser, a scanner, and a specialized GPS receiver.
- LiDAR is highly accurate scientific surface/topographic data with active sensing system and it uses its own energy source, not reflecting naturally or naturally emitted radiation. This mode allows direct acquisition of terrain information.

Applications

- Use of Lidar technology is quite beneficial and it gives quality data in digital form in a short time. This data can be used in many projects related to roads, canals, surface transport, city planning, landslides, irrigation etc.
- This system can be brought to use for engineering designs, conservation planning, floodplain mapping, surface feature extraction (trees, shrubs, roads and buildings) and vegetation mapping (height and density).

5.5. BIONIC LEAF

Why in News

- A team of scientists from Harvard University has created a unique “bionic leaf” that uses solar energy to split water molecules into oxygen and hydrogen, and hydrogen-eating bacteria to produce liquid fuels.
- Bionic leaf 2.0 can convert solar energy to biomass with 10 percent efficiency - a number far higher than efficiency of photosynthesis in the plant.

How it works?

- The bionic leaf 2.0 is placed in water and, as it absorbs solar energy, it's able to split the water molecules into hydrogen and oxygen. These can be harvested and used in fuel cells to generate electricity.
- With the help of an engineered bacterium, the hydrogen can also be used to produce liquid fuels.

5.6. SPACE TECHNOLOGY FOR ROOFS - CASPOL

Why in News?

- Vikram Sarabhai Space Centre (VSSC), have developed the ceramic-polymer hybrid (CASPOL) that could protect public transport systems and poor men residing in thatched homes from fire accidents.
- The water-based ready-to-coat product was originally developed to protect the rockets from high temperature and fire to which they are exposed during the initial moments of launch.

Potential applications of Caspol

- Caspol can withstand up to 800 degree Celsius. Seats in automobiles, public transport system and seat cushions of railway coaches can be made fireproof when Caspol is applied.
- Besides its ability to protect against fire and high temperature, Caspol can also make surfaces waterproof.

5.7. MALTITOL

- Indian Institute of Science (IISc) has developed a bone reconstruction method similar to Joints of bone.
- They have used maltitol- derived from maltose, a sweetening agent found in most sugar-free foods such as ice-creams.

How it Works?

- Maltitol is combined with other components to make long chain-like structures that become plastic. This is then used to fill in the bone gap caused by fracture, instead of the traditional rod.
- Maltitol would be a huge advantage over metal rods, which do not allow growth of the bone, especially in infants and adolescents. Drugs can also be injected into it for faster healing.

5.8. BLUE LIGHT EMITTED BY LED IS HARMFUL

- According to a report recently released by the American Medical Association (AMA) Council on Science and Public Health, excessive blue light emitted by light emitting diodes (LED) can adversely impact human health.
- Blue light directly affects sleep by suppressing the production of the hormone melatonin, which mediates the sleep-wake cycle in humans.
- As per the report, compared with conventional street lighting, the blue-rich white LED street lighting is five times more disruptive to sleep cycle.
- Although more research is needed, evidence available suggests a long-term increase in the risk for cancer, diabetes, cardiovascular diseases and obesity caused by chronic sleep disruption due to exposure to blue light.
- The excessive blue wavelength contributes to glare effects as a result of larger scattering in the human eye.

- Glare forms a veil of luminance that reduces the contrast, thus in turn reducing the visibility of a target.
- The report also notes that unshielded LED lighting causes papillary constriction, leading to “worse night-time vision between lighting fixtures.” Intense blue spectrum can even damage the retina.
- As per the report, contrary to the popular notion that bright LED lighting increases road safety, discomfort and disability glare caused by unshielded, bright LED lighting negatively impacts visual acuity, thus “decreasing safety and creating road hazards”.

5.9. PLANET 9

Why in News

- Astronomers have claimed that the mysterious Planet 9 may have been stolen from its original star by our Sun some 4.5 billion years ago, possibly making it the first exoplanet to be discovered inside the solar system.
- Planet Nine is a hypothetical large planet in the far outer Solar System, the gravitational effects of which would explain the improbable orbital configuration of a group of trans-Neptunian objects that orbit mostly beyond the Kuiper belt.
- The predicted planet would be a super-Earth, with an estimated mass of 10 Earths, a diameter two to four times that of Earth, and a highly elliptical orbit with an orbital period of approximately 15,000 years.

Kuiper belt is a region of the solar system beyond the orbit of Neptune, believed to contain many comets, asteroids, and other small bodies made largely of ice.

5.10. INDUSTRIAL INTERNET

What is Industrial Internet?

- IoT's industrial applications are called as the 'Industrial Internet'.
- The Industrial Internet closely linked to enterprise IoT is likely to radically transform and overhaul business segments including manufacturing, oil and gas, agriculture, defence, mining, transportation and healthcare etc. Collectively, these sectors account for over two-thirds of the global economy.

How Industrial Internet works?

- The industrial Internet draws together fields such as machine learning, big data, the Internet of things and machine-to-machine communication to absorb data from machines, analyze it (in real-time), and use it to adjust operations.
- It holds great potential for quality control, sustainable and green practices and overall supply chain efficiency.
- The Industrial Internet also is applied to transportation projects, such as driverless cars and intelligent railroad systems.

Challenges

- The Industrial Internet is still at an early stage and the full range of implications of the industrial internet on their industries is still emerging and not crystal clear.
- But it is said that industrial internet applications in the sectors mentioned above will grow by leaps and bounds, requiring not just huge amounts of bandwidth but more importantly, absolutely reliable and real-time responses.
- Consumer internet, i.e. terrestrial internet (through fibre, cable or WiFi) is not quite the solution as
 - ✓ Next generation satellite technologies are becoming available providing high speeds, much lower latency, smaller form-factor satellite devices and satellite mobility.
 - ✓ Cost: For the purpose of IoT, satellite broadband especially with high-throughput satellites would also be available at a fraction of the cost of terrestrial broadband.

About The internet of things (IoT)

- The internet of things (IoT) is the network of physical devices, vehicles, buildings and other items-embedded with electronics, software, sensors, and network connectivity that enable these objects to collect and exchange data.
- Thus IoT creates opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefits
- IoT is one of the platforms of today's Smart City, and Smart Energy Management Systems. It can also be used to improve crop yield to help feed the world's growing population.

5.11. LISA PATHFINDER

Why in News?

- ESA's LISA Pathfinder mission has demonstrated the technology needed to build a space-based gravitational wave observatory.
- Results from LISA Pathfinder, show that the two cubes at the heart of the spacecraft are falling freely through space under the influence of gravity alone, to a precision more than five times better than originally required to detect gravitational waves.

About LISA

- LISA would be the first dedicated space-based gravitational wave detector. It aims to measure gravitational waves directly by using laser interferometry.
- The LISA has a constellation of three spacecraft, arranged in an equilateral triangle with million-kilometre arms flying along an Earth-like heliocentric orbit. The distance between the satellites is precisely monitored to detect a passing gravitational wave.
- As a prelude to the massive LISA mission, the smaller LISA Pathfinder was launched by ESA in 2015.

5.12. DRAFT GUIDELINES FOR SAFE HANDLING OF NANOMATERIALS

- The **Nano Mission** under the Department of Science and Technology has come out with the draft "Guidelines and Best Practices for Safe Handling of Nanomaterials in Research Laboratories and Industries".
- The guidelines, intended as standard operating procedure (SOP) for handling nanomaterials in research laboratories and industries, prescribe a combination of engineering controls, work practices and personal protective equipment as part of a robust exposure control strategy.
- These lay down the process for identifying hazards, taking note of the specific effect of surface chemistry, shape, size and morphology on toxicity caused to various organs.
- The guidelines also lay down set of best practices related to the making and handling of Nanopowders and use of products relating to food and healthcare.

Few Applications of Nanotechnology

- desalination of water
- wastewater treatment
- Other Nanoremediation.
- Nanomedicine is being used to treat disease and prevent health issues.
- Nanoparticles are used in sunscreen, cosmetics and food packaging.

About Nano Mission

- The Government of India, in May 2007, has approved the launch of a Mission on Nano Science and Technology (Nano Mission) with an allocation of Rs. 1000 crore for 5 years.
- The Department of Science and Technology is the nodal agency for implementing the Nano Mission.
- Capacity-building in this upcoming area of research will be of utmost importance for the Nano Mission so that India emerges as a global knowledge-hub in this field.
- Equally importantly, the Nano Mission will strive for development of products and processes for national development, especially in areas of national relevance like safe drinking water, materials development, sensors development, drug delivery, etc.

5.13. BIO-INK FOR 3D PRINTING

- Scientists have developed a new stem cell-containing bio-ink that allows 3D printing of complex living tissues that may be used for surgical implants.
- The bio-ink contains two different polymer components: a natural polymer extracted from seaweed, and a sacrificial synthetic polymer used in the medical industry.
- The special bio-ink formulation was extruded from a retrofitted benchtop 3D printer, as a liquid that transformed to a gel at 37 degrees Celsius, which allowed construction of complex living 3D architectures.

Potential Applications of Bio-ink

It can be used for printing complex tissues using the patient's own stem cells for surgical bone or cartilage implants, which could be used in knee and hip surgeries.

How it works?

- The synthetic polymer causes the bio-ink to change from liquid to solid when the temperature is raised, and the seaweed polymer provides structural support when the cell nutrients are introduced.
- The team was able to differentiate the stem cells into osteoblasts - a cell that secretes the substance of bone - and chondrocytes, cells that have secreted the matrix of cartilage and become embedded in it, to engineer 3D printed tissue structures over five weeks.

5.14. MOU FOR GEO-TAGGING ASSETS

- A MoU has been signed between the Rural Development Ministry and ISRO, for geo-tagging the assets created under MGNREGA in each gram panchayat.
- It will help in online recording and monitoring of assets to check leakages and for effective mapping of terrain for future developmental works.
- A Gram Rozgar Sahayak or junior engineer will take a photo of an asset created by beneficiaries of the scheme and through a mobile app created by ISRO, upload the photo on the Bhuvan web portal run by ISRO's National Remote Sensing Centre.
- When the photo is uploaded, the location and time will get encrypted and there will be an option to add more information according to a few parameters.

5.15. CHINA SETS UP FIRST 'DARK SKY' RESERVE

- China has launched its first "dark sky reserve" for astronomical observation in the Tibetan prefecture of Ngari, bordering Nepal and India.
- The reserve covers an area of 2,500 square kilometres and aims to limit light pollution by stepping up protection of dark-sky resources for education and tourism development.

Why Ngari is famous?

- Ngari is among the best sites for astronomical observation on earth, due to its high altitude and large number of cloudless days throughout the year.
- However, the recent inflow of people from other areas has given rise to increasing urbanisation, and thus the associated risk of more light pollution.

Light pollution is excessive, misdirected, or obtrusive artificial (usually outdoor) light. Too much light pollution washes out starlight in the night sky, interferes with astronomical research, disrupts ecosystems, has adverse health effects and wastes energy.

5.16. ZIKA VACCINE: DNA VACCINE (GLS-5700)

- The first Phase-1 human clinical trial of a vaccine for the Zika virus is set to begin soon.
- The DNA vaccine (GLS-5700) has already been tested on animals and found to elicit “robust” antibody and T cell responses.
- The human trial will be carried out on 40 healthy adults to evaluate safety, tolerability and immunogenicity and the interim results are expected before the end of the year.

About Zika virus

- Zika virus disease is caused by a virus transmitted primarily by Aedes mosquitoes. It is a cause of microcephaly and Guillain-Barré syndrome.
- Microcephaly is a condition where a baby’s head is much smaller than expected. Guillain-Barre syndrome is a rare condition in which immune system attacks nerves, leading to muscle weakness and even paralysis.

5.17. ISRO LAUNCHES 20 SATELLITES

Why in news?

- ISRO has created a new record of launching 20 satellites from a single rocket, including those of US, Germany, Canada and Indonesia, from the Satish Dhawan Space Center in Sriharikota.
- This has brought India into the elite club of USA and Russia who have also launched more than 20 satellites in a single launch.
- ISRO has broken its own record of launching 10 satellites in 2008.

About the mission

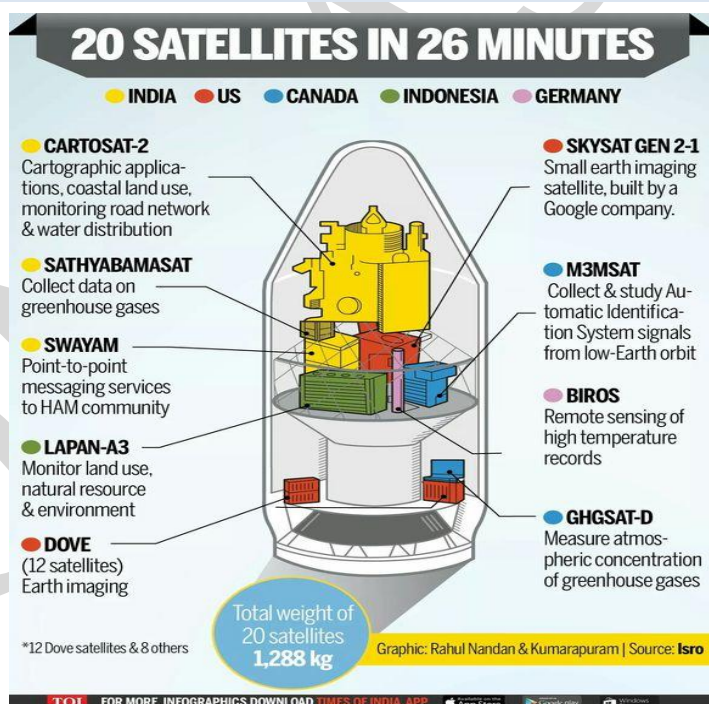
- The PSLV-34 vehicle was used to launch 3 Indian and 17 commercial foreign satellites.
- Among the 3 Indian satellites there is CARTOSAT-2 series which has potential uses in geological surveying, border management, disaster management etc.
- The other two Indian satellites - SatyabhamaSat and Swayam were made by college students.
- They will be used to collect data on greenhouse gases and provide point-to-point messaging services
- The foreign satellites are LAPAN-A3 from Indonesia, Brios from Germany, M3MSat and GHSSat-D from Canada, SkySat Gen 2-1 and 12 Dove satellites from the United States.
- The payload or total weight of all the 20 satellites carried on-board PSLV-C34 is 1288 kg.

Benefits for Indian space industry

- This successful launch establishes ISRO as a credible player in global space market worth \$300 billion.
- The inclusion of satellites made by students encourages the young minds towards pursuing space science.
- Packing a rocket with a large no. of satellites displays utility and efficiency, and reduces mission costs.

Future opportunities for India

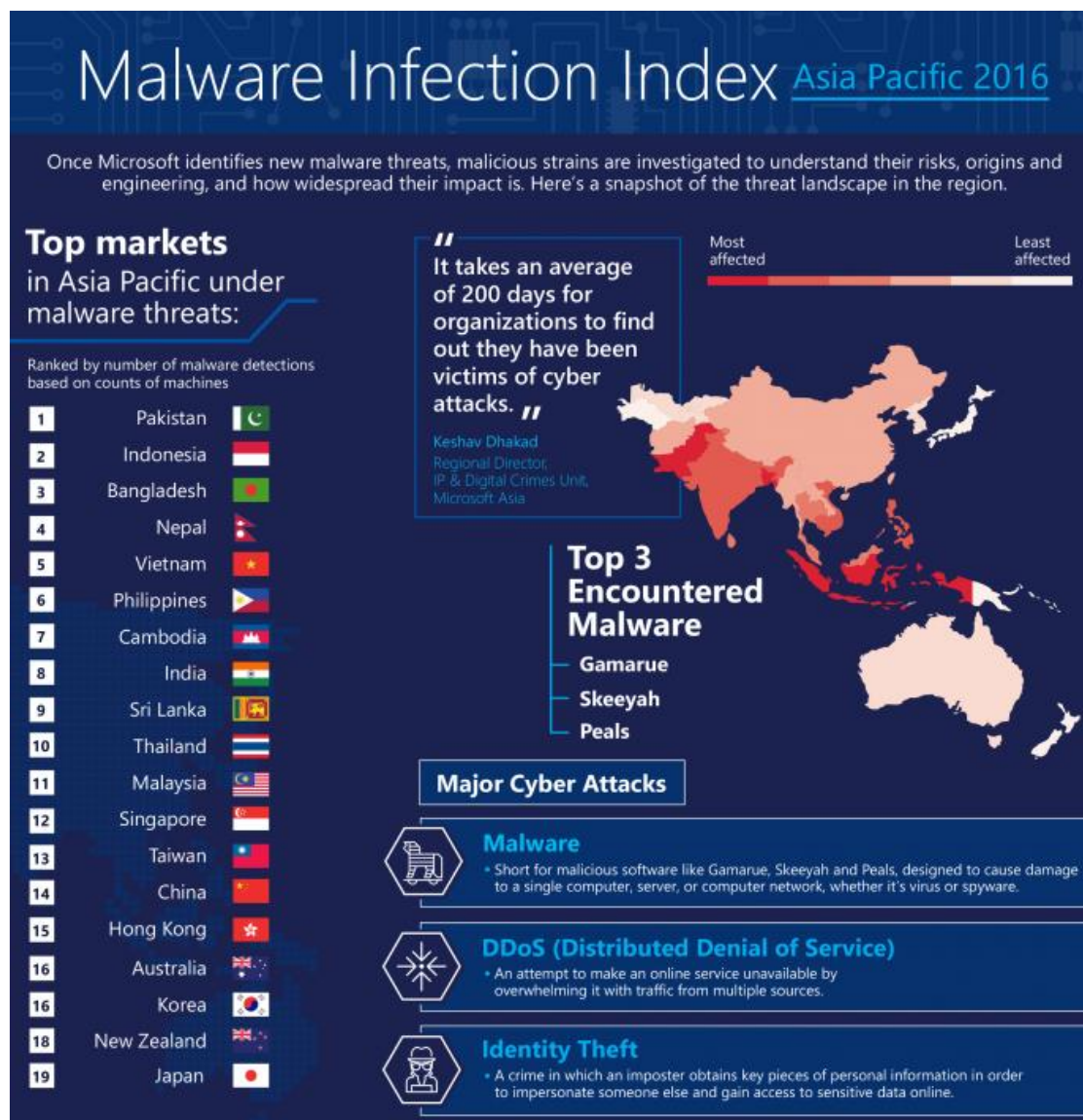
- The market for small satellites is growing. This perfectly syncs with ISRO’s ability of launching small satellites at one-third costs of the global average.
- With the successful testing of Reusable Launch Vehicle, total expenditure of launch may further reduce by up to 80 percent of the current costs. This will further attract foreign customers to ISRO.
- ISRO can subsidise the Indian programme and to an extent, set a scientific agenda for space.
- India could use this to deepen its soft power and relations with other third world nations.



6. SECURITY

6.1. MALWARE INFECTION INDEX 2016 (MII 2016)

Microsoft Asia announced the launch of its Malware Infection Index 2016 (MII2016), which identifies the key malware threats in the region and ranks markets in Asia Pacific according to how much they are affected. The region is especially vulnerable with emerging markets most at risk of malware threats.



6.2. COASTAL SECURITY

The Home Ministry has extended the jurisdictional limits for notified police stations from the existing **12 nautical miles to 200 nautical miles**.

- Following 26/11 terror attacks, **Coast Guard** was made responsible for securing Indian territorial waters extending up to 12 nautical miles (about 22 Km) from the shore, and new coastal police stations had been proposed to maintain security up to five nautical miles from the shore.
- The new limits of 200 nautical miles for land police will now add **greater depth to the patrolling**.
- New change will allow greater say to local police while dealing with cases of **smuggling and terrorism along India's 7,516-km-long coastline**.

6.3. GOOGLE STREET VIEW

India has declined to give security clearance to the Internet giant's Street View service, primarily due to objections raised by the Defence Ministry.

- The main concern was security of **sensitive defence installations**.
- **Post-Pathankot attack**: Investigating agencies suspect that terrorists used Google maps as they were aware of the airbase's topography.

Google Street View

- Street View is the search giant's virtual mapping tool that lets users view **360-degree, panoramic** and street-level images across more than 65 countries
- Google has stated Street View's **usefulness in disaster management and tourism**.

Model adopted in other countries

- **In the US**, Google was asked to **remove sensitive information**, and its image-capturing cars were ordered to **keep off military bases**.
- **In Germany**, households were given the option of **blurring their buildings**.
- **In Japan**, the height from which the cameras scanned the neighbourhoods was lowered and **local governments were notified prior to Google's photography**.
- **Israel** allowed Street View, with no images in **real-time and only for public spaces open to all**.

Way forward

- Government has hinted that its refusal is not final and that such issues could be resolved once the **Geospatial Bill**, which seeks to regulate map-creation and sharing, comes into force. Also, it might not be in India's best interests to keep out this technology for long.

6.4. "LONE WOLF"- STYLE TERRORIST ATTACKS

Recent mass shooting in **Orlando, Florida** has once again brought the issue of Lone wolf style terrorist attack across the globe. Over the last 3 years, such terrorist attacks have been on the rise.

Reason for such attacks

- In such attacks, actors allegedly act by themselves without any tactical or financial support from an established insurgent group or international terrorist organisation.
- It is an efficient way of spreading terror in hard-to-access places for terrorist groups like the IS.
- Lone wolves typically remain off the security radar.
- Mostly attackers are self-radicalized towards extremist ideology by accessing material on social media.
- The current gun sales environment in the U.S. allows self-radicalized to have licensed weapons with the right amount of push.
- The Orlando mass shooting is a terror attack stemming from homophobia reinforced by regressive religious doctrine.

6.5. INDIA-USA: COOPERATION IN ANTI-TERROR MECHANISM

Home Ministry signed an agreement to join the global terror database maintained by the **Terrorist Screening Center (TSC)** of the US

- US has already finalised such agreements with 30 countries and TSC has details of **11,000 terror suspects** on its database, including nationality, photos, finger prints, passport number, etc.
- The Research and Analysis Wing (R&AW) and Intelligence Bureau (IB) had opposed giving the United States unhindered access to the database of terror suspects in India.

7. ENVIRONMENT

7.1. NATIONAL DISASTER MANAGEMENT PLAN

Why in news?

- The plan was unveiled recently. It is the **first major national plan for disaster management**.
- The plan aims to make India disaster resilient and reduces loss of lives.
- It is made keeping in mind the **Sendai Framework and Sustainable Development Goals (SDGs)**.

About Sendai framework

- The Sendai Framework is a 15-year non-binding agreement on disaster risk reduction.
- It replaced the earlier Hyogo Framework.
- It was adopted at the Third UN United Nations World Conference on Disaster Risk Reduction held at Sendai, Japan in March 2015.
- It aims for the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

Major highlights of the plan

- **Comprehensive definition** of disaster
 - ✓ The plan is based on the four priority themes of the “Sendai Framework,” namely:
 - understanding disaster risk,
 - improving disaster risk governance,
 - investing in disaster risk reduction (through structural and non-structural measures);
 - disaster preparedness- early warning and building back better in the aftermath of a disaster.
 - ✓ It covers all phases of disaster management: Prevention, Mitigation, Response and Recovery.
 - ✓ It covers human induced disasters like chemical, nuclear etc.;
- Planning
 - ✓ Planning for short medium and long run respectively 5, 10, and 15 years to deal with disasters.
- Integrating approach with role clarity
 - ✓ It provides for horizontal and vertical integration among all the agencies and departments of the Government.
 - ✓ The plan also spells out the roles and responsibilities of all levels of Government right up to Panchayat and Urban local body level in a matrix format.
 - ✓ Ministries are given role for specific disasters e.g. Ministry of Earth Sciences is responsible for Cyclones
 - ✓ The plan has a regional approach, which will be beneficial not only for disaster management but also for development planning.
 - ✓ It is designed in such a way that it can be implemented in a scalable manner in all phases of disaster management.
- Major activities
 - ✓ It also identifies major activities such as early warning, information dissemination, medical care, fuel, transportation, search and rescue, evacuation, etc. to serve as a checklist for agencies responding to a disaster.
 - ✓ It also provides a generalised framework for recovery and offers flexibility to assess a situation and build back better.
- Information & media regulation
 - ✓ To prepare communities to cope with disasters, it emphasises on a greater need for Information, Education and Communication activities.
 - ✓ It calls for ethical guidelines for the media for coverage of disasters as well as self-regulation. The plan wants the media to respect the dignity and privacy of affected people.
 - ✓ Also, in a move aimed to stop rumours and spread of panic, the plan directed the authorities to schedule regular media briefing (depending on the severity of the disaster) and designate a nodal officer for interacting with the media on behalf of the government
- Focus on training, capacity building and incorporating best international practices

Significance of the plan

- It closes a critical gap in our disaster management system- while most states and districts have prepared their plans, the national plan that was supposed to guide this process at the sub-national level was missing.

Missing points

- Unlike Sendai Framework or SDGs it does not set any goals or targets or a definite time frame.
- Further, a framework for funding is missing
- Apart from these some other improvements can be done. For example:
 - ✓ Role of corporate bodies need to be institutionalized
 - ✓ Inclusion of innovative methodologies- a judicious mix of new technology with traditional practices
 - ✓ Need to give space to disaster insurance provisions

UPSC MAINS 2013

Q. How important are vulnerability and risk assessment for pre-disaster management? As an administrator, what are key areas that you would focus in a disaster management? (200 words)

7.2. GYPS VULTURE REINTRODUCTION PROGRAMME

Why in news?

- It was launched last year by Government of Haryana by putting ten captive bred vultures in pre-release aviaries close to Jatayu Conservation Breeding Centre at Pinjore in Haryana.
- It is Asia's first Gyps Vulture Reintroduction Programme
- Recently, two **Himalayan Griffons** were released in the wild as part of this programme.
- The programme is an ex-situ means of conservation whereby some vultures are kept at the breeding center for some time and then released into the wild.
- As vultures play a vital role in keeping the environment clean, their breeds should be increased and the government should constantly work to increase their numbers.

Status of vulture species in India

Mainly four kinds of vultures are found in India

- **Gyps species**- also called Indian vulture, Long-billed, slender billed vulture- Critically endangered
- **Himalayan Griffon**; closely related to Indian Gyps- not endangered; only **Near Threatened**
- **Red-Headed Vulture**- Critically endangered
- **Egyptian Vulture**- Endangered as per IUCN

Why is population of vulture declining

- Mainly due to use of **Diclofenac**, a drug which is given to cattle for inflammation and pain. The drug results in kidney failure in vultures when it enters its body through the Caracac.
- The government has banned Diclofenac since 2006 but its illegal use remains in force. People need to be made more aware of the use of alternate drug **Meloxicam**

Jatayu conservation breeding centre

- It is a facility within **Bir Shikargah Wildlife Sanctuary** for the breeding and conservation of Indian vultures in Pinjore town near Chandigarh, Haryana.

7.3. TRANSBOUNDARY MANAS CONSERVATION AREA (TRAMCA)

- The second monitoring of big cats across the Transboundary Manas Conservation Area (TraMCA) covering Manas National Park (MNP) in Indian side and the Royal Manas National Park (RMNP) in Bhutan has found altogether 21 individual tigers.
- The first monitoring in TraMCA in 2011-12 found 14 individual tigers in the landscape.

- The latest tiger monitoring, carried out by the MNP, RMNP, National Tiger Conservation Authority (NTCA), WWF-India and conservation group Aaranyak last year, covered an area of 560 sq km across the two protected areas.
- Apart from the increase in number, the results also indicate of the presence of a healthy core breeding tiger population in the region, which can well serve as a source population for tigers for Bhutan as well as North Eastern region of India.
- Findings also suggest that there is unhindered movement of the tigers and wildlife across the corridors of cross border forests. This underscores the importance of maintaining the connectivity between the respective protected areas comprising the landscape, for long term conservation of the big cats.
- Transboundary Manas Conservation Area (TraMCA) covers Manas National Park (MNP) on the Indian side and the Royal Manas National Park (RMNP) in Bhutan
- TraMCA, floated in 2008, is a joint initiative of India and Bhutan for trans-boundary biodiversity conservation.

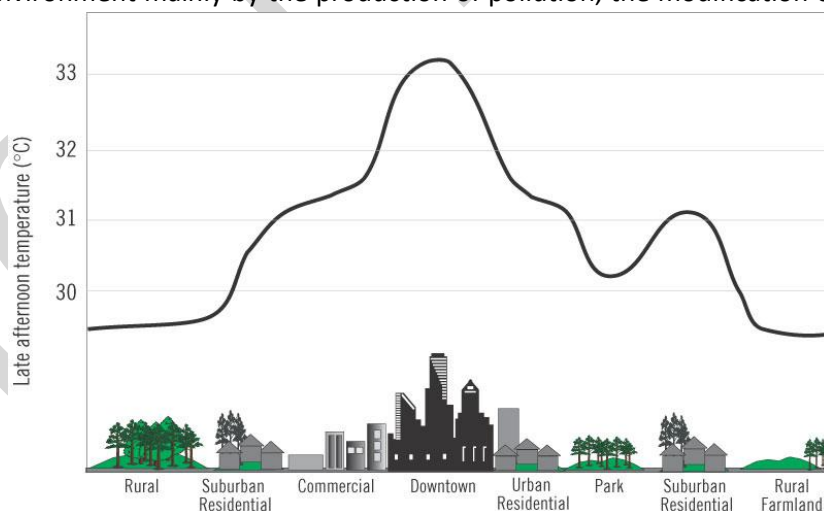
7.4. NEW MODEL TO STUDY URBAN HEAT ISLAND

Why in news?

- A new climate model to study the heat island effect in Abu Dhabi has been developed by researchers. The model, once completed, would help in tackling the effect across the globe.

About urban heat islands (UHI)

- Urbanization negatively impacts the environment mainly by the production of pollution, the modification of the physical and chemical properties of the atmosphere, and the covering of the soil surface. Considered to be a cumulative effect of all these impacts is the UHI.
- It is defined as the rise in temperature of any man-made area, resulting in a well-defined, distinct "warm island" among the "cool sea" represented by the lower temperature of the areas nearby natural landscape (figure 1).
- Though heat islands may form on any rural or urban area, and at any spatial scale, cities are favoured, since their surfaces are prone to release large quantities of heat.
- On an average the annual air temperature of a heat island in a city with 1 million people or more can be 1-3°C warmer than its surroundings which goes upto 12°C in evenings.
- Heat islands can affect communities by increasing summertime energy demands, air-conditioning costs, air pollution and greenhouse gas emissions, heat-related illness and mortality
- The major causes are vehicle, dark pavements, multi-storey buildings and air conditioners. Among these the use of ACs is most adverse as it creates a vicious cycle.
- The effects of a heat island can be reduced by developing efficient cooling systems, adding vegetation to buildings, cooling paved surfaces with reflective paint etc.



UPSC MAINS 2013

Bring out the causes for the formation of heat islands in the urban habitat of the world. (100 words)

7.5. DRAFT WETLANDS (CONSERVATION AND MANAGEMENT) RULES

- The new draft rules have been recently put into the public domain the government.
- In 2010, the MoEF had notified Rules for conservation and management of wetlands under the Environment Protection Act, 1986. The new rules will replace them.

Major changes from the old rules

- The Central Wetlands Regulatory Authority (CWRA) will be removed. The power of notification would rest with the chief ministers of respective states.
- There is no time limit for notification as against the period of 12 months stipulated in 2010 rules
- The numbers of restricted activities have been reduced.
- Earlier the decision taken by CWRA could have been challenged before NGT by a citizen. No provision of citizen check is present under the new rules.

Issues

- The record of states in implementation of the rules has not been encouraging. It is observed that states are susceptible to yielding under local pressure. Recently the NGT reprimanded some states for not even notifying wetlands under the 2010 rules. In this light the decentralization without adequate checks could be counter-productive.
- The draft does away with the Central Wetlands Regulatory Authority, which had suo moto cognizance of wetlands and their protection.
- It contains no ecological criteria for recognising wetlands, such as biodiversity, reefs, mangroves, and wetland complexes as was mentioned in 2010 rules.
- It has deleted sections on the protection of wetlands, and interpretation of harmful activities, which require regulation, which found reference in the 2010 rules. It seems the protection has been diluted as restricted activities have been reduced drastically. Activities under vague terms like 'wise use' have been permitted.
- No role to local people and institutions have been given.

Suggestions

- There is need for scientific criteria for identifying wetlands- an independent authority can help with respect to this.
- Use this method to create a data bank on wetlands; proper data of only Ramsar sites is present. In absence of proper data bank extent of wetland is not ascertained and encroachment becomes easier.
- Proper checks and balances- both on part of central government and citizens is required.
- The rules should be people-centric; involvement of town and country planning Board in identification of wetlands. More role to locals like fishing community, farming and pastoral community in management-they have experience as well as interest in their protection.

(Note: Also see February edition of Vision Current Affairs for more)

UPSC IN PAST

Q. Discuss the wetlands and their role in ecological conservation in India. (150 words) (MAINS 2009)

Q. List any eight 'Ramsar' wetland sites located in India. What is the 'Montreux Record' and what Indian sites are included in this Record? (150 words) (MAINS 2010)

7.6. ALTERNATIVE TO BT COTTON

Why in news?

- The Union government is working to develop a suite of Bt cotton genes that can be integrated into traditional varieties and be made available to farmers.
- This would be a viable alternative to the current Bt Cotton technology, which is largely sourced from foreign company Mahyco Monsanto Biotech India Ltd. (MMB).

- It would be a joint collaboration of Council of Scientific and Industrial Research (CSIR) and the Department of Biotechnology (DBT).

Why the need to develop alternate variety

- Freedom from dependence on foreign technology.
- Improving the availability of seeds to the farmers at affordable prices.
- Under the present licensing system between seed companies and seed technology companies (like MMB), the availability and affordability of the seeds is not optimal. The government has even brought proposals to make changes to this royalty and technology sharing system and also seeks to regulate the seed prices. An indigenous alternative would address this issue as well.

About Bt Cotton

- Bt Cotton is a genetically modified variety of cotton that contains insecticidal genes sourced from soil bacterium targeted at key cotton pests.
- It is the only GM crop that is legally allowed in India at present. Gm food crops such as brinjal and mustard, which are in advanced stages of regulatory clearances, are yet to become available to farmers due to stringent opposition by anti-GM activist groups.

7.7. CARBFIX PROJECT

Why in news?

- Recent reports show that the project was able to solidify 95% of the injected 250 tonnes of CO₂ into calcite in 2 years, using 25 tonnes of water per tonne of CO₂.
- This is a significant achievement and offers hope for future.

What is it?

- It is a project in Iceland that aims to lock away CO₂ by reacting it with basaltic rocks.
- Carbonated water is injected into the rocks so that it reacts with Calcium, Magnesium or Silicate material present in Basaltic rocks. This is called enhanced weathering.
- Thus, the CO₂ is captured permanently without releasing any harmful by-products.

Issues

- Cost of the process is very high.
- Since the reactions are exothermic, it is reversible if the rocks are heated.
- The pumping activity generates seismic activity.

7.8. SPACE COLLABORATION TO TACKLE CLIMATE CHANGE

Why in news?

- The monitoring of GHG emissions can be done effectively and accurately by space satellites.
- Keeping this mind, 60 space-faring nations have agreed to engage their earth observing satellites, coordinate their methods and data to monitor human-induced GHG emissions.
- They will establish 'an independent, international system' to centralize data from satellites.

Significance

- This would help to get the best data possible on climate change with most authenticity.
- The satellites would also be used to verify the efforts of nations towards fulfilling their commitments under the Paris Agreement.
- The goal now will be to inter-calibrate these satellite data so that they can be combined and compared over time.
- The decision was taken at a meeting at New Delhi, which was called upon at the invitation of ISRO and French space agency Centre national d'études spatiales (CNES).

7.9. CLIMATE SMART AGRICULTURE

Why in news?

Recently the three-day Annual Forum of the Global Alliance for Climate-Smart Agriculture (GACSA) was organised at Rome by FAO.

Need for climate smartness in agriculture

- **Rising challenges of food security:** The UN Food and Agriculture Organisation (FAO) estimates that feeding the world population will require a 60 percent increase in total agricultural production.
- **Negative impact of Climate change on agriculture:** Climate change is already negatively impacting agricultural production globally and locally, particularly in low-income countries where adaptive capacity is weaker. Impacts on agriculture threaten both food security and agriculture's pivotal role in rural livelihoods and broad-based development.
- **Impact of agriculture on environment:** The agricultural sector, if emissions from land use change are also included, generates about one-quarter of global greenhouse gas emissions.

About CSA

- Climate smart agriculture (CSA) is an integrative approach to address these interlinked challenges of food security and climate change. It basically **aims at three main objectives**:
 - ✓ sustainably increasing agricultural productivity, to support equitable increases in farm incomes, food security and development;
 - ✓ Adapting and building resilience to climate change at multiple levels; and
 - ✓ Reducing and/or removing greenhouse gas emissions, where possible.
- It is **supported by Food and Agricultural Organisation (FAO)**.

Elements of CSA

- CSA is not a set of practices that can be universally applied, but rather an approach that involves different elements embedded in local contexts. It relates to actions both on-farm and beyond the farm, and incorporates technologies, policies, institutions and investment.
- CSA approaches include four major types of actions:
 - ✓ Expanding the evidence base and assessment tools to identify agricultural growth strategies for food security that integrate necessary adaptation and potential mitigation
 - ✓ Building policy frameworks and consensus to support implementation at scale
 - ✓ Strengthening national and local institutions to enable farmer management of climate risks and adoption of context-suitable agricultural practices, technologies and systems
 - ✓ Enhancing financing options to support implementation, linking climate and agricultural finance

7.10. REVIEW OF THE NATIONAL FOREST POLICY

Why in news?

- The Environment Ministry had tasked the Bhopal-based Indian Institute of Forest Management, an affiliated organisation, with reviewing and revising the existing forest policy.
- This is the first time that the policy was being re-looked since 1988 as it wanted to update the several changes in forest laws and provide a forward-looking policy that talked about increasing India's forest cover and tackling the effects of climate change.
- It may be noted that many demands have been made to **review the 1998 policy** as it does not meet the present day requirements.

Highlights of the study

This study was prepared for 'consideration of the government' and it was funded by **United Nations Development Fund** as well. In this light it is important to consider the major proposals of the study.

- **Increasing forest cover**
 - ✓ It aims to bring a minimum one-third of India's total geographical area under forest or tree cover through scientific interventions and enforcing strict rules to protect the dense cover.

- ✓ This should be done replenishing it with **native species** rather than introducing exotic species
- **Carbon tax:** It proposes to levy environmental cess, green tax, carbon tax etc. on certain products and services
- **Diversion of land**
 - ✓ It underscores the need to exercise special caution in case of land diversion projects related to mining, quarrying, construction of dams, roads and other linear infrastructure
 - ✓ Use of state-of-the-art technology which causes minimum pollution and damage should be promoted.
- **Finance:** It calls for enhancement of the budget of the forestry sector so that objectives enshrined in the this policy can be achieved
- **Eco-tourism:** It calls for developing “sound eco-tourism models” with the focus on conservation while supplementing the livelihood needs of local communities.
- **Implementation:** The policy envisages that a national implementation framework be put in place within six months of the notification, to deliver on the commitments. It also urged states to formulate their forest policies and prepare an implementation framework.
- **Agro-forestry:** The policy also emphasized on large-scale expansion of agro-forestry and farm forestry through incentives and operational support systems such as lowering input costs and enabling access to reasonably priced quality planting material.

7.11. SHAILESH NAYAK COMMITTEE REPORT

- The Report of the Committee to Review the Issues relating to the Coastal Regulation Zone, 2011, was submitted to the Ministry of Environment, Forests and Climate Change in January 2015.
- The ministry has disclosed the report after an order from the Information Commissioner last month ordering the ministry that it cannot deny the report under the Right to Information (RTI), Act.

Highlights of the report

- The committee found that the 2011 regulations, especially with regard to construction, have affected the housing, slum redevelopment, redevelopment of dilapidated structures and other dangerous buildings.
- Since January 2015, several dilutions appear to be taken from this report, such as
 - ✓ Allowing construction of monuments/memorials (Sardar Patel statue in Gujarat) in CRZ VI zones;
 - ✓ Proposal to allow high-rise buildings (Chennai) in CRZ II zones within 500 metre of the high-tide line;
 - ✓ Proposal to allow reclamation of land from sea (Mumbai) for facilities such as ports, roads, quays, harbours and others.
- The report proposes the devolution of powers to state and union territory governments along with local authorities as sought by several states.
- The report even suggests that both CRZ II and III zones (500 metres from the high-tide line that are developed and relatively undisturbed, respectively) should not fall under the environment departments of the State or Central Ministry, and instead be guided by the rules of State town and planning departments.
- It further proposes to reduce the “**no development zone**” to just 50 metres from existing 200 metres for “densely populated” areas.

7.12. POPLAR TREES IN KASHMIR

- Kashmir is known for its Pine trees. However, the pine forests have diminished significantly in last few decades due to large scale timber extraction.
- In the search for alternative, the Social Forestry Department introduced the *populous deltoids*, or Eastern Cottonwood or more popularly called Poplar.
- **Introduction of the species boosted the veneer and ply-based industry** in the Kashmir region while its timber, used for fruit-packing boxes, is a cost-efficient option for the horticulture industry, which forms the backbone of the state’s economy.

- The financial benefits offered by growing poplars helped Kashmiri farmers look to agro-forestry as a better means of livelihood.
- In recent years, however, people have been **raising concern over the increased instance of infections caused by the cotton produced by the poplars.**
- As a result, the **HC of J&K has ordered the felling of all Poplar trees** in Kashmir valley.
- This is being opposed by many members of civil society who argue that poplar-induced allergy is not that significant when compared to other causes of allergy like dust, lawn grass etc.

7.13. PALAEOCHANNEL

Why in news?

- **Central Ground Water Board (CGWB)** under Ministry of Water Resources, River Development and Ganga Rejuvenation has been putting great emphasis on studying the various aspects of Palaeochannels in India so that its ground water potential can be optimally utilized.
- Recently it organized a workshop on this issue.

About Palaeochannel

- A palaeochannel is a **remnant of an inactive river or stream channel** that has been either filled or buried by younger sediment.
- A palaeochannel is distinct from the overbank deposits of currently Active River channels because its river bed is filled with sedimentary deposits which are unrelated to the normal bed load of the current drainage pattern.
- Palaeochannel forms when river channels aggrade, depositing sediment on their bed. For these channel deposits to be preserved, the flow must not re-occupy and re-erode them. For example, when the channel is in a net-depositional environment, or in a subsiding sedimentary basin.

Importance of Palaeochannel

- **Geological importance**
 - ✓ Understanding movement of faults
 - ✓ Preserving sediments and fossils useful for understanding past rainfall, temperature and climate- this could aid in understanding global warming and climate change as well
 - ✓ Preserving evidences of older Erosional surfaces and levels
- **Economic importance**
 - ✓ The old sediments contain deposits of minerals like Uranium, lignite and precious metals like gold and platinum
- **Ground water source**
 - ✓ Because of better flushing mechanism in the **ground water system of palaeochannels due to coarser nature of sediments and fast recharge**, the quality of ground water is often better than the surrounding environment.

7.14. EFFICIENT AND SUSTAINABLE CITY BUS SERVICE PROJECT

Funding agreement

- India has signed a **\$9.2-million grant agreement with the World Bank for the 'Efficient and Sustainable City Bus Service Project'** aimed at improving the efficiency of the transport and reduce greenhouse gas emissions.
- The project will **be classified under Global Environment Facility (GEF) grant with IBRD as the implementing agency.**
- The total cost of the programme is \$113 million. The rest will be funded by the Centre, state and city governments for the funding of buses and ancillary infrastructure.

About the project

- The project has been designed to specifically focus on identifying institutional, regulatory and fiscal constraints to operation of sustainable city bus services.
- The project will complement **Union Government's Bus Funding Scheme**, which was launched to promote public transport in cities by modernizing their bus services.
- It will introduce modern Management Information Systems and Intelligent Transport Systems for better planning and management of operations.
- It will also provide technical support to drivers and vehicles for better fuel efficiency, etc.

7.15. EURASIAN OTTER

Why in news?

- Recently Eurasian Otter were discovered from **Satpura** Tiger Reserve, Madhya Pradesh and **Kanha-Pench Corridor**.
- It was believed to be restricted to Himalayas and in some parts of the Western Ghats.

What is it?

- It is one of the **rarest Indian mammal**.
- It has wide distribution covering Europe, Africa and Asia. But it is rare in India.
- It is classified as '**Near Threatened**' under IUCN.

7.16. DRAFT WIND-SOLAR HYBRID POLICY

Why in news?

- The draft National Wind-Solar Hybrid Policy aims at providing a framework to promote large grid connected wind-solar photovoltaic (PV) system for optimal and efficient utilization of transmission infrastructure is criticized for many reasons such as being restrictive and for lacking details about tariffs.

Key features of the Policy

- It proposes hybridization of existing solar PV and wind power plants apart from new projects.
- Low cost financing for hybrid projects may be made available through IREDA and other financial institutions like multilateral banks.
- For new hybrid wind-solar projects, the draft policy proposes to provide the developer with the option of using the hybrid power for captive use, third party sale or sale to state electricity distribution utilities.

Significance of the Draft Policy

- Given that critical infrastructure such as land and evacuation network for wind or solar project accounts for about 10-12% of overall project cost, hybrid projects would benefit from common infrastructure.
- The variability in generation profile is likely to be reduced to some extent, as generation from both the sources is at different intervals and in complimentary seasons.
- This would partially address the concerns of distribution utilities over the grid stability arising due to the intermittent nature of wind or solar generation.

Criticism of the Policy

- The draft policy is a good step, but is restrictive as it puts a cap on size of such units.
- The policy lacks in details relating to tariffs and financial incentives.
- It is restrictive in suggesting that hybrid capacity addition, for existing plants, must be limited to the sanctioned transmission capacity.

Way Forward

- Though the policy is a good step however the policy implementation needs to be done very carefully - the evacuation policy needs to be clear, transmission augmentation might need to be done in most cases, scheduling and forecasting of delivered power needs to be calculated accurately, and plant layout needs to make sure that wind mills don't cast any shadows on the solar panels.

- Central Electricity Regulatory Commission (CERC) needs to come up with an FIT (Feed in Tariffs) (FIT is a payment made to households or businesses generating their own electricity through the use of methods that do not contribute to the depletion of natural resources, proportional to the amount of power generated) for Wind Solar Hybrid framework.

7.17. CULLING OF ANIMALS

- Environment Ministry recently provided a spate of clearances allowing culling of several species in different states.
- The state Boards were permitted to declare animals that were coming in conflict with humans like nilgai, rhesus monkey, wild pigs etc. as **vermin** in Bihar, HP and Uttarakhand
- This means that those who kill these animals will, for a year, will not be subject to the jail terms and fines that hunting these animals typically invite.
- Wild animals are protected by the Wildlife (Protection) Act, 1972 under which animals and birds are classified, on the basis of threats they face, into four schedules.
- The highly endangered tiger is in the highest Schedule 1 and hares in Schedule 4.
- Each class gets different grades of protection and the law allows all, except Schedule 1 animals, to be temporarily slotted as Schedule 5 or 'vermin.'
- Nilgai, wild pig and rhesus macaque come under schedule 2 and 3.
- In response to a petition, SC refused to stay the notification that allowed for the culling.

Animal Welfare Board

- It is a statutory advisory body advising the Govt. on animal welfare laws and promotes animal welfare.
- It has questioned the "vermin" decision and called it arbitrary.
- It was established in 1960 under Prevention of Cruelty to Animals Act, 1960 and works under MoEF.

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8. CULTURE

8.1. KIRANA GHARANA

- Kirana Gharana is one of the most prolific Pakistani and Hindustani Khayal gharanas.
- The name of this school of music derives from Kirana or Kairana in Shamli district of Uttar Pradesh, which is the hometown of stalwarts like Ustad Abdul Karim Khan and Ustad Abdul Waheed Khan, who established this gharana.
- It is considered the foremost in perfect intonation of **notes or swara**. The central concern of the Kirana style is swara, in particular precise tuning and expression of notes.
- In the Kirana Gayaki, the individual notes (swaras) of the raga are considered not just random points in the scale but independent realms of music capable of horizontal expansion.
- Most Hindustani musicians from Karnataka are exponents of kirana gharana, thanks to Ustad Abdul Kareem Khan (1872-1937). It has imbibed many features of the Carnatic tradition.
- The border region along Karnataka and Maharashtra is famous for kirana school of singing.

8.2. MOHAN VEENA

- Mohan Veena refers to two distinct Indian stringed classical instruments.
- First kind is a modified Sarod created by the well know sarod artist Radhika Mohan Maitra and the other is a modified Hawaiian guitar created by Vishwa Mohan Bhatt.
- Bhatt's Mohan Veena is a highly modified concord arch top played lap-style.
- It has nineteen strings and is under tremendous tension. The total strings pull can be in excess of 500 pounds.
- Some variants of Mohan Veena include Chaturangui, Hansa Veena and Shankar Veena.

8.3. PM MODI CONFERRED AFGHANISTAN'S HIGHEST CIVILIAN AWARD

- PM Narendra Modi has been awarded Afghanistan's highest civilian award **Amir Amanullah Khan Award**. He is the first Indian to receive the award
- It is bestowed by the Afghan government to Afghan nationals as well as foreigners in appreciation of their services.
- The award is named after the Afghan national hero, **Amanullah Khan (Ghazi)**, who championed the cause of Afghanistan's freedom.
- He was the ruler of the Emirate of Afghanistan from 1919-1929 who led Afghanistan to independence, modernised Afghanistan and had strong ties with India.

8.4. INDO-GREEK CITY EXCAVATED IN SWAT

- A team of Italian and Pakistani archaeologists unearthed layers of an Indo-Greek city in Barikot of Swat valley, Pakistan.
- This site is the only Indo-Greek city excavated on a large scale and one of the few examples of Kushan settlement in South Asia.

Background

- The interaction between Greece and the region of Central Asia and South Asia began with the conquest of Alexander the Great in the 4th century BC
- This generated commercial and cultural exchange, and also favored the Greek influence on the Buddhist religion as well as artistic and philosophical schools of later periods.

Important Findings

- Large amounts of weapons and coins were found from different layers of the Indo-Greek city.

- There were layers associated with pre-Greek city, the Mauryan settlement (3rd BCE)
- A large late-Kushan Temple with four pillars on the northern part of the excavated area (3rd century CE) was also discovered which confirmed the existence of Buddhist architecture.
- Pottery forms imported from Greek Bactria (ancient kingdom located in Central Asia) and from the Mediterranean in the 2nd century BC were also found.

8.5. RARE STONE INSCRIPTION ON KAPALIKAS FOUND IN KARNATAKA

- Nearly thousand year old inscription on Kapalikas has been discovered in Raichur, Karnataka.
- The inscription is undated but based on the nature of the script its date is presumed.
- The Kapalika tradition is a **non-Puranic Tantric Shaivism** in India.
- Kapalikas are worshippers of **Bhairava** who is a manifestation of Shiva. They were a mysterious cult who may have practiced human sacrifice.
- They are called 'kapalika' or '**skull men**' because they carried a skull topped staff.
- The inscription also refers to a 'Kankala Gorava' who had mastered 'Soma Siddantha' or Kapalika Siddantha.

Significance

- First time an inscription throws light on the presence of Kapalikas in South India and in Karnataka in particular.
- Though there have been references to Kapalikas in a few inscriptions found in North India but there was no documentary evidence about their presence.
- It will help further study the very mysterious cult about which very little is known.

8.6. ANTIQUITIES RETURNED

- Recently, United States initiated the process of returning over 200 stolen artifacts back to India.
- Dating back to 2000 years, they had been looted from some of India's most treasured religious sites and are estimated to cost a \$100 million.
- The pieces being returned are only a part of around 3000 artifacts recovered by the US authorities, and will eventually be returned to India.

Background

- A 1970 **UNESCO Convention on Ownership of Cultural Property** prohibits illicit transfer and trading of ownership of cultural properties including antiquities.
- The process of retrieval of a stolen object that surfaces in a foreign country takes place through India's mission in that country.
- The CBI's Economic Offences Wing deals with heritage crimes. In Tamil Nadu with huge collection of artefacts there is an Idol Wing-CID.

Stolen Artifacts

- In 2013, a sculpture of Vrishanana Yogini, weighing 400 kg and dating to the 10th century, was brought back from Paris.
- In 2014, Australia returned a Nataraja and an Ardhanariswara.
- In 2015, three idols, Parrot Lady from Canada, Mahisamardini from Germany and Uma Parameshwari from Singapore returned to India.
- Earlier this year, a 10th century buff sandstone slab of the Tirthankara Rishabhanatha and a very rare sandstone panel depicting the equestrian deity Revanta and his entourage dated 8th century AD, worth millions of dollars was discovered in the US.

Challenges

- An integrated database of existing and stolen artifacts hardly exists in India with the National Mission for Monument and Antiquities, hence sufficient information on theft cases is very difficult.

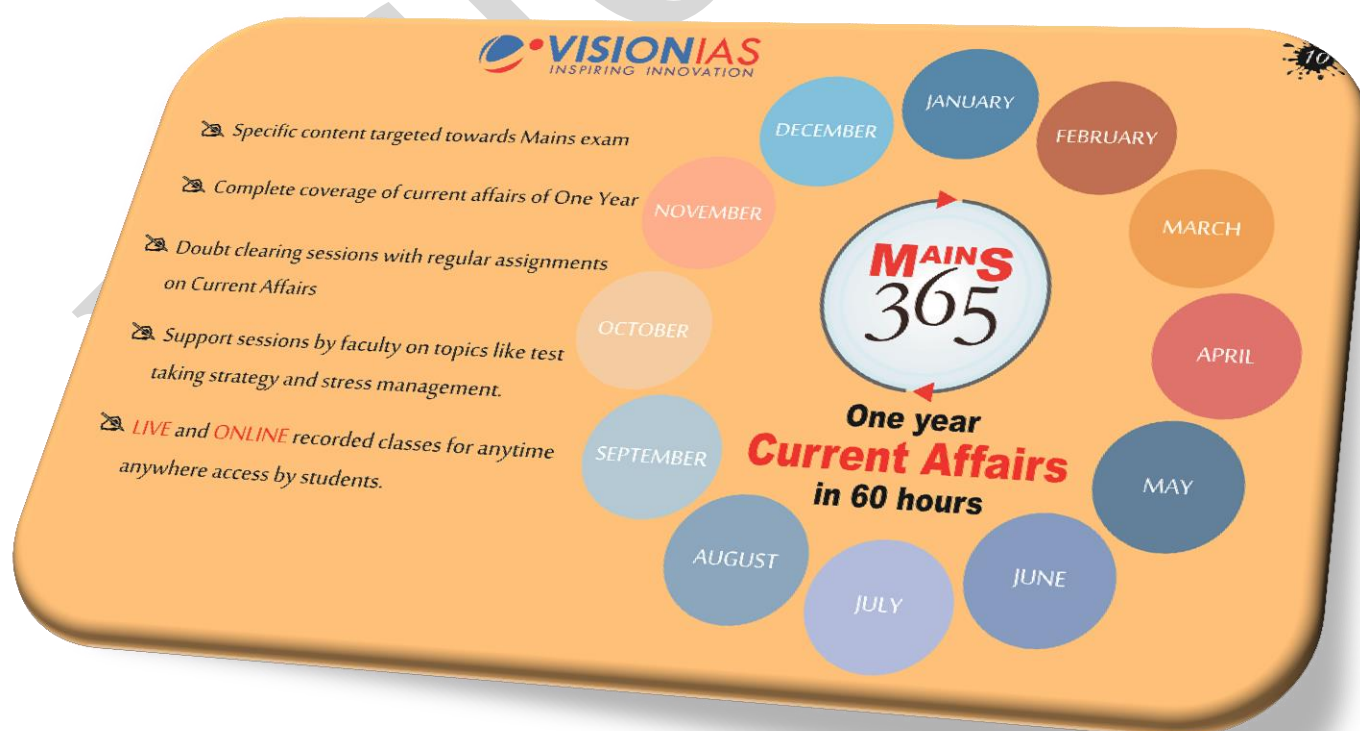
- The CBI, which handles antiquities theft as part of its special crimes division, is overburdened and also does not have the requisite qualifications.
- Some state governments have special wings as part of their police force but these too are understaffed and unqualified.
- The process of registering antiquities under The Antiquities and Art Treasures Act 1972 is extremely cumbersome and the act is outdated also.
- Fear of unnecessary government attention also deters registration.
- The CAG report on Antiquities in 2013 remarks about the country's poor acquisition, documentation and conservation systems like museums.
- The Ministry of Culture's initiative to document the seventy lakh antiquities in its possession in 2007 has only reached eight lakhs until 2014.

8.7. NIHALI LANGUAGE

- Nearly 300 languages have gone extinct in the country since the time of independence.
- Close to 800 languages and dialects exist across India, according to the People's Linguistic Survey of India, an independent study conducted by Bhasha Research Centre, an NGO.
- Bhasha's language count includes all those in currency, irrespective of the number of users.
- Census of India surveys found close to 1,600 languages in use in 1961, 108 in 1971 and 122 in 2011. Those spoken by less than 10,000 people were excluded after 1961.
- As per UNESCO there are 197 endangered languages in India, with 42 classified as Critically Endangered. Included in the list is Nihali Language.

About Nihali Language

- It is traced to the pre-Aryan and pre-Munda period.
- It is considered a Language Isolate, with no relation with other languages.
- Spoken by some 2,500 villagers on the Maharashtra-Madhya Pradesh border, the language is on the verge of extinction as speakers are migrating to find work, and merging with other communities.



9. ALSO IN NEWS

9.1. AGENCY TO ANALYZE TRADE SERVICE DATA

- The Central Government is considering to set up an institutional framework for better collection and analysis of data on export and import of services.
- A nodal agency for international trade data in services, an international services trade business directory, and provisions mandating enterprises to report their international services trade to the proposed agency are likely to be the key features of the framework.
- A new agency or the Directorate General of Commercial Intelligence and Statistics (DGCI&S, which currently compiles and analyses goods trade data) could be made the nodal agency.
- The framework will help in better targeting of incentives based on services exports which has net exports of \$69.6 billion in the FY 2016
- It will also help in making superior strategy for negotiations on bilateral free trade agreements as well as on regional and multilateral trade pacts.

9.2. INDIA AT RANK 2 IN GLOBAL RETAIL DEVELOPMENT INDEX

- In the Global Retail Development Index (GRDI), released by AT Kearney, India jumped 13 positions and was placed second in retail potential in the 2016.
- 30 developing countries were profiled to analyse them on 25 macroeconomic and retail-specific variables, to identify the markets attractive today, and those with future potential.
- The report thus helps retailers devise successful global strategies to identify emerging market investment opportunities.
- According to the report, India's retail sector expanded at a compound annual growth rate of 8.8% between 2013 and 2015, domestic funding from independent and unorganised retail markets drove most of it.
- E-commerce is propelling India's growth and it is the world's second largest internet market.
- However, India remains a challenging and complex market for foreign retailers, where understanding dynamics at the state level is important owing to infrastructure bottlenecks, complex labour laws, high labour attrition, and limited quality retail space for retailers.

9.3. NITI AYOOG'S PROPOSAL FOR DISINVESTMENT

- NITI Aayog has submitted two sets of recommendations to the Centre for strategic disinvestment of State-owned companies.
- In the first list the Aayog has put about 74 sick and loss-making government-owned companies
- In case of 25 companies out of these, it has suggested closure, after which their assets, especially land holdings, could be disposed off and employees be offered voluntary retirement as previous attempts to revive them yielded no results.
- In the remaining cases, either mergers with other public sector units or strategic disinvestment has been recommended.
- The second list comprises of 15 PSUs in which it has recommended strategic disinvestment on priority.

9.4. FINANCIAL SECTOR SEARCH AND RECRUITMENT COMMITTEE

- The government set up the Financial Sector Search and Recruitment Committee — headed by the Cabinet Secretary — to choose the members and heads of the RBI, the Securities and Exchange Board of India, the Insurance Regulatory and Development Authority.
- The RBI has opposed the government's move to have Cabinet Secretary P.K. Sinha as the head of the search-cum-selection panel for the appointment of its Deputy Governor.

- The RBI communicated its reservations, following which a compromise had been worked out.
- Under the compromise, the RBI Governor will have a greater say in the short-listing of the names. However, technically, the Cabinet Secretary remains the head of the panel.
- The search committee can only recommend names, while the government makes the appointment.

9.5. FIRST MAMMAL TO GO EXTINCT

- **Melomys rubicola**, a small rat-like animal, may be the first mammal lost to the phenomenon of climate change.
- It is an endemic species found only in the Great Barrier Reef of Australia.
- It is also called Bramble cay melomys because it is found in the Bramble cay, northmost point of land of Australia.
- A **Cay** is a small, low-elevation, sandy island on the surface of a coral reef.
- Researchers say that the key factor behind the extinction was most likely ocean inundation of the low-lying cay, likely on several occasions, over the last decade, which resulted in dramatic habitat loss.

9.6. CNG SCOOTERS

Why in news?

- A **pilot programme** to run two-wheeler scooters on CNG was launched in New Delhi.
- It is an initiative towards promoting clean fuel and reducing air pollution due to vehicular emissions.
- The performance of 50 CNG retrofitted two wheelers would be closely monitored in terms of efficiency, emissions, etc. by all the stakeholders and the learning from this project would be used to develop the roadmap for introduction of CNG in the segment across the nation.

Benefits

- **Reduce air pollution;**
 - ✓ CNG-run scooters will emit 75% lesser hydrocarbons.
 - ✓ In the metros like Delhi, two wheelers contribute a major portion in vehicular emissions.
- It will **promote the usage of gas fuel**; India needs to increase the use of gas fuel over petrol and diesel as it is more efficient and environment friendly. The Gas share in the country's fuel basket is just 7% compared to world average of around 24%.
- It will be more **economical** as the running cost would be lower.
- The pilot project is a sign of **growing India-Iran cooperation**, as the Iranian kits have been used for retrofitment.

9.7. JALRAHAT EXERCISE

- Exercise jalrahat is a **joint initiative taken by the Assam state government and Armed forces** towards the objective of **improving disaster preparedness during floods**.
- **Need:** Over a million people have been affected by floods in Assam. Almost 40% of the total area in the state is flood-prone. There is a need for better preparedness.
- It is based on the guidelines under the National Disaster Management Plan 2016 which calls for enhancing the cooperation and involvement of armed forces in disaster mitigation.
- The army can be suitably involved at all stages of disaster management from Preparation, Planning, Early Warning and Immediate Response to Relief and Rehabilitation measures.
- Some of the examples of cooperation as shown in the demo exercise were:
 - ✓ Using MI-17 helicopters to drop supplies
 - ✓ Rescuing stranded people from isolated areas and rooftops
 - ✓ Naval divers delivering relief material

- Similar exercises will be done in
 - ✓ Vishakhapatnam by Indian Navy- **Exercise Prakampana** for preparedness in case of super cyclone
 - ✓ Bhuj, Gujarat by Indian Air Force- **Exercise Sahayata** for major earthquake

9.8. NEW ELEMENTS ON THE PERIODIC TABLE

- The IUPAC has announced the proposed names for elements 113, 115, 117 and 118: nihonium, moscovium, tennessine and oganesson. The names are on five-month probation before things are made official.
- All four elements are not found in nature, and were synthetically created in laboratories.
- Until now, these elements had temporary names and symbols on the periodic table as their existence was hard to prove. Because they decay extremely quickly, scientists found it difficult to reproduce them.

IUPAC rules for naming the elements

- Elements are named after a mythological concept or character (including an astronomical object), a mineral or similar substance, a place or geographical region, a property of the element or a scientist.
- They must end in "-ium," "-ine," or "-on" depending on the grouping of elements they belong to.
- IUPAC also prefers the names translate easily across major languages.

About IUPAC

- The International Union of Pure and Applied Chemistry (IUPAC) is the world authority on chemical nomenclature and terminology, including the naming of new elements in the periodic table; on standardized methods for measurement; and on atomic weights, and many other critically-evaluated data.

9.9. EINSTEIN RING

Why in news?

- Einstein Ring has been discovered at the Instituto de Astrofísica de Canarias in Chile. The team used a spectrograph on the Gran Telescopio CANARIAS to confirm the discovery, which is now being called the "Canarias Einstein ring."
- A pair of distant galaxies 10,000 and 6,000 million light years away happen to be in the perfect position relative to Earth to create a rare 'Einstein ring'.
- Because the two galaxies are aligned so perfectly, light from the most distant, or source galaxy, is being bent by the gravity of the closer one. This makes the light from the furthest galaxy appear as an almost perfect circle when viewed from Earth.

What is an Einstein ring?

- "Einstein Ring", first predicted by Einstein's theory of General Relativity, is a rarely observed, astronomical phenomenon that occurs when two distant galaxies are perfectly aligned, millions of light years apart.
- An Einstein ring is a distorted image of a very distant galaxy, which is termed 'the source'. The distortion is produced by the bending of the light rays from the source due to a massive galaxy, termed 'the lens', lying between it and the observer.
- When the two galaxies are exactly aligned, the image of the more distant galaxy is converted into an almost perfect circle.

9.10. BREAKTHROUGH INNOVATIONS

- An innovation is the implementation of a new or significantly improved product, good or service; a new marketing method; or a new organisational method in business practices.

Breakthrough innovations

- ET -Energy technologies, including new forms of fossil fuels such as shale gas and oil and alternative energy sources such as solar and wind, storage technologies, clean tech and smart electric grids.

- BT -Biotechnologies, including genetic therapy, stem cell research, and the use of big data to reduce healthcare costs radically and allow individuals to live much longer and healthier lives.
- IT - Information technologies, such as Web 2.0/3.0, social media, new apps, the Internet of Things, big data, cloud computing, artificial intelligence and virtual reality devices.
- FT- Financial technologies that promise to revolutionize everything from payment systems to lending, insurance services and asset allocation
- MT- Manufacturing technologies, such as robotics, automation, 3D printing and personalized manufacturing.
- DT- defence technologies, including the development of drones and other advanced weapon systems.

9.11. CIRCUMBINARY PLANET

- Scientists, using NASA's Kepler Space Telescope, have discovered a Jupiter-like planet Kepler1647b, orbiting a system of two stars, making it the largest transiting circumbinary planet ever found.
- Planets that orbit two stars are known as circumbinary planets.
- The planet Kepler1647b, located in the constellation Cygnus is 3,700 light-years away and about 4.4 billion years old, roughly the same age as the Earth.
- Like Jupiter, Kepler-1647b is a gas giant, making the planet unlikely to host life.

9.12. ISSUES RELATED TO POLICE REFORMS

Why in news?

Karnataka police mahasanhga has issued a call for mass leave of police personnel in protest of the absence of 8 hour shift rule.

Issue

- The situation is same all over the country and even in states where this rule has been made like Kerela, it has been followed more in in breach.
- Karnataka police personnel are also demanding pay parity with the personnel from neighboring states and a compulsory weekly off which, at present, is a luxury.

Government's response

- The government has arrested two under ESMA (essential services management act), sedition and the police Act to prevent constables to go on leave.
- The home minister of state has said to reconsider the revision of their pay during next pay commission.

9.13. ISSUE OF APPOINTMENT OF JUDGES

Why in news

- The government had proposed a Memorandum of Procedure (MoP) that will guide the Supreme Court collegium on the appointment of judges to the apex court and high courts.
- But the top judiciary rejected almost all major suggestions by the centre.
- The deadlock is likely to worsen further as government has decided to stick by its MoP and confront judiciary.
- It may further delay filling vacancies in HCs where over 40% judges' position are lying vacant.

Major rejected recommendations

- Government's right to reject any recommendation of collegium on the grounds of 'national interest'.
- Involvement of the AG in suggesting a list of suitable candidates.
- The list of candidates brought before the collegium will first be vetted by a committee of two retired judges and an eminent person.

9.14. 'GOOD COUNTRY' 2015 INDEX

- 'Good Country' 2015 index, a biannual index, seeks to measure what each country contributes to the common good of humanity, and what it takes away, relative to its size.
- The index takes 35 different UN and World Bank indices into account, including global contributions to science, culture, peace and security, climate change and health and equality.
- **Sweden** is the best country when it comes to serving the interests of its people and contributing to the global good.
- **India** ranked **70th**, three places below China, on a list of 163 nations, with the best ranking (27th) in 'international peace and security' and the worst (124th) in 'prosperity and equality'.
- **Libya** was ranked as the **least "good"** country in the world.

9.15. INTERNATIONAL CONTINENTAL SCIENTIFIC DRILLING PROGRAM

- The Union Cabinet has given its approval for Indian membership of the International Continental Scientific Drilling Program (ICDP) consortium by signing an MoU (for a period of five years) with the Helmholtz Centre Potsdam GFZ German Research Centre for geosciences.
- It will enable India to engage with internationally renowned experts with profound expertise in different aspects of scientific drilling in order to accomplish deep drilling and associated investigations in Koyna region.
- As a part of the membership agreement, India will get a seat on two ICDP panels - Executive Committee (EC) and Assembly of Governors (AOG).
- Also, ICDP will provide technical / operational support; facilitate capacity building in terms of manpower training in key scientific areas, sample and data management and support workshops for the Koyna scientific deep drilling project undertaken by Ministry of Earth Sciences.
- As a member of ICDP, scientists/engineers from India would have right to submit proposals, to participate in all ICDP co-funded workshops and drilling projects and have access to all data results from ICDP projects.
- This will shed new light on the genesis of seismicity and better understanding of earthquake processes.

The Koyna Dam located in Maharashtra, western India is the most outstanding example of Reservoir Triggered Seismicity (RTS), where triggered earthquakes have been occurring in a restricted area of 20x30 sq km since the impoundment of Shivajisagar Lake in 1962.

About ICDP

- It is an infrastructure for scientific drilling that facilitates outstanding science.
- It is the only international platform for scientific research drilling in terrestrial environments.
- It provides the means for conducting cutting edge research:
- It brings together scientists and stakeholders from 23 nations to work together at the highest scientific and technical level.

9.16. RENEWABLE ENERGY CAPACITIES PIP HYDRO GENERATION

- The renewable energy sector has for the first time surpassed hydro power generation.
- According to the Central Electricity Authority data, the total capacity of renewable energy sector increased to 42,849.38 MW, surpassing the total capacity of hydro power sector at 42,783.42 MW, out of the nation's total installed capacity of a little over 3 lakh MW on April 30, 2016.
- The renewable energy investments in solar and wind have benefited from a strong central policy and several years of early-stage private sector investment, respectively.
- In contrast, hydro power suffered from multiple challenges, including non-availability of long-term financing; the cost imposed by royalty power (from 12 per cent to 36 per cent) to be offered free to the state government; and limited opportunities for the private sector.
- The government has ambitious plans for deployment of 175 GW renewable power capacities by 2022, including 100 GW of solar and 60 GW of wind, which may require investment of around \$150 billion in the next seven years.

9.17. RESEARCHERS DISSOLVE SILVER USING GLUCOSE WATER

- IIT Madras researchers have found that silver can slowly dissolve in water if heated to about 70 degree C in the presence of glucose. As much as 0.5 weight per cent of a silver plate can get dissolved in glucose water within a week.
- Like gold, silver is a noble metal and is therefore supposed to be inert (resistant to chemical corrosion, especially to chemical reagents used in daily life).
- But, IIT Madras team found that silver atoms gets released from a plate in a simple, two-step mechanism — silver ions are first formed at the metal surface, which later form specific metal complexes with sugar.
- The team has been studying the effect of metals in food and how toxic metals get into our food chain from soil, water and fertilizers.
- An offshoot of the study is that the method can be used for developing novel and green extraction processes for noble metals. In general, toxic chemicals such as cyanide are used for extracting silver.

9.18. KARNALA BIRD SANCTUARY

- The National Highways Authority of India (NHAI) is setting aside about Rs 58 crore for a plan to mitigate the impact of a road project on the Karnala Bird Sanctuary (KBS).
- The Karnala Bird Sanctuary is located in Panvel Taluka of Raigad District, outside Mumbai near Matheran and Karjat.
- The sanctuary is home to over 150 species of resident and 37 species of migratory birds which visit the sanctuary during winter.
- Three rare birds, the **ashy minivet**, **toed kingfisher** and **Malabar trogon** have been sighted here.

9.19. COGNITIVE DIGITAL RADIO

- A new app calculator has been found on smart phones of terrorists infiltrating into Jammu and Kashmir which helps them to remain in touch with their handlers in Pakistan occupied Kashmir (PoK) without being detected by technical surveillance by army.
- The technology is based on the concept of cognitive digital radio that enables users to turn their smartphones into peer-to-peer, off-grid communication tools. It was first used by a US-based company during Hurricane Katrina so that the affected could remain in touch with each other.
- The Army's signal unit relies largely on technical intercepts - usage of wireless and mobile phones.

9.20. JEWS GET MINORITY STATUS IN MAHARASHTRA

- The state cabinet in Maharashtra decided to grant Jews minority status in the state.
- Maharashtra State Minority Commissions Act, 2004, empowers the government to declare a community as minority.
- The Jews will now be counted independently as a community and can avail all schemes meant for minorities.
- This made Maharashtra the second state, after West Bengal, to declare Jews as minority.

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CSE 2013



GAURAV AGRAWAL
AIR-1

CSE 2014



NIDHI GUPTA
AIR-3



VANDANA RAO
AIR-4



SUHARSHA BHAGAT
AIR-5

