

Paper 3

Lockheed and TATA are set to make F-16 in India, as a part of strategic partnership (Dhirendra Singh committee).

+ will help make in India, will replace the MiG-21, transfer of technology will boost capabilities of our companies, much needed diversification (Israel, USA, Russia n France)

- Only 40% tech transfer, still dependent on foreign cos for rest 60%, export possibility is lesser because already world has shifted to advanced 4G and 5G version advanced aircrafts, by the time we start manufacturing it locally, the tech will not be so much in demand; job creation will be limited

Its time to ramp up our indigenous capabilities through R&D investment. It will be a major source of revenue the way it is for Russia and Israel. Need is to ensure robust quality eg CAG revealed how 1/3rd Akash missiles r dysfunctional

Masood Azhar- terrorist released fr Kandahar flight hostage, India demands his branding as an international terrorist, opposed by China

Hafiz Saeed will be floating a party- mastermind of 26/11 Mumbai attacks

FRANCE submarine data leak being built fr India,

ISIS- Islamic State of Syria n Iraq (Levant in French)

Resolution 2322

Y no progress on international terrorism yet?

- Lack of coordination among international intel agencies, no cooperation among judicial n legal organs and difficulties in extraditions, no concurrence on definition of terrorism smthng India hs been pursuing fr years thru CCIT

Hence, this is an imp step as it tries to address above issues except definition pt and also terrorists returning frm Syria n Iraq

Fake news- phenomenon of creation of factually incorrect info to mislead ppl

Post truth- phenomenon of people trusting opinions more than objective truth (**Word of the Year 2016**)

How to curb- fact checking websites, counter fake news with more news and immediate news from authentic sources thru their official handles n sites, social networking cos to take punitive action against websites founding indulging in fake news regularly, shd publish info only frm verifiable sources, Ultimately responsibility of consumers themselves to act responsibly, to exercise restraint before “like, comment n share” in an age where everyone is a publisher

Knowledge Economy- an economy which is primarily dependent on production, distrib n use of knowledge n information as against mfg or agri (knowledge is the main driver of the economy)

India a knowledge economy- Services contribute 60% of our GDP, growth rate of services is around 8% yoy. ISRO is a formidable space organisation (PSLV C 37 launched 104 satellites), **TeamIndus among finalists of Google Lunar X prize**, gonna soft land on moon, an imp and developing player in space launch market. India is the outsourcing hub for BPO & KPO jobs.. India is a sought after medical tourism destination. Indian diaspora is the biggest in world- 1.6 cr, remittances are highest in the world @ \$62 Bn, WB 2016 report Nt yet cz Education system is sub optimal- ASER (75% 3rd students cnt read 2nd class text), PISA, NSS learning outcomes deteriorating suggest. Not linked to R&D, Poor innovation- ranked 60 by WIPO, World Innovation Index, Internet penetration- only arnd 40 cr people, 25 cr hv smartphones n 30 cr hv feature phones.

Futher challenges- Automation will disrupt our low cost labour advantage, illiteracy n ICT penetration low, protectionism is growing as jobs r declining like H1B visa curbs in US, similar curbs in US n Australia. Brain Drain is another problem as best minds migrate outside

Solutions- Revamp education system- make it vocation oriented (HEERA is a step on rt direction) n R&D conducive, develop linkages with industry n R&D- Eg MANAK awards, Promote innovation Eg: IDEA scheme (1 cr prize), NIDHI scheme, Improve e governance to create an atmosphere amenable to transparency n accountability, promote ICT knowledge and reach in remote rural areas

IT

Cybersecurity- Legion attacks on social media ccounts of imp personalities, debit cards compromised, Yahoo account users data stolen, **wannacry** ransomware attack,

- Terrosim- Internet enabled terrorism (hs complicated further d **lone wolf syndrome**)- online handlers or controllers regulate the recruits with anonymity...radicalisation or indoctrination-> recruitment-> online guided attack
- **IR-** Russia engineered Trump's win n propagated fake news, leaked Hillary Clinton's emails..post truth becoming mr prominent...**BOTS r creating fake news n circulating it generating the notion of trending issue**

Solutions

- FATF (created by G7 in 89, India is a member)
- International collaboration extremely imp
- NATGRID in India
- Keeping a close watch on online activity on social networking sites, internet chat rooms etc
- **Use of ethical hackers**, appointing cybersecurity officers in all banks, wallet firms n other financial institutions
- Collaboration with CERT-In for immediate reporting on any security breaches or lapses

Ratan Wattal committee recommendations- cash GDP bring down to 6% from 12%, set up a regulator for retail payments under RBI

About IBC (Insolvency & Bankruptcy Code 2016) Aims- resolution of twin BS problem (insolvency resolution in a time bound manner), create an enabling investment environment, improve ease of doing business rank

Process (to be completed in 180 days)- Creditor/debtor initiates insolvency proceedings (earlier only debtor could do)>insolvency professionals draw up a resolution plan (within 180 days) put to vote by creditor committee >if IRP fails then liquidation, Appeals lie to the NCLT (within 180 days jurisdiction)

- **drafted by**
 - the 'Bankruptcy Law Reforms Committee' (**BLRC**) under MoF (2015)
- **parliamentary approval**
 - mid 2016
- **nature of IBC**
 - consolidates the fragmented bankruptcy framework under an umbrella insolvency legislation
 - covers all companies, partnerships and individuals (other than financial firms)

Key Highlights

- **corporate debtors ⇒ 2 – stage process**
 - **Insolvency Resolution Process (IRP)**
 - **Liquidation of assets**
 - if IRP fails
 - Adjudication of case against or by debtor lies to the National Company Law Tribunal (NCLT)
- **IRP for Individuals/Unlimited Partnerships**
 - Adjudication under the Debt Recovery Tribunal (DRT)
- **Institutional Infrastructure**
 - **An Insolvency Regulator- to oversee insolvency proceedings**
 - the Insolvency and Bankruptcy Board of India (**Board**) under DIPP
 - **Insolvency Professionals (IPs)**
 - would act as intermediaries between debtor and Bank in the bankruptcy process
 - **Information Utilities**
 - would collect, authenticate and disseminate financial information of debtors in centralised electronic databases

- **Adjudicatory Authorities**
 - NCLT ⇒ Appellate
 - DRT ⇒ Debt Recovery Appellate Tribunal ⇒ SC

Action Taken by RBI (under the Insolvency and Bankruptcy Code, IBC)

- initiated **insolvency proceedings against 12 corporate borrowers**
 - mainly steel and infra companies
 - each had a loan ≥ Rs. 5000 Cr
 - these 12 contribute about 25% of total NPAs

IBC has failed to resolve bcz

- Overburdened NCLT n DRT
- Cost of insolvency resolution is too high
- SC has pulled out cases from under NCLT citing customer interests
- Questions hv been raised abt integrity of insolvency professionals, they hv wide discretionary powers which r prone to misuse

Wt is wilful default? Why happens?- one hu hs d capacity to pay n yet defaults is a wilful defaulter. Happens when person diverts loan money to sm other task, when sells d asset widout bank's knowledge, as per RBI rules they constitute wilful default

New mechanism being proposed is – market driven approach to resolve bankruptcy
Y? cz IBC has failed to resolve

Continuing stressed assets problem is hurting the economy. IMF report says that GCF (Capital formation) has declined to 3.5% in last 5 yrs compared to 12% in decade b4 that.

This is bcz:

- projects that hv turned loss making due to slowing global economy
- drying of credit for new projects due to stressed assets problem (classic case of bad money driving out good money)

V imp now to reallocate capital from stressed projects to productive ones. How to free up the capital- Auction of debt portion as **reorganisation rights**

- first to the creditors at preferential price through internal auction
- next to public in open mkt, the money thus realised will help the creditors recover their dues

to prevent distressed sale, base rate shd be decided. New owners can then decide on way forward for firm thru direct voting.

Benefits: no need of separate courts, no need of IPs (under IBC), direct mkt involvement- better price realisation; low costs of reorganisation as no IBBA, IP are involved.

Abv idea ws proposed during fall of communism in Eastern Europe to bail out insolvent firms. Suited to India cz inefficient courts hain yahan n this methd is faster

SC verdict helps IBC, How?- SC in ICICI bank case has said that Central law will prevail over state law, sm debtors wr trying to avoid insolvency action by citing state insolvency laws. SC decision will help provide clarity n prevent such delays.

Diff bw Insolvency n Bankruptcy- Ins. Is involuntary (forced), here debtor is nt able to pay off his dues; it cd be recoverable while Ban. Is voluntary, here debtor approaches the court n asks to be declared as bankrupt, this is a last resort thing, permanent state

Indradhanush- 70k cr infused over 4 yrs. ABCDEG reforms- accountability, Bank Board Bureau, Capitalistion, De-stress, Empowerment, Governance

Probs as found by CAG- sm part of capital ws to be infused basis performance, this criterion nt adhered, in many cases, mr than required capital ws infused

ARC- were first set up under SARFAESI Act in 2003 (Secrtn n recons of financial assets and enforcement of security Interest act), regulation revised to strengthen them in 2016. (Enforcement of security means ARC can sell or lease borrower assets). ARC do wat?- can sell or lease debtor assets, tk over their mgmt, restructure their loan. Securitisation is done by the bank as bank consolidates its diff loans n sells them to ARCs. (Securtn is process of converting a bad loan (an illiquid asset into a security))

GIS is a method to plotting data on digital maps such as smart maps. It helps visualise patterns n take actions. Eg:Hry Govt- land records creation, UDAY scheme to manage losses, Arambh app to create inventory of roads, EC uses GIS to manage polling station boundaries.....v imp tool fr DSS (Decsn SS)

Use in Agriculture in wake of climate change (Monitoring weather, yield, diseases, loss)

- Soil Health management- issue online advisory or send help in the form of extension workers
- Zoning of flood n drought prone areas and disseminating this info to farmers extensivley to help them mk cropping decisions accordingly
- Can monitor crop yields and disease patterns to help Govt n farmers take remedial actions
- Can map damage to crops in case of floods, drought, hailstorm, pest attack to assess crop loss and decide compensation (key component of PMFBY)

Use of GIS in DM: preparedness n preparation TO response n recovery

(Monitor flood, drought, forest fires) (at each step of DM from risk vulnerability mapping, to affected area assessment, rehabilitation n recovery)

- Zoning of areas in terms of drought n flood vulnerability n aid preemptive preparatory action such as embankment construction,

- Monitoring drainage patterns and take remedial actions in problematic areas
- In the event of disaster, arrange help in the form of shelter homes mapping, medical aid availability mapping

Eg: Trapped person = inform rescue team (CRM/ERP)

Sick Person= inform medical team, drug supply (ERP)

- Damage assessment and future planning

Other uses such as traffic mgmt Eg: diverting traffic from congested areas, issuing advisory to take diff routes, increasing parking fees, issuing automated challans, monitoring peak hours rush Eg: **Aarambh mobile app: This Mobile Phone App aims at use of GIS based mapping for making road inventories, condition surveys, and producing cost estimates and other relevant data for preparation and monitoring of annual road maintenance plans**

Supply side n Demand side factors impacting agriculture

Demand side pressure arises when demand is less than the sowing by farmers. This happened when Government announced high MSP for pulses and resultantly, farmers switched to pulses but oversupply led to drop in prices (Cobweb Phenomenon), Government procurement infrastructure being inefficient, they were forced to sell in market at low prices. And supply side constraints include high cost of inputs, lack of access to irrigation facilities, inadequate credit or high cost credit, shortage of storage facilities and institutional measures like APMC Act that prevents farmers from selling to customer directly.

NITI Aayog has recommended removing agriculture from Essential Commodities Act cz it prevents large scale holding of agri pds due to which processing firms n cold storage firms r nt interested in investment in agri

Technology use in Agriculture

In India, Agriculture sector growth has been a cause of concern especially when 50% of Indian population is agri-dependent and it is the largest private sector employer. Tech use has often been cited as having the potential to transform agriculture.

This can be done in foll ways:

RSS (remote sensing satel.)n Drones cn be used to assess crop losses n quick release of insurance payment to farmers. Further, they can estimate crop yield and help policy makers take appropriate measures. Eg: **RSS n GIS mapping hs recently confirmed massive loss of Sunderbans Mangroves, thus it forms as an MIS base for the country and for policymakers to action upon**

Use of **GIS maps** can be used for zoning of agriclimate regions and provide relevant advisory to farmers for precision farming

Use of ICT can be used for providing weather forecasting services, farm inputs such as fertilisers, seed, time of sowing and to rejuvenate extension services. E-NAM can improve price discovery n improve farmers margins. **Karnataka farmers hv benefited from integration of all district Mandis, increasing the prices realised by 38%.** Use of ICT to connect firms with farmers in real time and engage in contract farming- this will enhance farmers' revenues n also that of firms by eliminating procurement through middlemen. Egs **include Biotech Kisan scheme to train women farmers in farming practices, Kisan Suvidha App, Kisan helpline, e-Pashuhaat; ES talks bout empowering women meaningful participation in agri**

Mechanisation of agriculture- Use of **Bots** in farmers as is being used in Russia, enhancing productivity multiple fold. Given small size of fields, this tech investment will be feasible only with contract and cooperative farming. Use of **seeder machines** to remove the need for crop residue burning

Food processing- cold storage chains, food processing units to help farmers reduce transportation losses n improve margins. **Agro irradiation** centres will cut wastage losses

GM crops- for pest mgmt n disease resistance

Challenges: Poor spending capacity, low size of holdings, illiteracy, poor penetration of internet, poor infrastructure like roads, storage capacity

Climate smart agriculture: Agri practices that combine FAM (food security, Adaptation and Mitigation). Sustainable practices that have low impact on environment and yet enhance our food security

Agriculture and livestock contribute **10-12% of total GHGs**

Agriculture ka Q aate hi mention need to implement swaminathan comm recommendations n usher in 2nd GR (also called rainbow revolution).

Use of Big Data in agri

- Will help in ushering precision farming n increasing the yields
- Will help in giving more information oto farmers regarding deamand trends n patterns n mk crop choices accordingly
- Issue weather advisory, along with precautionary steps to be taken
- It can inform which seed to be selected basis assessment of crop yields basis soil types n mositure content
- Give beforehand warnings on what diseases crop is likely to suffer from given unique geography n weather Can strengthen every linkage in SC from inputs to transportation n processing. Real time price updates. E-NAM is an eg

Big Data n start ups offer immense opprtunity in a country like India which has high dependence on farming (2/3 population), 6 lac villages and underpenetration of technology. An interesting eg of Big data is google os able to predict first of all that a region is suffering spread of some epidemic basis emergence of searches related to that topic in a given region.

Space technology- hw it helps in Agri?

- Can help in mapping d sowing trends- area sown, crops sown to help Govt formulate strategy
- Help in spotting wastelands that can be used for afforestation or inclusion in agriculture
- Help in spotting desertification trends and saline n usar soils spread to enable Govt to tk suitable action
- Identify potential regions fr fishing basis phytoplankton n sea surface temp
- Weather advisroy- ISRO along with IMD
- Must fr precision farming

Quite similar points cn be used fr GIS mapping, fr Big Data, Fr ISRO's role,

Big Data in Biotechnology...Biotech is use of biological processes, organisms to develop pds fr improving human, plant n animal life

Big Data can come handy in –

- Human Genome understanding- spotted mr mendalian diseases and also precursors for mental ailments
- Genetic Engineering n cloning.....
- Antibiotic resistance trend spot karna.....
- Personalised drug delivery
- Develop GMOs- assessing their field trial results
- Climate change mgmt- by analysing trends of crops, plants n trees across various ecosystems
- Animal husbandry- improve the breeds

Biopharmaceuticals-----are drugs that r mfd using biotechnology. They include use of proteins, DNA, RNA that r used in in-vivo conditions. Eg: Vaccines; antibiotics, Hormone treatment etc

Cancer treatment using immunotherapy; antisense technology (Genetic engineering using RNA) fr AIDS n cancer trtmnt

The greatest potential for bio-pharma is in gene therapy. In gene therapy, scientists replace defective genes with healthy ones

Start ups can help thru a nascent emerging field called FAAS

Nascent sector, known as *farming-as-a-service*, or *FaaS- solutions to farming needs, affordable cz fixed cost broken into variable cost*. FaaS seeks to provide affordable solutions to technical and mechanized farming. Its services are available on a subscription or pay-per-use basis in three broad categories.

1. Information sharing through SMS, phone calls (interactive voice response systems), e-mail or mobile apps. The services include alerts on weather, input and output market prices, real-time crop monitoring.

2. Production assistance solutions i.e. aiding farming activity with technological resources and expertise on site. For example, the ability to rent heavy farm machinery with expert operators at the farmers' doorstep.

3. Access to market solutions through virtual/online platforms to connect backward and forward supply chains with farmers. These connections help procure quality farm inputs and also cut out several intermediary layers

MSP- proposed by CACP (commission on agricultural costs and pricing), decision by CCEA (Cabinet committee on economic affairs), and procurement by FCI, announced before sowing

Probs- working in only Punjab, Haryana, UP, Andhra parts; rest places poor awareness; low awareness among farmers, procurement infra poor- procurement centres located at far off places add to transportation cost and render economics unviable; working best only for wheat and rice not for others like pulses, coarse cereals. Veggies and fruits are out of its ambit, S&M farmers not benefitted due to lower saleable surplus- traders accumulate it and they benefit from its sale then, Payments not made on time, **an imp issue- leads to farmers focusing on water intensive crop like rice and excessive sowing of only wheat and rice leading to groundwater depletion and soil quality degradation**

Benefits- prevents them against volatility, assured returns prevent falling into debt trap, middlemen elimination increase their margin

Use of Drones for social sector development- start with defn- its a UAV.....earlier used in military now in social sector too, great potential

MGNREGA- geo tagging of assets

Agriculture- for pesticide spray, crop surveillance- loss assessment, yield estimate and precision farming

Climate change- sensor fitted drones for emission estimates

Solid waste mgmt estimates

Disaster mgmt- loss assessment, supplying essentials such as medicines during disasters and otherwise to remote inaccessible areas

Security cover- building roads in strife prone regions such as naxalite areas

GIS maps creation – geo referenced maps creation for Assessment of resources and evidence based policy making; Haryana Govt is using them to create digital land records

Crowd mgmt during festivals, melas and traffic mgmt

Energy- detecting defects in solar panels, wind turbines and leakage in pipelines; detect illegal mining

Oil spills- assessment for evidence based action

Concerns:

- Privacy concerns to be kept in mind
- High cost of mfg and maintenance
- Chances of collision and mishap; crashing
- Could be used for intentionally inflicting damage, if fall in wrong hands

Need of regulation

Q- 7th pay Commission recommendations

Modification proposed by 7th PC:

Increase in Basic Pay

Decrease in HRA

Eliminating several allowances and merging yet another set of allowances

It further proposed increase in Siachen allowance and also in Risk allowance for some other categories

Overall it was set to hv an impact of 29k crores. This will benefit all the Government employees including defence personnel. Those posted in Siachen will see a significant jump in their salaries

Govt has decided to retain some of the allowances proposed for removal. HRA is also set to go up against PC recommendations of a decrease. This will increase govt burden by another 1400 cr. Govt has decided to not drop the HRA below 10% of basic pay, this will benefit all those Govt employees who do not avail the govt accomodation. Beneficiaries will see their consumption levels and also saving levels go up, their standard of life will improve. Banks' might benefit from increased spending and their lendable base could go up.

Increased salaries may lead to inflation as people's spending power goes up. However, poor unorganised sector workers' income stays unaffected. So, the Government will have to cautiously manage inflation without reducing welfare spend.

Zika vs Dengue:

- Dengue is more severe, Zika does not result in death generally
- Zika can be sexually transmitted too, also from mother to child. Symptoms- fever, rashes, joint pain
- Zika results in microencephaly in newborns

GST impact on disabled (GST proposed by Vijay Kelkar Committee)

- Aids n assisted devices, some of which had been exempt till now have been brought under tax ambit and yet others' rates have been increased. This is set to adversely impact the disabled population in the country which is around 2% of overall population. (Census 2011). These devices help reduce disabled people's dependence on others and help them lead a dignified and relatively independent life. Since, majority of the disabled and elderly people who need these devices live in rural poor households, increased cost will pinch them even more.
- This move is not aligned with the disabled friendly steps taken in the form of Passage of Right of persons with disabilities bill and Sugamya Bharat Abhiyaaan and Rashtriya vayoshree Yojna.
- **It is rightly said that disability is socially created** and not biologically. This is a regressive move and Govt must reconsider its decision in line with principles of social justice. Reversal of the retrograde move will help us move closer to SDG goals. Our

constitutional principles also require the state to make public assistance available to disabled (Art 41)

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Concerns expressed by various stakeholders against GST:

- Complicated structure- Multiple tax slabs ranging from 0% to 28% and a cess on top of that makes the scheme complicated. It creates opportunity for instances of lobbying and rent seeking for classification of items. Big ticket item Petroleum has been kept out of the GST regime, states retain the right to tax it
- More impact on poor- Certain anomalies have been noticed such as gold being taxed higher than a matchbox
- Impact on disabled- Aids and accessories for disabled-taxes have been increased
- Impact on ULBs- ULBs have been kept out of the GST system and no provision has been made to compensate them for the loss of their revenues (however meagre they earned earlier by levying octroi tax)..... property, entertainment, still under ULBs
- Environment- Hybrid car has more than SUV which is less eco friendly
- Not Tax experts but politicians have decided the rates so anomalies exist
- Concerns of Industry- There are initial hiccups too like uncertainty of impact on prices of goods, GSTN software being not fully tested.
- Reduced state autonomy- The decision in GST council has to be taken by 75% votes with center having weightage of one third votes. It may undermine the aspiration of few states

Govt should take full steps: Taking care of the infrastructural, personnel, and procedural shortcomings in an expedient manner. And it can take pro-active steps to clear the confusions about the structure. It will take some time to realise the One nation one tax one market goal. However, initial hiccups are natural and in the long run, it will be a game changer, if properly executed.

GST against federalism or in favour

Hamper because states can't decide tax rate, GST will do. Central govt has 1/3rd votes, sub federalism is not there (ULBs can't levy octroi taxes)

There is also an argument that GST will not hamper the cooperative federalism. The points are as follows:

- Though the GST has integrated many taxes and taken out much of the heads from states, it has not prohibited states to create new taxes as such. This provision provides freedom to the states to gain revenue from some innovative heads of taxation.
- There is 5 year compensation provision in case of any losses which fills the revenue gap of the states to some extent.
- There is 2/3 representation to states in the GST council has been provided to the states. This provision protects the state interests effectively.
- As per the finance commission recommendations, state has all the discretionary authority to spend 42% tax devolved from center to the state governments. This autonomy is in sympathy with cooperative federalism.

GST impact on inflation/deflation

Inflationary as services contribute 60% of country's GDP and services tax rate has gone up from 15% to 18%. Items like Alcohol n petroleum are not under GST ambit, State Govts can increase the taxes on these items to compensate for lower tax revenues (due to lowering on taxes on GST compliant products)

Deflationary: More than 50% items have been kept below 18% as against earlier average rate of 25%.

Cascading effect of taxes is removed by GST, thus paving the way for low prices. It will lower cost of transportation and logistics as Single unified market is created, this will also bring down the costs. Multiple state taxes such as VAT, Octroi are subsumed in GST, this is also expected to lower prices. Anti profiteering clause requires the businesses to pass the benefit of lower taxes to consumers, this will have salutary effect on prices. Further increase in economic activity resulting from GST regime will lower prices due to economies of scale

International experience has been mixed- Some countries like Germany witnesses deflation n others like Netherland saw inflation.

In India's case too, there are mixed signals. Things will be clearer as time passes.

GST impact on J&K- Financial autonomy of J&K lowered as GST council instead of assembly will be deciding the rates however there is a provision which requires governor's assent

Further, greater economic integration with the rest of the country, assimilation of J&K within mainstream without any opposition- chances of higher economic activity and more development opportunity for the region, example of cooperative federalism, a confidence building measure

Composition scheme under GST: for small taxpayers, turnover upto 1.5 cr, lower tax rate- 2% n once in a quarter payment of tax against monthly for regular taxpayers

APA- refers to the agreement on transfer pricing method to be used in case of related party transactions such as between parent company and its overseas subsidiary. It follows the arm length pricing principle.

It is entered for a pd of 5 years, further there is a provision of rollback of 4 yrs which means for past 4 yrs too, the arrangement can be backdated. (Further, the taxpayer has **the option to rollback the APA for four preceding years**, as a result of which, tax certainty for a total period of nine years is provided)

Norway is shutting off FM completely n moving to Digital Broadcasting

Benefits of DB

- Quality of output is better, free from noise or distortion in signal
- Particularly suited to hilly n difficult terrains
- More stations can be accommodated in the same bandwidth
- Cheaper than FM for broadcasting channels to operate
- Other data can also be displayed like song n singer name
- It is easier to tune than FM tuning which is manual thru a dial

Drawbacks-

- U either get a signal or u dont, in crisis advisory to fishermen, it might be a problem
- Cost of transition to new technology will be more since new equipment needs to be bought by users

Will be closely watched by other countries

E-Cigarettes- an electronic nicotine delivery mechanism, contains a vaporiser and nicotine liquid called juice.....Debate of vapour vs smoke.....normal cigarette contains tobacco, e-cig contains no tobacco bt ds contain nicotine (which is addictive) and also free radicals which can damage DNA

Proponents argue:

- Come in many flavours and diff nicotine concentrations, nic free versions avail too
- No adverse health effects like regular cig.

Flip side :

- no concrete proof on e-cig being healthier than regular cigg
- on the contrary, nicotine may lead to addiction
- contain free radicals-harmful fr health
- instances of juice chamber bursting leading to inhalation, can prove fatal

Especially a concern in India because

- freely easily available thru online chnl
- no health warnings displayed

-sales are rising

- nt regulated under **COTPA (cig n other tobacco products (prohibition n regulation) Act** since ds nt contain tobacco bt nicotine

Need of the hour is to immediately ensure that sale is accompanied by health warnings

bring e-cig under COTPA thru suitable modification

conduct studies into the adverse effects to let ppl mk an informed decision

New development- US is planning to reduce the nicotine content in cigaettes below addiction-levels.

Benefits- will mk it much easier for addicts to quit smoking, less likely to attract new smokers n turn them into addicts, health hazards will reduce as less exposure to harmful chemicals

US can learn from India's tobacco control programs- pictorial warning covering 85% of cover, warnings in serials n movies, ban on advertisements promoting tobacco

Now, Karnatak HC has given verdict on CoTPA rules 2015 that stipulate 85% pictorial warning, called it unconstitutional

Steps taken in past to reduce tobacco consumption- increased taxes, 85% pictorial warning, ban on sale to minors and ban on advertisements in movies, ban on public smoking- has led to commendable results- decline of 6% in tobacco users in last 7 yrs.

Though declining usage hs sm negaitve fallouts like reducing livelihood opportunities fr farmers n others employed in industries, lower revenue fr Govt BUT far larger positive fallouts like reduction in tobacco related deaths n diseases such as stroke, cardio, bronchitis n cancer; decline in passive smoking related ill effects and reduction in productivity.

So, court's move appears like a regressive one.

GRAP- Graded Action Plan for pollution control Jan editorial Page 32

Central bank Digital Currency-

Why?

- Bitcoin is gaining popularity round the world but it is unregulated. a CB regulated currency will be much safer for consumers
- Committee on digital payments asked RBI to evaluate the possibility of CBDC

- Countries round the world are at various stages of this idea including UK, China, USA. Japan has recognised bitcoin

Hassles:

- revamping of infrastructure totally, blockchain needs to be introduced to validate transactions
- Bank model undermined as people deal directly with Central Bank
- Funds availability with Banks to go down and so does the credit supply
- Monetary Policy mechanics undergo change as RBI deals with Money supply directly and not Interest rate
- Cyber security infra needs to be strengthened considerably

Wide fluctuations in price of Bitcoin

- if u lose private key or physical hardware where its stored, u lose ur wealth
- can be used for Hawala, for terror financing; also unregulated currency has so can be used for tax evasion

Bit of futurism does not hurt, In line with India's aspirations of a global power, it would suit her well to take lead in Digital currency space and take small calculated steps towards this new idea of CBDC

Blockchain Technology- Transparency n Anonymity

Blockchain- a distributed database, a public account ledger available in public domain, a copy of which is available on all connected servers. Called blockchain cz every new transaction doesn't get added as a block to the existing chain. It is a very transparent process cz account is visible to all users

Very safe cz a hacker cannot make changes to the chain without getting noticed by others.

Now being considered for voting

Benefits: IAS (Instant, Anonymous, Secure)

- Being used primarily for cryptocurrencies transfer, but now Govts across the world have started using it. Japan has formally recognised Bitcoin, **UN is using it for aid distribution**
- Does not require the use of intermediary like banks
- Virtually hackproof since it would require the hacker to make changes to all the connected computers simultaneously else get detected

Indian scenario:

- With Aadhar becoming ubiquitous, Blockchain would be the next logical step
- Potential to track funds flow on real time basis, and in public domain hence will create accountability n transparency
- Can be used in voting to dispel once n for all doubts regarding EVMs working
- In line with India's ambition of being a digital economy

Concerns:

- It will render banks useless for transaction intermediary, hence an existential challenge for them
- It is in nascent stages, we do not know all its perils yet
- Due to anonymity, can be used by terror groups for easy Money flow across the world

It is not a panacea, it can deter corruption but not overhaul an inefficient system for eg: entering of false info (creating false blocks) cannot be checked. Yet, it should be considered seriously, Govts n UN bodies have started using it for public delivery of services and administration

Cryptocurrency- is a digital currency which allows transacting parties to remain anonymous while confirming that the transaction is a valid one

Blockchain for elections:

Transparency n anonymity- public ledger plus voter identity remains safe
Hack free- cz tampering involves changing the data at multiple locations in one go
Adhaar is biometric so secure, no possibility of impersonation
Employment generation

NAFTA exit or H1B visa curbs

Benefits to US:

- Low cost labour availability helps US firms maintain their competitiveness against cheap Chinese imports and essential to their survival
- Cheaper goods n services benefit the US consumers who otherwise will hv to shell out higher prices
- Employees in US spend on goods n propoerty, help raise US GDP, contribute positively to US economic output

Studies show that US has benefitted more than the jobs it has lost

Negatives to US:

- Loss of low paying jobs, rise in unemployment
- Discontentment among the youth often transforms into racial attacks as well

Outer Space Treaty- was signed in 1967, 50 years ago, its aim is to protect the assets in the outer space and celestial bodies to ensure their fair n equitable access and usage

Imp provisions:

- It prevents any country from making a claim of ownership over outer space or celestial bodies
- It holds countries responsible for any damage they cause to outer space,
- Forbids use of WoMD in outer space

How it has fared?

- Well till now. Once a grp of nations staked claim to outer space above their countries. China shot down one of its satellites using missile

Challenges:

- Private parties are not prohibited from making any claims to celestial objects, as a result some pvt firms hv offered to sell plots on moon n mars
- Terrorism is emerging a global threat, there is a possibility that they can try to attack assets in space to paralyse normal life
- Space utilisation has gone up tremendously

Hence, need to modify it appropriately.

White Shipping agreement- an agreement between 2 or more countries to share advance information regarding sea vessels that are starting from/to a country including the so that they can be identified by the other country when detected. This will help manage security threats better for instance- Mumbai attackers came through a boat, WSA ensures that such threats r intercepted in time, India signed one with USA recently

Q- The Finance Bill, 2017 included amendments to legislation on multiple subjects, in an attempt to rationalise the functioning of multiple tribunals. What do you understand by rationalisation of tribunals? Discuss its implications.

Ans- Rationalisation means :

Reduction in count of tribunals

Merging of tribunals which have similar areas of jurisdiction

Streamlining service and working conditions of tribunals

Intended objective

- Many tribunals do not have sufficient work load
- This will free up the infra n manpower which can be put to better use, adequate manpower will reduce pendency of cases
- This will reduce the burden on exchequer too
- Further, this will provide an enabling biz environment n improve ease of doing business in India as the procedures r streamlined and there is uniformity in administrative tribunals

Implications:

- Some of the mergers are not well-thought, For Eg: the Competition Appellate Tribunal will be merged with the National Company Law Tribunal. Execution of competition law will suffer. TDSAT ds nt hv expertise to decide on airport services matters. NGT is nt required to hv a judge as its chairman now, it can be any non legal person
- Without appropriate measures to enhance speedy resolution, this move might increase the backlog of cases
- The way change hs been brought by passing it as money bill, bypasses RS and hence constitutional provisions
- Further, it empowers the Govt to appoint or remove the members of tribunals. It will pave the way fr govt interference in judicial matters. Especially when the Govt is one of the litigants, it produces a conflict of interest, violates principle of natural justice
- It goes against independence of tribunals n violates constitutional mandated separation of powers between executive n judiciary
- In future, the list of tribunals can be amended by Executive directly, bypassing the parliament

It seems the decision has been carried out in a hurry and not much thought has been put to it. Now, it is being challenged in Gujrat n Madras HC, therefore providing a chance for corrections.

One should remember the basic dictum - **what cannot be done directly, should not be done indirectly.**

Q- What steps Govt has taken to make India a digital economy? Threats to these?

Govt launched Digital India program to make India a digital economy and improve governance. Various initiatives taken to realise this are:

- JAM trinity- Opening Jan dhan accounts, Adhaar for biometric identification n Mobile for accessing banking services
- NOFN n Bharat Net- to provide broadband access to rural remote users
- Appointed Ratal Watal n Chief Ministers' committee to suggest measures for Digital economy promotion, In line with that, a separate Payment regulator under RBI has been set up
- Incentivising n promoting digital payments through tax break, payback options, Lucky Grahak Yojna, Digi Dhan Mela. Undertook Digital Saksharta Abhiyaan for digital literacy enhancement
- Provided easy means to access digital banking services like UPI, BHIM app., AEPS
- E-NAM and e-PASHUHAAT, e-GOV govt marketplace for bidding n procurement
- GSTN

Very Imp- Separate **payment regulatory board** under RBI to ensure protection of customers, ensure interoperability

Threats:

Wannacy ransomware attack, Yahoo users details stolen, debit cards compromised

- Hacking- to get access to sensitive personal information and to steal money from accounts
- Spam mails and malicious softwares (Malware) like Trojan horse

Solutions:

- CERT-In, Cyber Security officers in all banks n FIs
- **Ethical hackers to be employed to test one's vulnerability**
- Payment regulator and appointment of a cyber security officer in all banks and FIs
- Awareness generation not to share PW, healthy digital habits like frequently changing passwords
- Blockchain technology use by Banks since it is safer
- **Quantum technology use as pioneered by China thru its QUESS (Micius) satellite**

Govt sectors under stress: Airlines- Air India, fertilisers such as IFFCO, Power Distribution, Steel and BANKING

Q- 7) Do you support the Union Cabinet's 'in-principle' approval for the sale of Air India and five of its subsidiaries? Substantiate. (200 Words)

Ans- Air India is a loss making entity, Government has a huge debt of 50000 cr,

Welcome move:

- Opportunity cost of running a sick company is high, the money lost could well have been utilised in strengthening infra in the country
- Money raised through divestment can be used to pay off the debt and also for welfare activities
- Professional mgmt and business approach can help revive the organisation Eg: CMC- an IT consultancy Govt firm merger with TCS
- This will help Govt move towards realising the divestment target for the year 2017-18 which is 72500 cr.

It also signals a courageous approach in dealing with sick PSUs, others like Fertiliser, loss making steel companies, Banks could be next in line.

Concerns:

- Rescue operations of stranded diaspora abroad capability wd nw be dependent on pvt players
- Welfare of employees cd be at stake since buyer may decide to layoff

ES highlighted that Govt has shown ambivalence towards privatisation (ES says socialism without entry to Marketism without exit) and not been able to divest at the desired pace, this move signals the desire to overcome that hesitation.

It shd be nt used as a ashort term measure to cover FD, rather a strateic move to put our resources to best n optimal use. Non essential n non strategic areas can be divested like hotels, travel agency, soap, alcohol manufacturing. Essential such as defence, natural resources shd be govt owned. (negatives: Govt hs consistently failed in meeting its divestment targets for last 7 yrs in a row; move is seen as anti-poor when teh control shifts to pvt sector for the latter is associated with profit objective only n nt social welfare- so opposed by Left, welfare of employees – layoffs, this method used to cover short tem deficits)

Q- 4) A nation-wide study of the human-wildlife conflict around wildlife reserves across the country has highlighted the need for a comprehensive evaluation of the current mitigation strategies as despite widespread use of protection measures for crops and livestock, many households continued to experience losses. Discuss the reasons and suggest better mitigation strategies. (200 Words)

Ans- conflicts on rise because:

- Buffer zones have not been created, as directed by MoEFCC
- Dependency of local communities on forest produce increasing the possibility of conflict
- Success of our conservation programs has led to increase in predator concentration whcih then step out to search for food
- Human induced disturbance like Ken Betwa link also increases disturbance to the animals
- Passing of Highways, roads through the Wildlife areas increases this risk

Solutions

- Risk mapping of surrounding zones and installing low voltage electric fencing in high risk zones
- Providing alternative opportunities to locals to preempt their need to go to forests for minor produce collection
- Using simple tools like scarecrows at appropriate locations optimally
- Buffer areas must be strictly created and preserved against human activities in this region
- Relocation of the animals from high conc to low conc areas
- Increasing awareness among the locals regarding compensation availability wrt crop damages

It is imp to take up action at local and regional levels to preserve our livestock as well as wild animals

More than seven thousand reforms have been implemented to improve the ease of doing business. Processes have been simplified and made transparent. Government has repealed over twelve hundred outdated laws. These are just a few examples. Consequently, India has moved up by thirty two places in the last two years in *the Global Competitiveness Index of the World Economic Forum*. This is the highest for any country. India moved up nineteen places on *the World Bank Logistics Performance Index of 2016*. We have also moved up sixteen places on *the Global Innovation Index of the World Intellectual Property Organisation in 2016*. We are third among the top ten FDI destinations listed by the United Nations Conference on Trade and Development

Remember, in last 25 yrs, no new antibiotic has been developed in recent years.

National action plan on antimicrobial resistance (AMR)

GOAL- to combat AMR



Figure 2: Priorities of NAP-AMR

Spread awareness on AMR thru edu, training, contain the spread of infections thru preventive measures, regulate n optimise use of AMR microbes in food and animal husbandry, conduct surveillance for knowledge and evidence based policy making, Improve R&D , strengthen India's leadership role on AMR

AMR is the ability of microbes to resist the action of commonly used as well as last resort drugs through genetic mutations. (presence of certain genes).

US, UK n China hv taken stron steps recently to curb antibiotics use. Netherlands hs emerged a winner by reducing substantially use of farm antibiotics. India must tk lessons

CARB-X project- Combating Antibiotic Resistant Bacteria Biopharmaceutical Accelerator, is a **public-private international partnership**, which was set up in 2016 to focus on innovations to improve diagnosis and treatment of drug-resistant infections, Obama's initiatives, started by few US firms.

A bangalore firm hs gt grant to do research under this project- Will be focusing on most resistant gram negative bacteria. (Wat r gram negative bacteria?- they r bacteria that hv certain structural difference in their cell wall, called gram negative cz discovered thru staining technique developed by Gram.

Why Imp?- cz they r MDR. Concern- now a days, resistance is being seen to Carbapenemes as well- 4th gen antibiotics.

SMART Waterways???

Waterways built on an even plane that mk use of excess water to connect 2 river systems .

Benefits:

- Land acquisition is lower
- Environmental impact is lower- some flood water still flows to sea

- Does not need electricity to pump as only excess flood water will be used to fill waterways, which will happen naturally
- Damage due to flood goes down
- Lower disputes between states
- Irrigation needs met

Integrated Oil Major (Oil and Gas companies merger)- ONGC- the explorer unit and HPCL the marketing unit are being merged.

This idea has been rejected twice earlier.

Benefits:

- It will create an oil major which will be comparable to major international oil companies, i.e. globally competitive
- This will help in creating a synergistic and integrated supply chain covering all stages from production stage to marketing stage
- This will impart them the flexibility to respond better to international oil price and supply fluctuations like single management can take decision to slow down production in times of low oil prices and focus more on refining and vice versa
- It will provide necessary financial muscle/strength to take up capital intensive tasks like oil exploration,
- Oil production is a risky venture, possibility of failure is high. A big firm can absorb failure & shocks much better
- Capitalise on economies of scale, better utilisation of resources

Negatives:

- It promotes monopolistic tendencies and not good for competition, precisely why ideas were rejected earlier twice
- Concentration risk increases- Concentration of such an important commodity in a single firm is risky given govt track record in mgmt- energy security threatened
- Further, it may lead to manpower rationalisation/reduction. In an economic scenario struggling with creation of jobs, this will be not justified
- No guarantee of efficiency in operations given typical functioning of PSUs- red tapism and bureaucratic inertia

Way forward is to efficiently manage the merger. Top mgmt should be carefully picked from the 2 firms to strike right balance. Manpower needs to be relocated by creating more employment opportunities due to larger scale of operations. Air India and Indian Airlines merger could not be successful due to poor mgmt and Govt interference in decision making in most PSUs; state should be careful not to repeat the mistake

Catch Up Effect: A theory speculating that, since poorer economies tend to grow more rapidly than wealthier economies, all economies in time will converge in terms of per capita income. In other words,

the poorer economies will literally “catch-up” to the more robust economies. The catch-up effect is also referred to as the theory of convergence (a phrase very often used in India’s Economic Survey).

Localisation and local bodies empowerment is being touted as the solution for environment, job creation and agri distress, How can they help?

Localisation means finding locally relevant solutions, this can be done by bodies working at a grassroots level like ULBs and Panchayats.

Job generation: direct job generation through MGNREGA type schemes, and indirect impact on job creation by improving infra

Environment- creating water harvesting structures, promoting social forestry

Agri distress management- spreading awareness among locals regarding organic farming, precision farming, facilitating extension centres’ services and providing infrastructure like canals maintenance

However, negatives are- benefits might be concentrated onto rich and influential, possibilities of corruption and leakages. Further, dependence on states for funds

Open acreage Licensing Policy (OALP) and National Data repository under HELP

Benefits:-

- Under OALP, firms can choose the block for exploration and submit their bid, instead of waiting for the Government to bid the blocks. This mechanism offers flexibility and choice to the interested exploration firms, they can choose the size of blocks too.
- With above simplification and a host of other measures such as pricing freedom, Govt wants to attract more FDI
- Greater investment by private players will help curb our imports and reduce Fiscal deficit
- This is in sync with Govt efforts to reduce 10% of Oil imports by 2022.

NDR

- This will be a centralised repository of Exploration and production (EnP) hydrocarbon data, and help potential investors make an informed choice
- Prevent failures related to non availability of hydrocarbons or difficult extraction by providing information beforehand
- This opens up a new sector for firms engaged in exploration and collecting information for selling it to others

Concerns:

- Revenue sharing model instead of profit sharing model. This one is more risky
- There are reserves available in countries like Mexico which will reduce India’s attractiveness

There is a need to hold bidding rounds more frequently and making the entire process seamless and transparent to boost Investors’ confidence

HELP is a replacement of NELP, Y the need?- Reduce import dependence (**currently import 80% of oil needs n 40% of our gas needs**), help curtail FD, attract Investment, meet ever growing energy needs, create jobs and curb excessive discretion, It will help meet Gol target of **reducing oil imports by 10% by 2022**

Key features: (License, license, Price n Revenue)

- **Open acreage licensing policy**- bidders can propose the sites for exploration instead of waiting for the Govt to offer blocks, can choose the size as well. Under NELP, bids could be made for only the blocks chosen by govt
- **Uniform licensing** for all hydrocarbons (oil, natural gas, CBM ie conventional or unconventional) in a block and also for exploration and production (no need fr separate licenses)
- **Revenue sharing model** instead of **profit sharing model** (bt it means higher risk fr d bidder)- in this, revenue is shared by the bidder with the Govt from day 1 (will lead to lower litigation, in line with the Govt's EoDB)
- **National Data Repository**- will collate all Exploration n production data (E&P) at one place
- Pricing n marketing freedom- Freedom to price oil n gas
- Royalty free exploration fr initial 7 years in high risk areas and graded system of royalty for
- No Excise duty, import duty etc

Concerns:

- Higher risk for the bidder under Revenue sharing model
- Bigger mineral prospects in Mexico may woo investments away
- After the experience of KG Basin, trust on Govt ability to deliver on its promises is low

Steps taken by Gol for this:

- Introduced HELP, NDR
- National seismic program launched in 2016- for mapping of hydrocarbon availability in India's sedimentary basins
- Gas price reform

National Mineral exploration Policy (non fuel n non coal)

- Promote use of pvt sector in mineral exploration n production
- Unlock mineral potential of the country
- Self sufficiency
- Blocks to be auctioned by Govt...if exploration leads to minerals, revenue sharing will start else money returned to the pv tplayer

Sunderbans Issue- studies confirm alarming loss of 125 sq Km of Mangroves in past decades. Reasons for this are:

- Reduced fresh water flow due to construction of dams n barrages which divert water for irrigation or industrial purposes
- Sedimentation is lower due to dams n barrages. These sediments otherwise add to the landmass, But siltation or silt deposition before silt reaches river mouth checks this
- Ingress of saline water swallows up the island areas

This has massive ecological implications. It directly impacts the distribution of varieties of mangroves. Fresh water species r replaced by salt tolerant species of trees. Edible fish is replaced by low quality saline fishes population which is not commercially viable, impacts the interests of fishermen adversely

One of the solutions is constructing dikes Eg Netherlands has done it to protect their lands from lakes, rivers and seawater incursion. This is an adaptive action, the need is to take mitigating action too.

Notes: Dam vs Barrage- Both refer to impervious barriers; while water in the case of a dam is made to flow through specially designed spillways, in the case of a barrage it is allowed to overflow (Barrage hs adjustable gates to adjust the height of water surface)

7) Last month, Saudi Arabia and the UAE imposed a blockade on Qatar, arguing that the country was promoting terrorism. Critically comment on the role of state actors such as Saudi Arabia in promoting terrorism around the world including India. (200 Words)

Ans- Saudi Arab Block has come down heavily on Qatar and imposed sanctions on it for supporting Muslim Brotherhood in Egypt and other terrorist organisations like Al-Qaeda.

It is ironic since Saudi Arab itself is responsible for supporting terrorism and spreading intolerant versions of Islam. This is detailed below:

- Saudi Arab supports anti-Shia LeT in Pakistan and funds its activities. This directly impacts India as LeT conducts terrorist attacks here.
- Salafiism is flourishing in Kerala, thanks to the support by Mecca based clerics. Regularly funds are being provided for NGOs and organisations which are closely engaged with Salafiism.
- She is also responsible for promoting Zakir Naik and his Peace TV which promotes sectarian narrow outlook. Both UAE n SA have conferred national prizes on him
- Mecca based Ulemas r also known to promote fundamentalism in Indonesia

On the other hand, SA has formed OIC one of its main aims is to fight terrorism. She also led the formation of an Arab alliance to fight terrorism called IMAFT

This shows double faced standards. Terrorism is the single biggest threat the world is fcng today and it needs close coordination among all countries to uproot this. United Nations passing of resolution 2322 to seek inter country judicial and legal cooperation is a welcome step. Adoption of Comrehensive convention on terrorism is the need of thehour.

Hydroelectric energy is renewable cz its source is renewable. Bt still nt considered renewable cz of its impact on fisheries- nt able to reach spawning grounds and also the impact on water flows.

Nuclear Energy

India recently operationalised Kalpakkam Nuclear power plant (FBR type) , we have 8 operational plants today. With this, we have reached second stage of our 3 stage nuclear power program. (FBR is in technology demonstration stage)

Y pursue Nuclear energy? (Diversification energy security, low C emission n Paris deal, Ren Energy probs n Conventional energy probs)

- Provides diversification n ensures energy security
- It will help us meet our Paris Climate agreement goals by reducing dependency on coal based power
- Our renewable energy sources have problems as of now- Hydel power is variable across seasons depending on water flow in rivers, Solar power rates are high as of now, for solar power components (rare earth metals), heavily depend on China. Here, Nuclear energy offers an insurance
- For oil, gas we r 80% n 40% import dependent, but India has rich thorium reserves which will be used in 3rd stage of NPP. In future, fuel import dependency will come down, though at present we r dependent on foreign countries

Y not?

- Nuclear waste disposal and possibility of nuclear accident pose risk to life n environment. Fukushima disaster is a recent example
- India dependent on imports for Uranium reserves and Foreign suppliers r wary of foreign liability insurance clause
- Germany recently decided to wind up its nuclear plans by 2022
- Many nuclear energy firms are on verge of bankruptcy- Areva n Westinghouse. Japanese firms like Toshiba too r under stress.
- Highly capital intensive, more than renewable sources

Today, efforts are on to master a closed cycle nuclear power plant, Russia is pioneering and Indian scientists are participating in the research too. This will take away much of the risks associated with nuclear power like waste disposal, nuclear accident, limited fuel availability and capital intensive. We should continue our NPP. In order to make this segment economically viable, it is important that component manufacturing and plant building is done by Indian firms. This will ensure job creation and lower foreign dependence.

Solar power Plants- Ultra Mega Solar Projects- benefit- will bring down cost due to economies of scale But MINI GRIDS too can do that effectively without corresponding probs associated with UMSPP

Q- BEPS refers to *tax avoidance strategies that exploit gap and mismatches in tax rules to artificially shift profits to low or no-tax locations*. Proposed by OECD- adopted by India too

Waste to energy plant is same as incineration plant- nt good cz harmful gases released.
Biomethanation/pyrolysis/gasification- better since gas n liquid fertiliser r produced
Composting- good bt nt v much since methane gas is released to atmosphere

What is ES n Budget?

ES is the flagship document presented by the Finance Ministry that showcases economy's performance in the financial year gone by and prospects of economy in the short to medium term. Presented in both the houses of the Parliament during budget session. It is prepared by the Chief Economic Advisor under Finance Ministry

Annual Financial Statement is the statement of estimated receipts and expenditure of GoI for the financial year

Theme of Budget this year- Transform, Energise and Clean India

Q- GSLV se INSAT 3D launched, Y unique?

Indigenous cryogenic technology, Cryogenic means liquid hydrogen and oxygen to be used. Unique bcz:

- Technology indigenously developed, puts India in select league of nations to possess this
- Has lower emissions, higher payload capacity n better efficiency
- Soft power of India gets a boost
- She can better tap into the multibillion dollar space launch market, being low cost

GSLV Mk 3 is an advancement over GSLV, even better cz till now, India ws dependent on foreign countries for high weight launches

PSLV C 37- se 104 satellites

GSLV vs PSLV

1. takes same time as earth's rotation vs diff time
2. satellites used fr info n broadcasting, rescue n rehabilitation vs resource mapping
our antennae need nt be changed positions to continue the linkage bt for PSLV they need to be realigned
2. GSLV is for launching satellites into 36km height, PSLV 600-2000 Km

Contract Theory- by Hart recd Nobel Prize yr 2016.

Uses:

Optimal contract designing- means a contract in which adversity negatively impacts both the principal n agent (Eg: Boss n employee)

Public Service- Delivery of public servicelike edu, health; pvt players may dilute the quality for money considerations; hence public sector is more suited in these spaces

In jobs where efforts can be directly linked with the performance; variable pay shd be used else fixed pay. In latter type of cases, performance can be evaluated by performance vis a vis competition

Incomplete contracts- market situations r unpredictable, actionable in such situations shd be delineated to lower the uncertainty

Diego Garcia (Chagos island)- UK base in Maldives

What is a moonshot? A moonshot, in a technology context, is an ambitious, exploratory and ground-breaking project undertaken without any expectation of near-term profitability or benefit and also, perhaps, without a full investigation of potential risks and benefits. The term "moonshot" derives from the Apollo 11 spaceflight project, which landed the first human on the moon in 1969

Behavioural economics- nudge economics- lack of self-control may not have the best outcome in the longer term.- the idea of “nudging” people towards doing what was best for them, The issue has relevance for economics as individuals’ tendency to fall prey to temptation often negatively affects plans to, for instance, save for retirement.

Together with Professor Cass Sunstein, he argued that society - while maintaining freedom of choice - should actively try to guide individuals in the right direction.

Q- [6\) Discuss critically issues and concerns raised against pre-emptive internet shutdowns as a security measure. \(200 Words\)](#)

Ans- Pre-emptive internet shutdowns are often used by the state. This is justified on the grounds:

- It helps in managing effectively sensitive situations by preventing the spread of false and exaggerated information
- It assumes more importance since usage and access of internet is quite vast today and it is the fastest and easiest means of communication today. Almost everyone is a content creator, with the ease provided by what’s App, twitter and FB. Eg: WB communal violence was started with an FB post
- Such a move helps in maintaining law and order situation and preventing possible loss of lives and property. Fringe elements are in search of opportunities to create a ruckus.

It has been used in case of JAT agitations, Kaveri river related dispute in TN, Urban Wani anniversary

Demerits:

- It is anti-democratic since it curbs the right to freedom and liberty
- Today, businesses are dependent on internet access a lot. This creates disruption in economic activity, causes problems for students as well who surf net for study

Despite the short-term hassles that it encompasses, internet clampdown is justified for right to life and maintaining law and order is paramount to right to freedom. At the same time, it should not be used liberally. Only when emergent conditions demand so. It can only be a short-term measure, a quick fix solution but not a lasting one. Focus should be on fixing the underlying cause.

Q- 6) The textile sector is undergoing a huge churn due to automation, digital printing and the relentless rise of e-commerce. Do you think the textile sector needs a national textile policy document, an articulation much like the national telecom policy of 1999? Discuss

Ans- Textile sector is undergoing major changes like automation, rise of e-commerce which is set to alter the entire landscape of the industry. In such a scenario, it would be prudent to draft a national textile policy because:

- China's cost competitiveness is declining due to rising wages, therefore an opportunity is present which can be utilised by India
- Textile sector is labour intensive (more jobs generated per unit of investment), India very much needs employment opportunity creation to tap her demographic dividend
- ES pointed out that textile sector has positive implications for women. Since, majority of the jobs created are for women; this helps gender empowerment..thus socially desirable
- Functional textiles is a sunrise sector which can be effectively tapped by India

Textile sector is facing challenges in the form of automation. US has made a robot which can sew a perfect circle, it is being touted as landmark for automation in the textile industry. These challenges make a national textile policy all the more pertinent. India must act swiftly since she faces not only competition from countries like Vietnam but also a small window since automation may disrupt the way industry operates currently

Q- What is cloud computing? Storing and accessing data and programs over the internet instead of our harddrive or local server.

Google Drive: This is a pure cloud computing service, with all the storage found online. In fact, most of Google's services could be considered cloud computing: Gmail, Google Calendar, Google Maps, and so on.

Another commonplace eg is Digilocker

Q- Long term measures to mitigate and manage flood losses- Shd draw a lil diagram, Must mention abt Sendai Framework, also divide measures in 3: prevention and preparedness; rescue and recovery, rehabilitation

Ans- Causes of flooding is the massive inflow in Brahmaputra and its tributaries due to heavy rains in monsoon seasons and raising of river bed due to siltation brought by the channels

Since, it is an annual exercise; institutional measures should be put in place to provide effective relief and rehab on a regular periodicity. Something on the lines of Graded Action Plan for curbing Delhi pollution- pre decided measures to kick in with relevant authorities taking over execution as per the triggers.

Remote sensing should be used to identify vulnerable areas and infrastructure interventions should be carried out. Flood plains of the river should be vacated. Preemptory Desiltation of river bed prior to monsoon can be carried out after taking into consideration the environmental impacts.

Thirdly, Kaziranga NP shd be protected with embankments to protect our treasured wildlife. And prevent our conservation efforts getting wasted.

India is a signatory to Sendai Framework on DM, India must make her DM plans effective to meet the targets set under the framework. Further, she can utilise this platform to incorporate Best practices from countries with proven DM measures

Q- 5) Telecommunications is one sector where the changes have been disruptive and innovative. It is said that these disruptions and innovations have created fluidity in the definitions of market, monopoly and the concept of dominance. In this light, do you think there is a need to take a fresh look at prevailing regulatory Acts if regulators are to be effective in the markets of the future? Analyse.

Ans- Since LPG reforms in 91, TRAI is empowered to set tariffs.

Telecom sector has undergone huge changes since it started with fixed line telephones. Today, telecom sector covers Network, Internet services, IoT, cloud services etc.

At present, TRAI and CCI are tasked with diff regulation powers

TRAI- can fix retail tariffs, and also tariff for all licensing activities (bt lacks expertise)

CCI- can conduct investigations and impose fines for non adherence to rules

TRAI recently wants to free up TSPs to set their retail tariffs themselves (basis their costs, competition, ability of customers to pay) but is constrained by the archaic laws which prevent it from doing so. Dynamism is needed therefore.

Besides, telecom industry is facing several issues such as- low profitability- running into losses, intense competition, issues like net neutrality, call drop and high debt, mergers of biggies like Vodafone n Idea.

Causes of distress- SC ruling that cancelled the Telecom licenses n asked fr fresh bidding, many telcos closed down, ppl lost their jobs etc; Demonetisation hit revenues cz majority of phone users in India r the ones who recharge everyday or every few days, RELIANCE JIO has dealt a severe blow to their revenues

There is a need to amend the laws to keep them in tune with the times; and ensure consumer welfare while allowing TSPs to operate without unnecessary interference.

Just cant allow Telecom to fail cz it has multiplier effect on economy, increase in telecom penetration increases teh GDP, extremely crucial basic infrastructure, indispensable fr Digital India n e-governance initiatives.....

BHATINDA BIOREFINERY- frm agri residue, fr ethanol blending program

BIG DATA ANALYTICS- refers to processing of huge data sets for identifying trends, patterns n associations.....3 Vs- volume velocity n variety

Uses- Human genome mapping and genetics study for finding cures for diseases, use of travel n financial data to spot terrorists eg: NATGRID, pattern spotting and habits analysis to formulate policies, Geo Tagging of data in schemes like MGNREGA, tackling antibiotics resistance thru massive data collection n Analysis, power usage data, cellphone analysis, massive amt of data generated in cities for e governance

Uses in Medicines: Personalised Drug Delivery, Genetics- human genome; AMR- resistance, Evidence based mapping, Drug testing, spotting harmful effects of new drugs launched

Cancer- chemo, radiation, immuno.....chemo of 2 types- protein based n gene based, Cancer Trtmnt- Immunotherapy being used (using body natural immunity to fight cancerous growth)- US hs allowed its use recently? Method- tk out T cells (mk antibodies) and reprogram them n reintroduce them in human body; 3 mths mein result. Or use checkpoint inhibitor drugs Basically, cancer cells use **checkpoint** mechanism to prevent being detected as a threat, treating T cells results in inhibiting the checkpoint mechanism (**these drugs r called checkpoint inhibitor**)

Human Genome mapping se identifying DNA sequences responsible n finding drugs to treat them, identifying patterns of diseases n take corrective measures such as a painkiller was removed from market only after it had caused thousands of deaths..with the use of Big data, this cd hv been identified earlier. Locating MDR n taking requisite measures, electronic conversions of all patient records and then performing analytics on the same to facilitate personalised medicines n evidence based medicines

Genome kya hai n uses of genome mapping?

Entire sequence of DNA of organism is called genome and identification n sequencing of DNA is called genome mapping. Grt advances hv been made, cost n time of genome mapping hv dropped significantly today.

Uses

- **Finding cures fr difficult diseases such as cancer by spotting the genes whose mutation triggers cancer; improvements in quality of life n longevity**
- **Crop improvements- high yield n disease resistant crops can be developed**
- **Livestock improvement- livestock with superior traits such as mr milk, wool, meat etc**
- **Genetic defects in foetuses can be cured and healthy diseasefree children cn be developed**
- **Customised medicines, Evidence based medicine and genetic counselling to reduce disease burden**

Loan Waivers

UP, Punjab, Karnatak n Orissa hv resorted to loan waivers. Y Bad?

- **Harms credit discipline and promotes moral hazard**
- **Banks r already reeling under NPA problem, worsens TBS problem**
- **Classic case of bad moeny chasing out good money- as banks left with little creditable funds resulting in lower lendings---->lower investment and hence lower demand**
- **Has serious exclusion n inclusion errors-**
 - o **non needy farmers get waivers n some get multiple waivers (loans in names of multiple family members)**

- Benefits only a select section of farmers, agri labourers for eg are excluded who r more vulnerable
 - Used as a vote gimmick by politicians
- ES predicts that it will cause reduced aggregate demand= $C+I+G+X-M$ (pvt spending n Govt spending both go down). Only farmers' consumption will grow n nt that of other sections

These r short term n cosmetic measures- akin to treating the symptom rather than the cause

Need is to structurally reform the agri sector- APMC Act, Greater use of technology, precision farming, microirrigation and sprinkler irrigation, more crop per drop, backward n forward linkages, institutional credit, sustainable agri etc

Is India nt a member of ICSID? No, ICSID is dispute resolution mechanism of WB, n India is nt a member, thats y India signs BITs with countries individually.

GAAR (effective April 1 2017) , DTAA, APA- these r steps taken by Govt (BEPS- method to evade taxes)

DTAA- were signed by India with several countries to avoid taxpayers being taxed twice. Shifted from resident based to source based taxation. Supposed to be investor friendly move and a shift to rule based mechanism. But unfortunately it has increased the litigations against the Govt.....**Govt removed the innocence of taxpayer** clause which means the taxpayer has to prove his innocence actively. This goes agianst hte basic principle of justice- innocent till proven guilty.

GAAR- is a set of rules that were announced in Budget 2012 that aims to prevent tax avoidance n tax evasion eg by making use of loopholes in DTAA, transfer pricing, round tripping (parking money in low tax jurisdictions and rerouting it as FDI or FII) etc (Essentially BEPS practices are employed to shift profits to low tax jurisdictions. BEPS regulations were adopted by G-20 countries in 2015, *BEPS initiative would ensure that tax is paid where profits are made. India considers place of profit as d effective place for tax payments*) It involves a transaction solely with the aim to avoid tax.)

There is a thin line between tax planning (using legitimate means to lower the taxes eg: investing in 80 C instruments) and tax avoidance (transaction with the sole aim of avoiding taxes such as setting up firm solely to benefit from DTAA). Tax evasion on the other hand is illegal means of avoiding tax such as showing higher expenses. To spot GAAR-violative transactions, "**substance over form**" principle applies. There shd be **commercial substance**.

To determine an impermissible agreement, the following factors are to be considered: (i) purpose of the arrangement is to obtain tax benefit; (ii) it is not at an arm's length price; (iii) it lacks commercial substance; (iv) it results in abuse of the tax law; and (v) it is not carried out in an ordinary manner

Concerns:

- Subjectivity is involved in differentiating tax planning n tax avoidance, no objective parameters
- Gives wide powers to tax authorities, so apprehensions among investors wrt harassment by authorities

Some of the steps taken by Govt to ease these concerns are”

- Accepting P Shome committee recommendations to not tax transactions involving less than 3 cr tax profit
- three-tier mechanism to remove arbitrariness. The system starts with the assessing officer, the principal commissioner and, finally, the approving panel (which includes a retired high court judge)

Benefits:

- Prevent tax avoidance and boost Govt revenues
- Create an enabling investment environment thru a rule based arrangement n promotion of fair investments
- It will be used to tackle P-notes route being used to invest black money in formal economy
- This will bring India at par with developed countries which have gaar like provisions

The government has already started taking steps to avoid tax avoidance. It has introduced advanced pricing agreements, Limitations of Benefits clause in Double tax avoidance agreements etc. Introduction of GAAR would reinforce the steps already taken to improve tax collection.

Govt wd need to ensure that investors r nt unnecarrily harassed,

DTAA with Mauritius, Singapore, Cyprus, UAE, Maldives

Y?- this helps curb round tripping of black money and helps curb revenue loss.

Provisions- It introduces **source based taxation** system. (against resident based earlier). This is in line with commitment under BEPS plan of G20 countries. For initial 2 yrs, both countries will share tax on capital gains and from 3rd yr onwards, India will receive d entire share of tax. There will be automatic exchange of information too.

Limitation of Benefit Clause- is a tool to prevent misuse of DTAA. How they misuse?- firms misuse DTAA provisions thru **treaty shopping**. Eg A firm frm a third country sets up base in Singapore to benefit frm DTAA bw India n Singapore. Under LoB, such firms will nt get benefit of DTAA unless they fulfil certain conditions, they need to produce proof of the same eg majority of labour frm Singapore, director frm that country n investments of Rs 12 lacs atleast in last 12 months

APA- arrangment bw investor n tax authorities on mechanism to be used for pricing in case of related party transactions. In line with arms length pricing. Provides tax certainty fr 5 yrs and can be rolled back fr previous 4 yrs

The APA Scheme was introduced in the Income-tax Act in 2012 and the “Rollback” provisions were introduced in 2014. Signing of bilateral APA is an important step towards ascertaining certainty in transfer pricing matters of multinational company cases and dispute resolution.

Bilateral Investment Treaty (BIT)

A BIT is a treaty between two countries that promotees n protects investments of one state in another. Eg. Most Favoured Nation provision. Countries who are not members of ICSID (International Center for Settlement of

Investment Dispute) of world Bank, generally opt for bilateral investment treaty and multilateral investment treaty.

India's model draft on BIT

After losing in the 2011 White Industries case, India prepared a model BIT. Some of its provisions are-

✓ **Deleting the MFN clause.**

✓ **Enterprises based definition of investment-** Investors who do not set up an enterprise in India to carry business cannot seek protection under BIT.

✓ **Compulsorily exhausting the local courts first** before approaching international tribunal for dispute resolution

Money Laundering and round tripping

Money laundering means conversion of illegal gotten money (say crime or non tax compliant earnings) into legitimate money. It is done through PIL- Placement, Integration n Layering

Placement means introducing cash into financial system smhow

Layering- multiple complex transactions to hide the origin of illegal money

Integration- use of illegal money to buy luxury items, real estate etc

Round tripping is one of the ways of doing Money Laundering, others r shell companies

Round tripping means parking money in low tax jurisdictions and rerouting it as FDI or FII

Shell Companies- dont hv active biz operations.

Money laundering is dealt thru FEMA (managed by ED, Finance Ministry as agianst FCRA by Home minstry)

q- 6) It is said that soaring tech sector valuations and start-up mania are bringing back memories of the turn-of-the-century dotcom bubble. Do you agree? Critically examine

Ans- East Asian crisis in 90s was a result of ineffective regulation on flow of foreign capital, overconfidence and speculative investments in tech firms. Start up mania n soaring valuations brings back those memories.

This cd be abubble as evident from:

- Large no of unicorn start up firms
- Inflated valuations to attract investments
- Many start up firms hv either closed down- many food related startups r reeling under pressure such as snapdeal, swiggy, oyorooms
- Laying off of employees such as in Snapdeal

However, this might not be a bubble cz:

- Many of these firms are based on innovative ideas and do have potential
- Reason for food start up failures are massive discounts and structurally long periods of break even
- Diversification of these firms in other segments which increases their capacity to bear losses for the time being till they turn profitable eg Paytm, Flipkart- Myntra

Start ups are very much needed for their potential to boost make in India, enhance technology and innovation, promote entrepreneurship and create jobs. Eg: Team Indus is vying for Google lunar prize and leading top notch innovation

Need of the hour is to create indexes like vulnerability Index so that VCs can be cautious while investing

Q- Evidence based policing- Decision making basis real time data and analytics, trials and research. Started off as a movement in US and UK. Gaining credibility day by day, hence the suggestion to implement it for Indian police

Eg: CCTV, Street lighting, hotspot policing found to reduce crime in various trials, studies and continuous monitoring. These strategies then should become a part of policy

Steps- Stats- strategy- measure outcome- finetuning strategy if needed

Methods- identify hotspots of crime, identify and keep a watch on potential criminals, data analytics to identify trends and take corrective measures, involving citizens in policing

Benefits- using lesser or same police resources to produce better results; to bring down crime rate, efficient policing with lower spend and lower time utilisation..... **3 E's**

Police reforms- Prakash Singh case SC ruling letter and spirit implementation, SC direction to ensure min 2 years of tenure for key police positions, Police establishment board to oversee police hiring, infra strengthen, training for soft skills and cyber crimes prevention (eg: Kerala has), vacancy filling, doing away with non-core jobs like passport verification

SC in 2006 Prakash Singh case had ruled for 2 yr term for DGP, this is being misused by states to appoint favourites who are about to retire, this allows them to serve beyond their retirement, due to 2 yr term stipulation. Now Central Govt has filed application in SC to amend the order

Govt has launched **Modernisation of police force** scheme especially for LW, J&K regions,

Evidence based Medicine- it is the precursor to EBP. It means use of data, statistics, scientific research and trials to take decisions. Eg: use of steroids is generally considered harmful but using EBM, it is being considered beneficial in managing respiratory problems in infants.

Why is EBM important?

“Evidence-based medicine is the integration of best *research evidence* with *clinical expertise* and *patient values*”



- Dave Sackett

Benefits: Optimising results and outcomes for patients, greater efficiency n accuracy of medicinal interventions cz they r based on evidence. Success rate of doctors interventions goes up, reduced cost of healthcare mgmt

Q- Tiger conservation- Y? India hs 70% of world tiger population, its an umbrella species which means tiger protection ensures protection to entire ecosystem like forests n other species living within it, tigers hv intrinsic value, extinction of any one species disturbs equilibrium n weakens food web, attract tourists

Govt steps: NTCA n tiger reserves setting up, Project tiger started in 72 (aftr UN conference on Human environment), india is a member of CITES, World Tiger Forum (Delhi HQ), better means of count monitoring- annual surveyys, camera trappings, Mstripes project; new TRs set up recently- Rajaji (UK), Orang (Assam) n Kamlang (ArPr)

India-US S&T relations n their significance:

- LEMOA- armies cn use each others' bases for refuelling n HADR
- Feed the future initiative- with US, to train African agriculturists
- Nuclear deal- for cooperation in nuclear energy field
- NISAR- NASA n ISRO for space cooperation in earth sciences- volcano, earthquake etc
- LIGO
- PACE fund for renewable energy field cooperation for small scale solutions

Significance- energy security, nuclear energy deal, future agreements in CEMOA or COMCASA & BECA

Biotech- Umbrella term- includes Genetic engineering- eg hormonal treatment of calves to increase yield

Innate (mucous, skin, tears) n Acquired (naturally present nhi hai eg vaccination)

Probiotic n antibiotics

Right to Privacy

Rtp involves bodily integrity, confidentiality, dignity, and protection from state surveillance.

Y renewed focus?

- Push to digital economy by demonetisation has upped digital transactions
- Rapid Growth of social media like FB Google etc n e-commerce
- Push to Adhaar linkage

Worries:

- India ds nt hv a comprehensive privacy protection law like Germany or other developed economies hv, IT act deals with data protection issues in a fragmented manner, moreover it ws drafted decades (17 yrs) ago
- Adhaar Act ds nt delineate the rights n obligations of citizens n SPs (serviceproviders)
- Adhaar data is prone to leakage
- Cyber attacks are a big worry too. In case of Adhaar, its more worrisome cz biometric data, once compromised cant be changed like a Credit Card PIN can be change
- Data can be misused by pvt service providers n used for commercial benefits by targeting individuals thru SMS, calls n emails invading his privacy

SC rulings:

- RTP is nt absolute n reasonable restrictions cn be placed on it
- Govt shd cm up with a robust framework to protect data n privacy

Note: Adhaar shd nt be made mandatory to avail welfare else many cd be deprived who dont possess adhaar, cn be used fr non welfare activities like opening bank acc, PAN, voter card, ticketing etc

HEERA is High Education Empowerment Regulation committee

UGC statutory body estb. Under 1st FYP, under MHRD has 2 functions- giving grants/funds to central, state n deemed universities and ensuring high standards of education. (DU mein 4 yr course etc comes under UGC), Provides recognition to universities

Need for single regulatory body Failed to ensure higher standards of education in the country, as visible frm recognition given to sub standard institutions, Inspector Raj examples r abundant

- Also, overlap of regulation bw AICTE (supposed to regulate Technical instis) n UGC (..to regulate universities), double regulation fr some instis, thus admin delays n ambiguity..thats y high quality instis dint develop

- TSR Subramanian committee advised dissolution of both

Now, UGC + AICTE = HEERA

Will Regulate both Technical and Non technical education

Advantages

1. Minimise admin delays and removes judicial ambiguity
2. Promotes ease of development of institutions of higher learning.
3. HEERA to take strict penal action against defaulting institutions to ensure high standards

Other educational field ke improvements:

- SWAYAM- MOOC courses
- HEFA- for infra dev in select instis
- RTE act modified to allow teachers 2 yrs time to go for requisite teacher training failing which will face disqualification
- IIMs declared institutes of national importance
- To boost innovation and R&D- Atal Innovation Yojna, NIDHI scheme, MANAK awards (upto 15 yr kids, industry academia collaboration, scholarship for higher education), IDEA scheme (1 cr prize wali) and initiative like Smart India Hackathon
- No detention formula till 8 dropped as it led to poor outcomes
- Outcome based funds devolution scheme TEQUIP

Sovereign Gold Bond Scheme

Now, one can invest upto 4 Kg (earlier - invest in 1gm to ½ kg)

It has been moderately successful, 16 tonne gold bonds purchased. But potential to tap is high.

Features/benefits:

The Gold Bond scheme is available in **DEMAT and paper form.**

- The Gold Bond scheme has a **tenure of eight years, with exit options in the 5th, 6th and 7th year.**
- **Can be used as collateral for loans.**
- **Capital gain tax will be exempted on redemption.**

Probs- high price of offer not matching international bullion price, price was pegged to import duty. As duty was lowered, investors incurred losses.

What next?- set price wrt international bullion price exclusive of import duty, remove pegging to import duty, should allow NBFCs dealing in gold such as muthoot finance to market these schemes. (they have a trust base with customer),

Target base of this scheme is those who invest in gold to benefit from capital appreciation i.e. as an investment. Rest who spend on weddings is not the target. This would have helped Govt in lower gold imports and shift ppl from physical gold to paper gold as better security against theft/loss

Sovereign Gold Bond one would get coupon of 2.5% pa at HY duration, thus it allows investors to invest in gold and benefit from capital appreciation without the need to invest in physical gold.....Y?- cut down on import bill

Gold monetisation scheme objectives- To use idle gold holdings..here one deposits one's gold in bank

Medical termination of Pregnancy Act 1971 (MTP)

It allows abortion till 20 weeks only and only under certain circumstances such as:

- Danger to mother health
- Foetal abnormality
- Rape case
- Minor and unmarried girl
- On advise of a doctor who certifies above conditions

Beyond 20 weeks, abortion is allowed only if mother's life is at risk. Not in case of abnormality of foetus.

That's why for beyond 20 weeks abortion, ppl seek court's intervention.

Why change needed?

- Abnormalities are detected only around 18-24 weeks of pregnancy, that leaves little or no time for pregnant women to seek abortion
- It does not allow a woman to abort a child in case of foetal abnormality beyond 20 weeks
- Woman's right over her body-angle is not addressed

Why not?

- Can be misused to abort girl children
- Foetus also has right to live, it is a life that we are talking about.

Draft bill pending in parliament talks about increasing the time of permissible abortion from 20 to 24 weeks. More importantly, it seeks to remove the length of pregnancy condition in case of abnormality of foetus. Need is to strike a balance between right of woman over her body and preventing female foeticide. Misuse of law cannot be prevented with the suppression of a law

DNA profiling definition, DNA profile bill and criticism

DNA profile is the process of isolating n storing unique DNA sequence of a person to be used later for identification purposes. It is a forensic science technique, similar to fingerprinting- the 2 being unique to an individual. It is based on property of polymorphism- variety in forms of DNA bw ny 2 persons

Need of a bill- there is a vast potential of future uses of DNA fingerprinting, as detailed below so it makes sense to have a legislation for clarity.

Uses- parentage test, criminal investigation to identify if a particular person was at crime scene or not, identifying bodies in case of mishaps, disasters; used extensively in botany n zoology too

Further, there is a need of regulatory n grievance redressal mechanism and security protection.. Hence a bill is required.

Features of bill:

- DNA profiling board to spell out standards for DNA profiling to be used by DNA labs
- DNA banks to be set up at state n central level
- Only to be used for identification purposes
- Sharing of data with foreign govts only fr this purpose
- No bodily material can be acquired without consent of a person

Concerns:

- Data security- of collected data is a concern (adhaar privacy concerns hv nt been resolved yet)
- Privacy concerns- Right to privacy
- Whose data can be collected is still nt answered satisfactorily
- No means prescribed fr accountability of DNA banks n boards – they shd be made to publish annual reports regarding adherence to norms n procedures being followed

These concerns shd be addressed to make it an effective piece of legislation

Process of DNA profiling

DNA separated from biological sample.....>DNA strand cut into small parts...>electrophoresis is done to separate out the bands of DNA in gel.....>Staining is done to highlight the bands

Q- PMFBY- merits n demerits

PMFBY is a Centrally sponsored scheme to protect farmers against vagaries of weather n resultant crop loss. Kharif crops premium is 2% of SI n 1.5% for Rabi crops.. it replaced NAIS (National agricultural Insurance Scheme) n modified NAIS schemes- Main diff is earlier premium contri by Govt ws capped which led to less than full SA payments to farmers

Merits:

- Simple n easy to understand structure – 3 rates only
- Coverage ratio has gone up (3 cr to 4 cr), hs reached 22%, target is 50%
- Provision of using technology such as satellite, drones n GPS devices for loss assessment
- Claims disbursement within 3 weeks
- Cover includes compensation for lower than threshold yield as well

Demerits:

- Loss to individual farmer - Like earlier schemes unit of insurance is 'area-based' — village/village panchayat for major crops and the area above that level for other crops. Individual farmers suffering losses will not get benefit unless the entire area gets affected
- Technology integration poor- smartphones hv nt been availed by states yet
- States hv delayed their share of payments making it difficult for farmers to get claims
- Insurance cos have nt sent any receipts to farmers, no assurance of being covered
- Banks deducted premium from loan disbursements only, without consent n knowledge of farmers

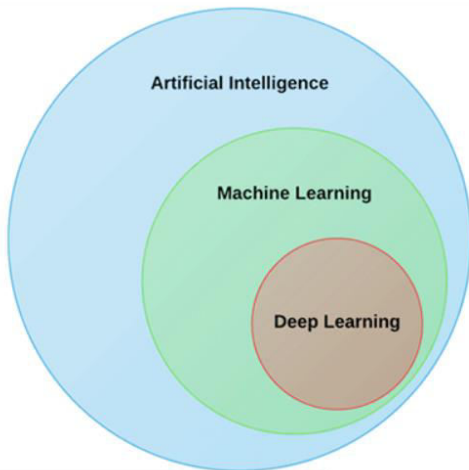
It is an innovative n potentially beneficial scheme, implementation hassles shd nt be allowed to become a dampener. Centre shd caution states to fulfil their responsibility of premium payment and arranging for loss assessment tech at the earliest

BOTS- are online robots

Artificial Intelligence– computer systems with cognitive capability like humans like ability to understand language, learn from experience, make decisions etc **eg: Computer playing games like Chess, Go.....rovers and landers sent to moon, Bots designed by Russia which generated trending news and interfered with US presidential elections, Apple Siri and Google assistant- these 2 smartphone features understand human commands n execute them. Computer programs that detect cyber threats n spams and eliminate them. Deep Neural learning enabled Alpha go program to defeat world champion of board game- Go. DNL hs been used to separate false signals from true signals n find exo planets by Kepler telescope, called robot-vetter. (technology used to spot planets by Kepler is transit method means as light coming fm distant stars decreases due to being blocked by planets, it is recorded n analysed by d telescope) DNL is learning by examples using large data sets**

Deep learning vs Machine learning- DNL is a special kind of ML. here, it learns to perform the task on its own after being fed relevant data. Whereas in ML, relevant features r fed to the machine first. Eg a program that learns to play Go (once rules r fed to it) is eg of ML while a program that learns to play the game after watching

multiple games of real players is DNL. Deep Learning is used by Google in its voice and image recognition algorithms, by Netflix and Amazon to decide what you want to watch or buy next, and by researchers at MIT to predict the future.



onindia.com/wp-content/uploads/2014/08/8.png

A cobot or co-robo (from collaborative robot) is a robot intended to physically interact with humans in a shared workspace. This is in contrast with other robots, designed to operate autonomously or with limited guidance, which is what most industrial robots were up until the decade of the 2010s.

Unlike industrial robots, cobots don't need fencing for the protection of workers in the shop floor. Kirobo is the first companion robot in space which will help astronauts

LTE vs VOLTE

	LTE	VoLTE
Stands for	Long-Term Evolution	Voice Over LTE (Long-Term Evolution)
Type	Type of Network	Type of Service provided on the network
Description	The next type of cellular network. Faster than 4G.	Phone Calls over the LTE Network
Definition (Wikipedia)	In telecommunication, Long-Term Evolution (LTE) is a standard for high-speed wireless communication for mobile phones and data terminals, based on the GSM/EDGE and UMTS/HSPA technologies.	Voice over Long-Term Evolution (Volte) is a standard for high-speed wireless communication for mobile phones and data terminals.
Data	May or may not support data usage and voice call together.	Supports data usage and voice call together.
Effect on Voice Call	Using data and voice at the same time, may or may not affect the quality of the voice call.	Using data and voice at the same time does not affect the quality of the voice call.

Automation threatens 69% of the jobs in India, while it's 77% in China, according to a World Bank research

Can it be an existential threat?

- Steve Jobs n Elon Musk fear that it is a possibility n hence need for regulation
- **The AI is programmed to do something devastating** In the hands of the wrong person, could easily cause mass casualties
- **The AI is programmed to do something beneficial, but it develops a destructive method for achieving its goal**
- **Besides Job Losses pose existential threat**
- Ethical implications such as in case of accident- such as robot nt distinguishing bw a machine part n a human, may put humans accidentally onto assembly line, driverless car would nt know that patient needs to be taken to hospital bt rather continue towards destination
- AI hs beaten humans at several games thru self learning n improvising

But not really-they hv many advantages which cant be overlooked such as use in containing terrorism thru fighter robots (prevent human casualties), identifying suspicious patterns- use big data, improve efficiency, increased convenience, difficult tasks such as mining, firefighting

Even humans can turn potentially dangerous as it ds happen eg terrorism. Thus, need to regulate AI effectively and ensure careful development n utilisation is the need of the hour

Driverless cars: Benefits

- Free up time for the travellers, enhancing productivity
- Enablers for elderly, disabled, children and help them move on their own; reduced dependence
- Cases of drunk driving, reckless driving and overspeeding will reduce; they will be programmed to follow traffic rules
- Result in fuel efficiency too
- Problem of parking spaces will be addressed

Negatives:

- Job losses for drivers but many more jobs will be created too but Luddite revolution if allowed to succeed would have resulted in technological backwardness today
- Possibility of getting hacked and being used for devastating purposes. But even conventional vehicles are prone to such misuse as was demonstrated in an incident in which braking system of a jeep was hacked using music system of the vehicle in US
- Ethical considerations such as not being able to distinguish between taking a right or left turn when there are casualties involved in both say a bike rider on one side and car with a family on the other
- It's not practically possible to code for all possibilities in advance, hence a fear of wrong decisions by the vehicles

Automated Weapons Systems- Weapon system once activated can select, engage targets on its own without intervention by humans

An eg to be quoted- Govt owned Kamraj Airport has been allotted wetlands of 1000 Km².

NGT performance evaluation

NGT-a quasi judicial body- to deal with environmental cases. India, 2nd country after Australia to have a separate body for environmental jurisdiction

Aims:- to dispose cases wrt protection of environment, enforce environmental laws and protect citizens rights of safe environment

Appreciable work:

- Ban on diesel vehicles' registration in Delhi
- Ban on stubble burning in fields in Delhi NCR
- Took a stand against illegal sand mining
- A beacon of hope for deprived and marginalised for protection of their environmental rights

Not so good:

- **Nt able to enforce its rulings on cleaning of Ganga n Yamuna**
- **Cd nt collect fine frm cultural event organised on Yamuna's ghats**

Threat:

- **To autonomy as members nt to be appointed by committee headed by SC judge but by a Govt committee**

NGT hs been instrumental inmust tk swift measures to course correct

Why population dynamics imp?- PD refers to study of population size n population structure change. Imp for

- **Resource base assessment- resources needed as per pop needs eg: housing needs, health n transportation needs**
- **Resource distribution- on basis of age, gender, geography etc and design evidence based policies eg: BBBP in 100 districts with worst sex ratio**
- **Course correction in time- Eg: Mission parivar Vikas in 145 districts with high TFR**
- **Migration dynamics - predict migration patterns n measures needed to support the migrant population; understand socio economic implications of women n elderly left behind when youth population migrates; to restrict migration beyind the carrying capacity of urban areas n provide facilities in rural areas itself**

Public Credit Registry to be maintained by RBI- PCR is a database on borrowers credit history- All their debts, their outcomes, information on the collaterals

Benefits

Customers- cheaper credit, Banks in the absence of surety of its right over collateral (possibility of overpledging the collatera) used to price the laons dearer. With accurate availability of information, loans r set to be cheaper

RBI- better supervision of credit, can check whether transmission of MP is occurring or nt

Banks- Better n mr accurate risk assessment n therefore provisioning

Supervisors- Better monitoring n assessment of stressed assets and therefore timely action in case of NPAs

Geoengineering techniques n their efficiency

Means large scale manipulation of environmental processes realted to climate change to counter global warming. Like installing giant mirrors in space to reflect sunlight, spraying sulphur aerosols in air to reflect sunlight (like in a volcano), thinning cirrus clouds cz they absorb more than reflect using silver iodide, painting all structures white, saturating oceans with iron fillings to encourage growth of algae which act as carbon sinks

Probs: they treat symptoms n nt the causes, they r short term solutions only, can help in buying sm more time bt nt a sustainable solution. Besides, may hv adverse unknown adverse impacts.

Apart from mortality and morbidity benefits, breastfeeding also has tremendous impact on improved IQ. Govt program- MAA

The National Biopharma Mission, named *Innovate in India* (i3), is the first ever Industry-Academia mission to accelerate biopharmaceutical development in India

Women related- Christine Lagard-IMF Chief said that India's GDP can grow by 27% if women are empowered to participate at par with men. IMF report says India can increase its 2025 gross domestic product (GDP) by between 16% and 60% simply by enabling women to participate in the economy on par with men.

Problems to overcome to realise our economy's potential:

NPA prob, jobless growth, EoDB, physical infrastructure, skilling ppl ie investing in social infrastructure (health education n skilling to reap demographic dividend), improvidng tax GDP ratio, controlling Debt GDP ratio, lower corruption n overcome red tapism

Do Indians evade tax? Compare especially with rest of world

Tax evasion is certainly a problem in India. But a deep analysis reveals that the structure of economy itself is nt conducive to tax collection. Only 2.6 cr out of 127 cr Indians pay taxes, the base of 127 cr is nt the suitable base as:

- *India has high levels of employment vs other developing n developed countries, thus base comes down*
- *2/3rd pon in agriculture which is tax exempt*
- *90% workforce is engaged in informal sector which is nt regulated by Govt*
- *Per capita GDP is only 1 lac which is less than the taxable income of 2.5 lacs*
- *India offers tax incentives under several schemes like Make in India, start up India, SEZs etc*
- *India also offers much more tax exemptions than any other country in the world*
- *Structural factors such as corruption in tax administration, cumbersome laws, difficult tax filings act as a hindrance to tax payment*

However, this is also true that India has roughly 50% black or parallel economy, they evade tax. Many ppl take advantage of poor tax administration n engage in cloosive tax evasion along with the authorities.

It is said that Pimpri Chinchwad is a standout example of how integrated e-governance can improve urban service delivery. Discuss why the e-governance measures taken by Pimpri Chinchwad Municipal Corporation (PCMC) is a model worthy of emulation.

Ans- Pimpri Chinchwad lies in Pune. It has gained fame for integration of its sytems n using ICT for e governance. Steps taken:

- *Urban planning- maintaining online records of all authorised n unauthorised constructions which enables the municipal body to monitor urban planning n take steps such as demolishing illegal constructions in time*
- *Integration of various depts has removed the culture of working in silos. Eg: Housing permit is available to property tax n water supply dept so that the same ds nt go untaxed*
- *Online procurement system to receive bids n choose the best to ensure T&A*
- *Online tracking of bills recd n paid which r integrated with the online accounting system removing the paper work n reducing manual errors n delays*
- *Digital Democracy – all requisite information in the form of FAQs*

In a country where 40% of population is expected to be living in cities by 2030; such steps r indispensable fr effective governance

What is TFA?

The Trade Facilitation Agreement was agreed on in 2013 in Bali and came into force from February 2017. Members of the World Trade Organisation (WTO) including India has ratified TFA, which aims at easing customs procedures, expediting movement of consignments. For the implementation of the pact, the government has last year set up National Committee on Trade Facilitation (NCTF) headed by Cabinet Secretary.

It hs cm up with a detailed action plan having ST (short term), MT n LT targets. Efforts to reduce clearance times fr perishables etc

Pros- reduces delays, lowers transaction costs, infrastructure gets upgraded n procedures simplified thus reducing corruption element, also norms get aligned with international standards improves trade relations bw countries as non tariff barriers get lowered

Cons: countries r reqd to spend on this prioritising trade over other immediate needs, benefit is to developed countries more than the developing as they get easy access; greater threat to local mfrs

Whats the unresolved issue of Public Stock Holding in WTO?

As per current WTO rules, grains procured for Public stockholding for food security of the country are **trade distorting** practice if the price at which they r prcoured is higher than the base price (fixed @ 86 price levels). Such trade distortion is allowed within 10% range of value of foodgrain produced in the country under **Green Box**. If exceeds this, action can be taken against the offending country by other countries.

BUT India hs taken approval for PDS thru an **open ended peace clause, till this issue is permanently resolved.**

Article 35A is a provision in the Constitution that empowers the Jammu and Kashmir legislature to define permanent residents of the state. It was added **through the Constitution(Application to Jammu and Kashmir) Order, 1954, issued under Article 370**

Case is under consideration in SC, any change cd trigger severe protests in d valley, already volatile. It wd be treated as a blow to state autonomy. Settlements of outsiders cd change the demography of the state

Heat wave mgmt

- Making water widely available
- Rescheduling school n office timings to cooler hours
- Designating cooling or shadow spots
- Proactive healthcare facility to identify symptoms of heat stress n address
- Advisory issue

NDMA prodding led to 9 states formulating heat action plan

4th IR- massive changes taking place as a result of advacned technologies like automation, IoT, robotics, self driven vehicles, drones, 3D Printing etc. Switzerland conducted a referendum on min wage to counter the job losses expected due to IR (Marx says automation wd lead to reserve army creation)

Solution- focus on alternative employment n secure social security net

MIUS- Modified Industrial Infrastructure Upgradation Scherme

Aim is to uprade the infra to improve global competitiveness of domestic industry, Launched more than a decade back, modified few times. DIPP implements it

Features:

- 50% of project cost by Centre subject to an upper cap
- 25% by state
- These contributions r higher in NE n backward regions
- Primarily for upgradation but Greenfield projects r also covered in backward regions

ISRO developing Hypspx technology fr earth observation satellite

Hypspx=hyper+spectrum. It is a technology which makes use of high resolution cameras to get high resolution pictures, readable down to the level of pixels.It enables distinct identifaciton of objects n events

it will help in a range of activities of EO such as environment monitoring, resource mapping n security surveillance. Only Europe has it at present

ICAR- performance evaluation

ICAR is an autonomous body under Ministry of Agriculture

3 objectives- Agri Research (naam se utha lo), Agri education and Extension Services (Technology transfer)

Performance- Research- surveys on accidents like with threshers n sugarcane crushers and taking remedial measures, bird flu vaccine developed, PUSA arhar developed, Pigeon pea genome developed. Education- promoting several schemes linking agri institutes to farms directly, involvement of scientists to on farm testng n deployment, Extesniosn services- more than 700 KVK set up

Problems- Research- works r stolen regularly by pvt firms, no IPR filing worth the name; most imp area of research today is climate resilience n environmental impact bt hardly any focus on that; Further bias against animal husbandry, skewed towards farming

Education- 1000s of unregulated pvt agri colleges hv sprung up, quality is poor, nt conducive to research or agri development

Extension services- KVKs r understaffed n poorly funded, mostly dysfunctional

General- nepotism n corruption in staffing, no performance appraisals,

Q- 7) Critically comment on the deployment of the Central Reserve Police Force (CRPF) during the recent raid by the Income Tax department in Karnataka on a serving Minister

Ans- Right cz centre responsible fr protection of state frm internal disturbance, IT officers need policeprotection while carrying out such raids

But

- They cn only seek state police help, to use central force is wrong interpretation of IT act
- SC hd ruled that state cantnt deploy central police forces without state request or concurrence

Hence a violation of federal principle, State shd approach the SC fr violation of constitution.

Q- NFSA 2013 key features

Ans- It is a landmark act which ensures right to food to all. It includes the Midday Meal Scheme, Integrated Child Development Services scheme and the Public Distribution System

Key Features:

- To ensure supply of subsidised food to poor households through PDS- 5 Kg per person per month; Antyoday families also covered with provision fr 35 Kg of food per household
 - o Rice at 3 Rupees per kg.
 - o Wheat at 2 Rupees per kg.
 - o Coarse grains (millet) at 1 rupee per kg.
- Upto 75% of rural and 50% of urban population to be covered for PDS, MDM n ICDS r universal
- Children
 - o Provisions fr children mid day meal scheme and ICDS
 - o Special provisions for malnourished children
- Women Empowerment
 - o Maternity benefit of upto Rs 6,000 besides nutritious meal too pregnant n lactating mothers (Note this is Indira gandhi Matritva Yojna, which hs been nw renamed as PM Matritva Vandana Yojna; implemented thru NFSA; conditional cash benefit of 6000 fr first 2 children, fr women abv 19 yrs, conditional on institutional delivery and immunisation of children...probs- lack of bank accs prevents them frm getting benefit, lack of awareness regarding entitlements,

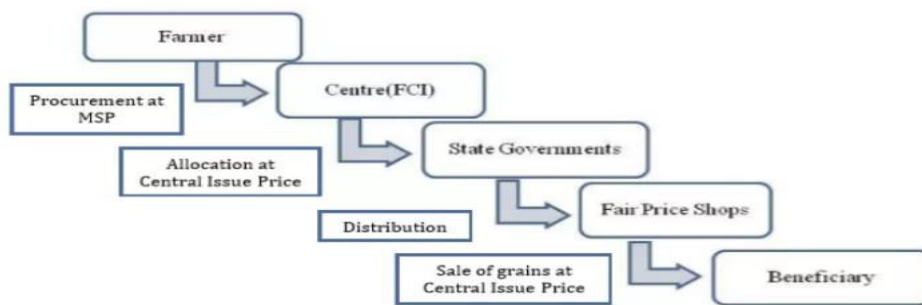
Asha workers nt trained n knowledgable, paltry sum nt enough to compensate fr 6 months).....Surakshit Matritva Yojna- fr ante natal check ups

- o Ration card to be made in the name of woman household head
- Role of states
 - o States to set up State Food Commission to monitor the implementation of the act and also set up a grievance redressal mechanism
 - o States to identify beneficiaries thru SECC
 - o States to promote n conduct social audits

Concerns:

- Inclusion n exclusion error, adulteration and pilferage
- Non availability of power n internet in remote far flung areas which makes Adhaar seeding difficult
- States hv nt yet implemented provisions of the act regarding setting up of State food comm n grievance redressal
- States like TN hv nt yet shifted to Targeted distribution to poor bt r offering it universally, causing losses to central exchequer.
- They hv nt yet identified the beneficiaries under SECC n continued with old set of beneficiaries to nt lose out on quota of food grains if less eligible beneficiaries turn out; Nt conducting or promoting social audits

Chattisgarh is an eg worth emulating which has drastically reduced wastage n strengthened distribution using GPS tracking, Doorstep delivery, robust monitoring surveillance n grievance redressal mechanism. Food subsidy os the biggest piece of Govt subsidies amounting to more than a lac crore



Problems in PDS working and need for digitisation :-

- Due to misclassification of poor and non poor the PDS suffered nearly 60% errors of exclusion and 25% errors of inclusion in past.

At present, digitisation ka scene is- many states have less than 1% shops digitised

Being proposed now is- LPG type DBT in lieu of food subsidy

At present, subsidy is given to the shopowner who is reqd to sell it to beneficiaries at subsidised rates, owner hs an incentive to sell the foodgrain in os mkt at higher price n pocket the profit. DBT to customers will curb this. Directly, the subsidy will go to person's acct who can approach the shop n buy grains. BUT pilot mein large operational probs found. HENCE, need is- POS machines working, adhaar bank linkage, all shd bank acct, identity mismatches shd be curbed, digital n internet linkage in all far flung n rural areas

JAM in PDS.....leakage curbed, mr choice fr customer can buy frm any shop any time, admin load is reduced as no need to manage cumbersome delivery system

Negatives.....money cd be directed to other purpose, food security cd be compromised, Wd be subject to inflation, nt all hv bank accounts n adhaar seeding, sm ppl wd nt be able to pay in the first place only

Poverty is the worst form of violence- Gandhi said. So Accessibility availability n affordability r of utmost importance.

Corporates ke liye- People, planet n profits, unfortunately only d last one is imp today

UIP under NRHM- diseases covered

DPT

TB, Hepatitis B

MRP- MM (measles meningitis)..RR (Rubella, Rotavirus).....PP (Pneumonia, Polio)

Japanese Encephalitis in select locations

Vaccines line mein steps

- 4 vaccines added to UIP under NRHM- Rotavirus, Rubella (with measles), Japanese Encephalitis (like scrub typhus related to gorakhpur hospital accident case- a mite born disease- causes brain inflammation), and injectible polio vaccine
- Rotavirus vaccine developed which ds nt require refrigeration
- eVIN program successful, getting queries from other countries
- Who assessment of NRA (national regulatory authority) gives a best possible 4 score

The Annual Financial Statement, 2017 announced an action plan to eliminate Kala-Azar and Filariasis by 2017, Leprosy by 2018, Measles by 2020 and Tuberculosis by 2025 is also targeted.

India declared Yaws free...first country to be done so

What is Live virus vaccine- slow replicating bt live virus based vaccines, are more effective in gereating immunity bt risk of contracting disease also goes up as against a regular vaccine that has attenuated (weakened) strains.

Injectible polio vaccine- its derived from wild polio virus (killed or inactivated), provides immunity against all 3 strains of virus....can be given in fractional dosages.....savings on vaccination cost. OPV on the contrary is made of live attenuated (weakened) virus.possibility of infection is there.

Generic Drugs- a drug similar to the branded drug in composition (uses same salt) bt without the brand name, developed by generic manufrers once the patent period is over.

2 types of components- Active n Inert

Active- gives therapeutic value to drug (same as branded)

Inert- gives taste n color (diff frm branded)

Telemedicine is delivery of health services thru telecommunications.

Orissa pioneered a model in which it trains the youth who can then take a loan n start up a telemedicine centre in PHC, Coimmunity centres.

- Helps create jobs, helps patients in far flung areas with expert advice n protect them from quacks
- No additional cost to the centre

Govt has adopted this model from Orissa Govt

ISRO provides telemedicine services thru its space assets n **national analytics centre**

National Health Policy 2017

shifting focus from “sick-care” to “wellness”

- ☑ It intends on gradually **increasing public health expenditure** to 2.5% of the GDP by 2025
- ☑ It proposes **free drugs, free diagnostics and free emergency** and essential healthcare services in public hospitals.
- ☑ It focuses on **primary health care**: The policy advocates allocating two-thirds (or more) of resources to primary care.
- ☑ It promotes ‘**Make in India**’ initiative by using drugs and devices manufactured in the country.
- ☑ It **highlights AYUSH** (Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homeopathy) as a tool for effective prevention and therapy that is safe and cost-effective.
- ☑ It proposes **introducing Yoga** in more schools and offices to promote good health.
- ☑ It proposes **reforming medical education**.
- ☑ **Key targets:**
 - Increase **Life Expectancy at birth** from 67.5 to 70 by 2025.
 - Reduce **infant mortality rate** to 28 by 2019.
 - Reduce **Under Five Mortality** to 23 by 2025.
 - Achieve the **global 2020 HIV target** (also termed 90:90:90; 90% of all people living with HIV know their HIV status, 90% of all people diagnosed with HIV infection receive sustained antiretroviral therapy and 90% of all people receiving antiretroviral therapy will have viral suppression).
 - To reduce **premature mortality** from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases by 25% by 2025

Q- trends in formal n informal waste governance in India

Ans- Formal

- Under SBA, upto 50% of urban wards hv door to door waster collection facilities today
- Awareness is being generated thru these pick up vans about segregating dry n wet waste
- Emphasis on waste mgmt under AMRUT n SMART city missions
- Shift towards bioremediation n biomining being pursued in Gurugram for eg
- Govt launched SWM rules, 2016
- Big corporates r entering into this space

Informal

- Continues to play an imp n dominating role in waste picking, segregation and recycling
- Bt fraught with risks to health of informal sector workers, nt fool proof

SWM rules 2016- wide variety of best-practices for waste reduction and disposal

- **Responsibility of owners to segregate waste into, wet (degradable) dry (recyclable) n hazardous waste**
- **Informal sector workers like ragpickers to be brought into formal stream (responsibility of ULBs)**

- Duty of residential societies n hotels to arrange onsite waste collection n mgmt
- Hold producers responsib. For packaging
- Hierarchy of waste treatment- landfill is the last resort

New Metro Policy

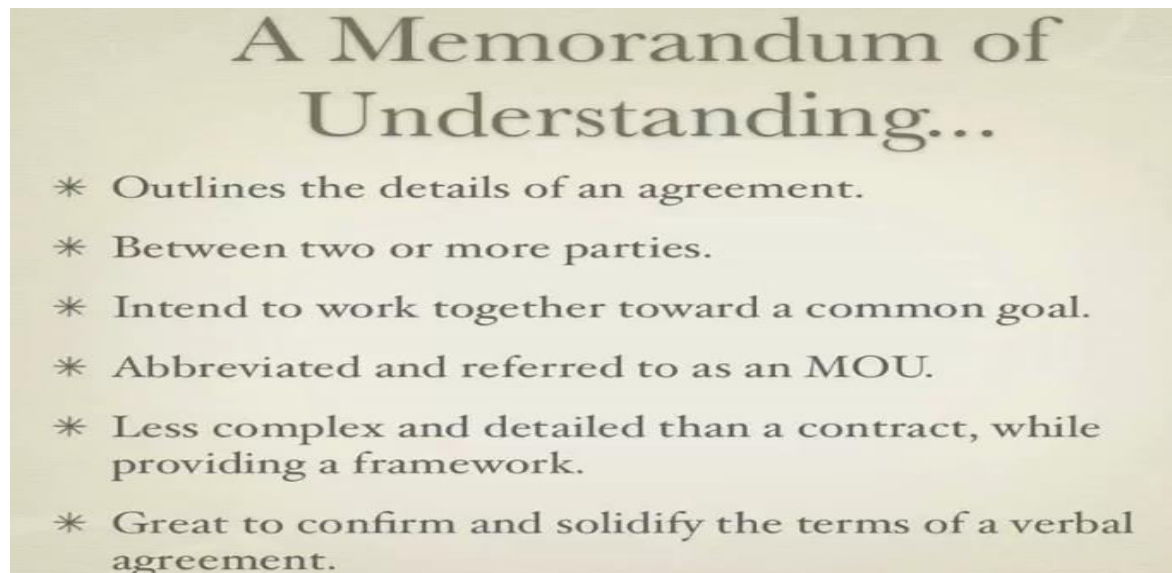
- Mandatory to avail central funds
 - o Enhance pvt sector participation by making PPP
 - o **Last mile connectivity** thru feeder services n space for cyclists n walkways
- **TOD**- transit oriented dev. Densification to enable optimum utilisation of space
- States to decide the fares, shd maximise non fare revenue, can issue bonds, value capture financing such as **betterment levy**
- UMTA (urban mass transportation authority) to prepare plans
- Third party to assess the plans
- Alternative plans to be considered such as BRT (bus rapid transport), mono rail, local rails, trams etc

3 types of Pvt sector participation

O&M risk NOT borne by pvt operator, given a fixed or fixed+variable payout

O&M risk borne by pvt operator, given a fixed payout

Bears the O&M risk bt if revenue shortfall vs O&M, state to compensate



Agri futures market can help farmers, How?

- Provides a means for efficient mkt based price discovery
- Farmer can make a sowing decision basis the price depicted by exchanges
- It helps him in reaping a certain price for his produce
- He can use the future contract as a collateral to get loans on easier terms; thus beneficial to farmer as well as to lender.
- This way he can tk a speculative position on future prices without having the requisite storage capacity
- Quality specs prescribed by the exchanges help him become quality conscious too
- This is in line with the Digital India initiative to extend reach of electronic n digital services especially ro rural areas. Coming in touch with modern tech helps him bcm more aware of Govt policies by becoming acquainted with modern tools of communications

Shell Company

Is one that does not have active business operations or assets. Often used to evade taxes by showing bogus transactions. Or use them as conduit for money laundering, Or even traded on stock exchange actively, can result in substantial loss of SHH wealth. Nt defined under company's act 2013.

No dedicated law to tackle shell companies bt Benami Transaction Act and Companies Act deal with it to sm extent

Interestingly not all shell companies are illegal. Some were formed to raise funds to promote startups

Steps taken to curb them:

- Identified arnd 30k shell cos n deregistered 50% of them
- Naming n shaming of directors; nt allowed to serve as directors on boards of other firms
- SEBI directed stock exchange to tk action against these firms
- POEM rules to tackle meance of shell firms
- Using Big data to catch evaders

POEM

The government has introduced PoEM as many Indian multinationals hold foreign companies through intermediary companies registered in tax-friendly countries like Mauritius and Singapore. These companies are only used for collecting dividend or interest. The government has taken a view that since such **shell companies** are only brought in as part of tax planning, they should pay tax in India. Govt view is that if the majority of assets, employees, imp decisions r engaged in India, then the firm needs to pay tax in India

POCSO Act

Child is one below 18 yrs of age

If any inconsistency with any other act, POCSO overrides that

The Government of India has decided to launch a new sub-scheme named "Aajeevika Grameen Express Yojana (AGEY)" as part of the Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM).

- The Self Help Groups under DAY-NRLM will operate road transport services in backward areas.
- This will help to provide safe, affordable and community monitored rural transport services to connect remote villages with key services and amenities (such as access to markets, education and health)

Alma-Ata declaration – Health fr All by 2000, signed in 1978.....

Health is a FR

International cooperation

Reducing health divide bw rich n poor countries n within countries

Blue Whale Challenge vs Pink whale Challenge

- Former asks participants to do daring stunts even asking them to risk their lives or commit suicides
- Latter is just the opposite, it asks them to do something positive n humanistic task thus spreading positivity

Asian Premium- premium enjoyed by West Asian countries in terms of charging for oil

Crowdfunding- mobilising domestic savings to support investors, win win situation for both. Egs peer to peer lending, Faircent etc

UDAY- Aggregate technical and commercial losses (AT&C)

Under the scheme, States will take over three-fourths of the debt of their respective discoms. The governments will then issue 'UDAY bonds' to banks and other financial institutions to raise money to pay off the banks. The remaining 25% of the discom debt will be converted into lower interest rate loans. In return for the bailout, the discoms have been given targets- they will have to meet efficiency parameters such as reduction in power lost through transmission, theft and faulty metering, installing smart meters and implementing GIS (geographic information system) mapping of loss making areas. States will also have to ensure that power tariffs are revised regularly.

FASTag is a device that employs Radio Frequency Identification (RFID) technology for making toll payments directly from the prepaid account linked to it. It is affixed on the windscreen of your vehicle and enables you to drive through toll plazas

CEA Arvind Subramanian said that India should not be influenced by 'coal imperialism', where developed countries try to influence developing countries to reduce their fossil fuel consumption at a rate not in keeping with historical factors and equity. This, thus, refers to the efforts of developed countries to dilute the CBDR

India is 3rd in GHG emissions overall after US n China

But in per capita terms, it is 10th, only 2 ton per person against 20 ton per person fr US

S&T Policy- released in 2013

- Goal - **SRISHTI**.
- SRISHTI= Science, Research and innovation system for High technology led path for India.

Features:

- Use STI for faster, sustainable and more inclusive growth
 - o Encourage pvt sector participation
 - o NGOs to be used to promote grassroots innovation, especially in rural areas
 - o We'll Achieve gender parity in S&T. (meaning bring more female scientists)
- We will position India among the top five scientific powers by 2020
- Global cooperation, science diplomacy
- IPR laws to be streamlined to encourage innovation
- Special focus on climate change
- Spread scientific temper

Criticism:

- Often repeated statements r compiled here, no concrete plan to realise
- No analysis of why earlier policies failed, what went wrong
- Contradictory goals of social good & higher pvt sector role..latter is always interested in profit motive
- Already tax concessions etc r promoted fr pvt sector bt innovation is low, see our services sector- back office work n coding r our USPs bt no focus on AI; without state active involvement; R&D is difficult to pick up

Decade of 2010-2020 is declared as decade of innovation. Much needs to be done to mk it happen

WHO conducted assessment of National Regulatory Authority (NRA) in case of India n gave a rating of 4- highest possible, showing maturity of regulatory processes in d country. NRA consists of state drug regulatory authorities, CDSCO, pharmacovigilance and adverse reactions following immunisation structures at central n state levels

- Matter of soft power
- Establishes India as a trusted player in the global supply chain
- Gives boost to India's image of nt only being a cost effective vaccine supplier bt also safe n reliable vaccines

Its said that India shd shift to flood governance than flood protection, Why?

Flood protection includes measures such as embankments, dredging rivers and bank strengthening. The focus here has been more on construction and less on maintenance.

Flood governance means ability to be resilient n quickly be back on foot in event of a disaster.

- Ensure access to facilities like schools, hospitals

Cyber Bullying- means online harassment n intimidation of a person using threatening messages, obscene comments etc

Impacts on children

- Brings ppl closer by making physical distances irrelevant
- It is a source of entertainment
- Its a source of knowledge n information too
- Its a tool of self motivation

III Effects

- Children r prone to cyber bullying, online stalking or body shaming
- Social media addiction leads to low attention span, studies hv proved
- Makes them addicted which results in reduced ophysical activity, obesity

- Not able to cultivate real life interpersonal skills due to excessive time spent on online media
- Access to **dark web** where organised criminals operate, this was revealed in a drug scam busted in Hyderabad where school going kids have been found to procure drugs through dark web
- Obscene or inciting content posted on websites may have unhealthy impact on young minds. They may accidentally come to this or driven by an urge

Thus more harm than good; must regulate, effective parental supervision is important, cultivating real life hobbies, interaction with friends is important and should be encouraged

- The economic survey, in its latest mid-year report, says “estimates indicate that currently India incurs losses of about \$ 9-10 billion annually due to extreme weather events. Of these, nearly 80% losses remain uninsured”.

Extreme weather events are not always linked to climate change but research shows that their frequency and severity is increasing and this is being increasingly read as a fallout of climate change.

Gorakhpur tragedy- Causes

Monitoring and surveillance mechanism missing- poor accountability
 Low Govt healthcare spending- 1.2% merely, lowest among BRICS
 Political apathy- Ministers were informed of irregularities but no concrete action taken
 Lack of preventive measures- poor hygienic conditions prevail
 Shortage of qualified manpower and even fewer are willing to take up rural postings where majority of population lives
 Corruption and pilferage is rampant, under NRHM, roughly 1 crore each by all involved in UP

7) The union cabinet recently approved the Code on Wages Bill, which proposes to make minimum wages a statutory right for all citizens. Discuss merits and demerits of this Bill

- Ans- it sets to set minimum wage, states have to set wages higher than the wage set by central Govt. It also provides for minimum 1 day of rest and no of working hours a day, Beyond that, bonus eligibility ho jaayegi

Merits:

- It will be a rights based mechanism
- Its rights based framework, in line with our DPSP- to ensure a minimum standard of living to all
- It applies to both organized and unorganized sector
- It accepts the differences across sectors and states and allows for differential rates to be set across sectors and geographies
- It may push firms towards mechanisation which increases productivity

Demerits:

- Unorganised sector already reeling under capital inadequacy n small margins; will cm under stress
- It will dampen mk in India as our cost competitiveness goes down n firms unwilling to shift base to India
- The place being vacated by China in apparel n shoes mfg will be difficult to be filled by India due to this rise in min wages
- May lead to slowdown in future hiring and also lay offs
- No mechanism prescribed hw unorganised sector will be regulated to provide min wages to workers

Despite the well intentions behind the move, it may cause more harm than good. The need today is to encourage unorganised sector thru enabling measures such as access to capital, investment in tech, forward backward linkages BUT this forceful increase will harm the very sector that employs 90% people in the country. Indian laws r already considered restrictive. Focus shd be easing labour laws n formalisation of economy n reducing regulatory hurdles fr firms

Labour law easing ka eg: fixed term employment ws introduced last yr in apparel industry, here a person works fr a fixed term during which wrkng conditions r at par with permanent employees- social security etc; so better than a contractual job bt it wd be terminated, its nt permanent. So flexibility fr employer too. Potential fr social transformation as women r 70% of textile ind workforce

NEMMP National electricity mobility mission plan, Objectives:

- Energy security
- Environment friendliness
- Domestic mfg

India announced that by 2030, it will stop selling petrol diesel vehicles

Challenges:

- Need to construct a massive charging infra in the country, at present nil
- Massive mfg of lithium ion batteries, our need wd be more than what global pdn of lithium today is.
- Cobalt is nt available locally
- Mfg of vehicles needs to be expedited at a fast pace to reach the target of 2030 petrol vehicles phase out

Solutions:

- Pvt PSU firms must tie up with Argentina, Australia n Chile firms for jt production, they r leading lithium producers. China n US hv already made the move
- PTA/FTA with these countries shd be in place with special emphasis on Lithium tariffs streamlining
- Recycling shd be made robust to reduce import dependence
- Most imp, R&D shd be strenghtened to look out fr alternatives to lead-acid batteries which use Lithium to some other alternative

Mid Year Eco Survey takeways

- Difficult to reach upper range of growth forecasts (6.75 to 7.5)
- TBS problem reducing the credit availability n investment in the country
- Loans waive-offs to hit the country's consumption as Govt reduces welfare spending under the burden of loan waive offs, this will overtake the inflationary impact of 7th pay commission n consumption poer increase of farmers
- GCF has been declining
- Inflation under control,
- Balance of payments improvement due to decline in oil prices
- Fiscal Deficit at 3.5% in 16-17 n next yr target at 3.2%. FRBM suggestion of 3% will be achievable in 2018-19

Direct n Indirect Farm subsidies- direct cash payout to farmer eg US gives cash to farmers to buy seeds n fertiliser

Indirect- cheap loans, seed n fertiliser subsidy, MSP, Tax exemption, Cheap Crop Insurance (PMFBY), power n irrigation facilities at lower costs

If govt starts transferring cash benefit to farmers accounts, it will bcm direct subsidy, at present its indirect cz fertiliser cost shortfall is paid to the firms

Agricultural subsidies in India:

In India, major items of agricultural subsidies are food, fertilizer, irrigation, power and credit, tax exemption, cheaper insurance. While food and fertilizer (72500 k) subsidies are borne by the Centre, power and irrigation subsidies are borne by the respective state government.

Food subsidy is the difference between the price at which the Food Corporation of India (FCI) procures from farmers and sells through the Public Distribution System (PDS). The food subsidy in India was Rs.12060 crores in 2000-01 and it increased to Rs.56002 crores in 2009-10.

For fertilizer inputs, subsidy is the difference between the price paid to fertilizer manufacturers and price received from the farmers. For other inputs, it is the difference between economic cost of input and issue price to the farmers, which is paid by the government.

Ashok Dalwai Committee recommendations to double farmers income

- Agri Marketing:
 - o List- Agri marketing to be out under concurrent list
 - o Agri Produce n livestock marketing rules to be rolled out by Union Ministry
 - o Atleast 10k primary markets to be there as against 4k at present
 - o Warehouses to double up as markets
- FPOs to be promoted to increase their integration into marketing system and bargaining power in getting seeds, fertiliser, credit etc
- Private sector participation is key to realisation of goals, shd be allowed to be a part of Farmers producer organisations (FPO)
- Export- crucial role in doubling the income, so need to be trebled
- Institutional credit needs to be strengthened, post harvest loans on produce as collateral to be made avialable to increase farmers holding power

Q- Why HIV treatment is nt completed?

- Often patients r poor, they need to mk trips to centres which r located at far off places especially frm rural areas, dissuaded due to distance
- Awareness is low, they do nt want to continue spending once they feel a little better, this cn enhance resistance
- Social stigma, dont want to reveal their status to employers n ask fr frequent leaves
- Medicine is costly, sometimes delays n shortages frm Govt side in procuring n making avialable the mdicine
- CD test need ot be taken by patients regularly, these test kits r nt avialable in adequate numbers

FSDC (International level pe FSB bana tha)

About FSDC:

The Financial Stability and Development Council (FSDC) was constituted in December, 2010. The **Council is chaired by the Union Finance Minister** and its members are Governor, Reserve Bank of India; Finance Secretary and/or Secretary, Department of Economic Affairs; Secretary, Department of Financial Services; Chief Economic Adviser, Ministry of Finance; Chairman, Securities and Exchange Board of India; Chairman, Insurance Regulatory and Development Authority and Chairman, Pension Fund Regulatory and Development Authority.

What it does?

The Council deals, inter-alia, with issues relating to financial stability, financial sector development, inter-regulatory coordination, financial literacy, financial inclusion

International Arbitration

Arbitration and Conciliation (Amendment) Act, 2015 envisages

- Reduce the pendency of cases in courts and
- Quick enforcement of contracts,
- Promote ease of doing business in India.
- Hasten the process of dispute resolution through arbitration, to encourage FDI by projecting India as an investor friendly country
- Easy recovery of monetary claims

B N Srikrishna Committee was appointed to strengthen arbitration framework in India.

Recommendations of committee: (APCI Gadr (ICADR) kaam kr rhi hai, IILAA IMC)

- Setting up an **Autonomous Body**, styled the **Arbitration Promotion Council of India (APCI)**, for grading arbitral institutions in India.
- declaring the ICADR under Law Ministry as an Institution of national importance (International centre for arbitration and dispute resolution)
- Appoint an International Legal Advisor who would be consulted by Govt before entering into BITs
- Inter Ministerial Committee should be set up for better management of BIT disputes (Law, Finance and external affairs reps)

Probs: (IILAAA prob ho gy)

- ILA will lead to duplication of efforts, rather law div of external affairs ministry should be strengthened
- IMC should have member from commerce ministry too
- Did not talk about restriction on investors for 5 yrs to explore domestic court options; this 5 yr clause is problematic for investors

Model BIT 2015- has become effective this yr. New BITs are being negotiated under this.

Features

- MFN clause has been removed
- Enterprise based definition- only firms registered in India can seek protection under BIT
- Non discriminatory treatment in case of payment of losses has been introduced....losses kisne laye- state ne ...so

- Actions of States r included as a part of BIT.....states ke against suit...suit tbd localy
- Foreign investors shd exhaust local remedies first, in initial 5 yrs.....suit ke paise vasool frm CSR
- Foreign investors shd follow internationally recognised principles of CSR

National Litigation Policy 2010- objective ws to reduce burden on courts n evolve govt as a responsible n effective litigant

Based on the fact that govt is litigant in 50% of cases.

- To protect citizen rights
- To eschew d approach of litigating fr d sake of litigating and “let d court decide”

Y new policy is needed?

- To get rid of trivial n frivolous litigations, save court’s time, convert Govt into efficient n responsible litigator; Fr this, accountability measures need to be put in place; regular monitoring n surveillance

[4\) Discuss the issues associated with crowdfunding – its models, concerns of regulators and measures being taken to regulate it in India. \(200 Words\)](#)
[Livemint](#)

Crowdfunding: concept

Crowdfunding is a method of raising capital from individual investors (their domestic savings)—primarily via social media and online Crowdfunding platforms. Eg peer to peer lending..Faircent

Crowdfunding is essentially the opposite of the mainstream approach to business finance such as banks, angel investors, and venture capital firms

The Benefits of Crowdfunding:

- Enhances the choice of raising capital- no longer limited to the key players as listed above
- Reach is very wide- using online social media
- Mutually beneficial fr firm seeking capital as well as ind investor, as meets needs of both thru a simple online mechanism
- Makes d firm mr responsive as it needs to answer questions regarding its offering, its biz model to potential investors; it can mk suitable changes to its strategy basis suggestions recd
- It is an easy method

Models of crowdfunding:

- Loan
- Equity
- Donation- (Eg temple construction using donations is an eg)

Issues:

At present it is unregulated; oder countries hv started using this as a tool

In India, trust levels of public in online media r low; nt ready fr this offering yet
Loan is unregulated in peer to peer platforms, then there is no credit rating of these firms...so low confidence

National Energy Policy (rolled out in June 2017)- 400 GW coal produc

Objectives- energy security strengthen, focus on renewable energy, diversification like TAPI, developing coal power plants in coastal regions to reduce costs n improve connectivity to transportation , enhance technology to enable use of domestic coal, improvidng productivity of existing coal power plants

Drawbacks:

- Ds nt talk about concrete targets like eliminating fossil fuel use the way it hs abeen dn by France n UK
- Electronic Vehicles dealt with only in passing
- Ds nt talk bout peak oil demand scenario n its impacts n remedial measures

Energy Intensity is output (GDP) per unit of power consumed. India's intensity is lower cz

- Services dominated- mfg obviously hs higher intensity cz machines etc consume energy
- Newly industrialised hai unlike developed countries
- Costly power hai so retail n industrial consumers focus on reducing consumption

Probs in meeting solar energy rooftop installation target by 2022

- Erratic sunlight availability- nt being avialable at night n on certain days
- Storage systems r costly
- Buying electricity supply frm offgrid plants at low prices due to being subsidised is nt lucrative fr customers to mk investments
- Social & Pol Factors- awareness is low, so despite sbsidies ppl r nt buying
- Trained manpower avaiability is also a challenge

Bird Flu- H5N1 and swine Flu is H1N1

- Advisory to be issued timely
- High risk grps (pregnant, v young n old) to be sensitised to get checks conducted in case of possible symptoms
- Making available vaccination available n popularising it

The Ministry of Rural Development, Government of India, commenced the Socio Economic and Caste Census (SECC) 2011, in June 2011 through a comprehensive door to door enumeration across the country. This is the first time such a comprehensive exercise has been carried out for both rural and urban India.

- The SECC, 2011 will be conducted through a comprehensive programme

involving the Ministry of Rural Development, Ministry of Housing and Urban Poverty Alleviation, The Office of the Registrar General and Census Commissioner, India and the State Governments.

Q- 4) Write a note on the mandate and significance of Global Commission on the Future of Work. (200 Words)

Ans- Set up by ILO, to study relation bw work n society

Objective- to ensure social justice using the findings of study

Significance: automation a threat, inequality is increasing, poverty eradication first goal of SDG 2030

NITI Aayog suggestions fr lower courts:

- Performance Index
- Timelines to track cases' discharge
- Set up a separate admin body to take over the day to day admin work frm judges n let them focus on cases. This body will report to the CJ of HC directly

6) Should floods be considered as natural disasters? Examine the causes of floods in Assam regions. (200 Words)

Ans –

Floods have been wreaking havoc in India almost annually, with a huge loss of life and property. The Eastern India have been its traditional bastion especially the states of Assam, Bihar, W.B and Eastern UP.

Floods are natural disasters as –

- Massive rivers difficult to tame
- Unpredictability of monsoon
- India being geographically a lower riparian state to most of these rivers causing damage
- The Himalayas and the heavy amount of natural silting of rivers due to landslides, etc.

However, the severity of damage caused by flood can be effectively reduced by human interventions. In fact, the human interference is disturbing the ecological balance

making **flood a man-made disaster as –**

- Large Dams causing silting of these rivers
- Administrative indifference and lack of preparedness. Diplomatic collaboration with upper riparian states (China and Nepal) has been weak
- Mass awareness and training is missing
- Reliable EWS (early warning system) not known to the country yet.

Causes of floods in Assam –

- Topography: Situated in Himalayas, Brahmaputra carries the massive amount of water making it more prone to flood, excessive rainfall
- Earthquake during 1950's have lifted the bed of Brahmaputra river.
- Untamed Brahmaputra and No agreement with China on taming it.

- Poor infrastructure in the impoverished Assam state to tackle the menace of flood.
- Administrative neglect, lack of political will.

Conclusion –

Despite the efforts of government, the flood causes economic loss 0.2% of GDP in India. Floods cannot be tackled completely, but what requires is the measure that can mitigate the economic and human losses due to flood. Hence, there is a need to take holistic approach to deal with floods which starts with the preparedness and early warning as well as early response measures

About APY:

The Atal Pension Yojana launched in 2015, **available to all the citizens of India in the age group of 18-40 years.**

- Under the scheme, a subscriber would receive a minimum guaranteed pension of Rs 1,000 to Rs 5,000 per month, depending upon his contribution, from the age of 60 years.
- The same pension would be paid to the spouse of the subscriber and on the demise of both the subscriber and the spouse, the accumulated pension wealth is given to the nominee.
- The Central Government contributes 50% of the total contribution or Rs. 1000 per annum, whichever is lower, to each person for a period of 5 years, that is, from 2015-16 to 2019-20, to those who join the NPS before 31st December, 2015 and who are not members of any statutory social security scheme and who are not Income Tax payers.

IRNSS- NAVIC (our own GPS)- lies in polar orbit

The Indian Regional Navigation Satellite System (IRNSS) provides two types of services:

- **Standard Positioning Service:** Available to all users.
- **Restricted service:** Encrypted service available only to authorised users such as for defence forces.

Useful for fishermen, send alerts to them; merchant ships for navigation; road users for tracking their movements and finding routes; useful for military to secure locations, better surveillance

What is Hybrid annuity model?

Type of PPP- development, O&M to be done by pvt developer; govt will pay 40% capex and remaining 60% cost thru annuities along with O&M expenses.

Midway bw EPC and BOT

- Under the EPC model, **NHAI pays private players to lay roads.** The private player has no role in the road's ownership, toll collection or maintenance (it is taken care of by the government).
- Under the BOT model though, private players have an active role — they build, operate and maintain the road for a specified number of years — say 10-15 years — before transferring the asset back to the government. the private player **arranges all the finances** for the project, while collecting toll revenue or annuity fee from the Government, as agreed (BOT-Annuity)

Will be undertaken for the first time in STP, approved for STP mgmt in Varanasi n Haridwar

Better bcz:

- It helps address the problem of banks being wary of lending to pvt firms, due to ongoing NPS prob
- Pvt player shares less risk compared to BOT n gets funding frm Govt

Railway Accidents in India

Spate of accidents in recent past

Causes:

- Mostly human errors suggested by railway commissioners' study
- Lack of funds causes poor safety drives n works
- O focus on repair n maintenance; old n dilapidated assets
- Sabotage- Sometimes, vandalism, terrorism, fog n flooding of tracks etc r causes too
- Theres no dedicated railway safety dept, carried out by multiple depts causing poor coordination n delays
-

Solutions:

- Anil Kakodkar committee implementation
- Replacement of coaches with Hoffman Busch coaches n replacing other aged assets
- Regular monitoring n surveillance of tracks, coaches using advanced technologies such as **Ultrasonic monitoring, trinetra technology**
- **Filling vacancies to address shortage of staff n staff training**
- Funds allocation fr safety is a must n shd precede other reforms like revenue enhancement

Steps taken:

- Independent Rail Development authority set up to suggest prices, promote pvt investment
- Rail Suraksha Kosh set up fr 1 lac cr
- Eco friendly bio toilets
- Dynamic flexi pricing ws launched too on pilot basis

Rail Development Authority

Objectives- promote pvt investment, set standards of safety n efficiency, promote modernisation, cost based pricing

Functions- Recommend pricing to be charged....nt driven by populist measures; provide a level playing field fr pvt players, address their concerns.....issue n monitor guidelines fr safety and efficiency.....protection of consumer interests.....benchmarking against international standards.....HRD

Tough only recommendatory in nature but advice coming from expert body cannot be ignored easily

Green, Amber n Blue subsidies

Zero or minimal trade distortion (upto 10% of value of pdn of that commodity @ prices of 80s) r Green, Trade distorting r amber; Blue- trade distorting bt pdn limiting program so being offset r Blue

India hs additionally gt an agreement pertaining to subsidies accepted ie Peace clause means cant be dragged by any country to WTO fr violation in case of subsidies to farmers till the issue is settled

India is negotiating FTA with EFTA (European FTA) (ds nt include whole Europe but 4 countries only viz. LINS- Lichenstein, Ireland, Norway, Switzerland)

Why growth dipped to 5.7% in Apr-June quarter, lost fastest growing major economy tag. Y?

- **TBS- NPA**
- **Demonetisation impact**
- **GST short term impacts**
- **RERA Act- real estate mein slowdown**
- **Leading to slowdown in jobs- 1 mn enter wrokforce every month**
- **Structural probs in Agriculture**
- **Loans waive offs by Govts resulting in crowding out effect on pvt sector n thus on investment; affects govt spending too**

How to tackle?

- Agri sector reforms long pending, time to implement ashok dalwai committee report on doubling farmer income
- Must act swiftly on addressing TBS prob- consider sincerely PARA as suggested by ES, eliminate bottlenecks in IBC
- Boost to mfg by reinvigorating MSME sector
- Make in India must be strengthened
- Digitisation n financial inclusion

Golden Quadrilateral Project- Del, mum, Chennai, kolkata..in between jaipur, Surat, Ahmedabad etc

Associated terms spatial development- growth n dev in areas that hv untapped potential eg cities lying enroute to major cities as industries shift to these less costly locations (also called sub urbanisation), also leads to allocative efficiency- means employment of ppl (allocation) in most productive industries

Benefits:

- Farmers- less wastages
- Quick, economical n improved connectivity

- Paves d way fr development of industries n boost to econoic dev. In metros as well as areas lying in between
- Over urbanisation in these cities n increasing inequalities bw rich n poor regions also necessitates such moves

Satellite cities are small or medium-sized cities near a large [metropolis](#),

ES also pointed out- convergence nt taking place in India, Such steps cn help achieve that

Floods- storm water drainage systems need to be maintained well (these r d ones that directly let off water into nearby river or ocean)

Embankment is an earth wall along river banks that prevent spill off of flood waters

National IPR Policy, 2016

IPRs r legal legal rights given to intellectual innovations and creations in various fields like S&T, Drugs n Pharma, Music n Films, literary n artistic and Industry. Includes patents, copyrights, designs, GI, plant varieties

Tagline: Creative India: Innovative India

It lays down tangible goals:

- Bring down patent clearance to 1 month (13 months)
- Bring down IPR clearance to 1.5 yrs (5-6 yrs)
- DIPP is the nodal agency
- Brings movies n music too in its ambit
- CSR funds to be allowed fr IP support

Seven Objectives:

- Increase awareness bout IPR n theri benefits
- Promote creation of IPRs thru tax benefits n otherwise
- Promote commercialisation of IPRs
- Strengthen legal framework of IPR mgmt etc

Benefits:

- Compliant with TRIPS of WTO (signed in Uruguay, 95), this grants flexibilities to developing countries to protect thri interests
- Hv nt bowed to US pressure, which hd put India on Priority watch list
 - o Retains protection under Compulsory Licensing n parallel imports- giving a compulsory licesning to a co to produce patented drugs under emergent situations such as public health
 - o Also retains Section 3d of Patent Act which says dat innovations shd nt be incremental bt concrete n shd offer therapeutic advantage

- Institutional mechanism for implementation- DIPP
- Broadened extent of coverage- hw?- movie n music
- Faster clearances

CIPAM has started promoting GI using letstalkIP campaign

Related terms (CDI): CL, Data Exclusivity, Incremental Innovation (Sec 3d of Patent Act)

Section 3(d) of Patent Act 2005 prevents patenting on non substantive grounds (there should be substantive therapeutic advantage and not merely any incremental one). Novartis's patent application for cancer drug Gleevec was rejected using this section only. It is completely compliant with WTO norms but international bodies such as US trade representative (Special 301 report) oppose it,

Fight against TB- NRTCP, Bedaquiline being made available, Geneexpert- new Tech that enables on the spot identification of MDR TB- will be conducting TB resistance test of all TB patients in India, e nikshay platform-

Whale beaching or Shoring- phenomena of whales finding themselves washed ashore, leading to their death

Researchers say- Solar storms could have interfered with their sense of direction, by changing the magnetic field associated with the earth, so instead of going in Atlantic sea, they ventured into shallow North sea, causing their death

Use the Words like **Climate Smart Development- use Eggs like Mumbai floods, Mt Abu, Chandigarh floods, Hurricane Harvey spreading disaster across Texas; IRMA in caribbean.....** One of **Lakshadweep's bio-diversity rich islands Parali I has** vanished due to coastal erosion and rising sea level

What to do?- urgent need to build dykes to prevent inundation, rejuvenate the mangrove covers- prevent soil erosion

Recommendation(s) made by the Tarun Ramadorai Committee on household finance?

- To create customised financial products based on the traditions of households
- Flexibility to finance firms to test their offerings on a small scale
- Mechanism for data protection

Times high edu Universities list mein- India does not have a single Univ in top 100 list, whatever there in top 800 have slipped in positions

Branded vs Generic Drugs, problems and issues with prescription of generic drugs

- Same chemical composition and therapeutic effect
- APIs same
- Only Inactive PIs which give color shape size and diff
- Biggest diff is COST

Issues:

- Doctors engage in unethical practices – prescribe branded ones- fr cut
- MCI prescribes in its Code of Conduct that they must prescribe Generics
- Hurts pocket of customers
- Smtimes, overprescription due to greed; builds bacterial resistance

So, shift to prescription of salt BUT

- Poor quality of generics a concern as regulation is poor
- Power shifts to pharmacists who r generally nt regulated n also not qualified
- Confusion in generics as there r generic drugs with brand names like drugs frm firms like Cipla n Sun

Steps taken to prevent Tiger poaching

- WPA- Schedule 1 mein listed hai
- Project Tiger- support to state Govts to promote n protect
- NTCA- formed n given d mandate to promote welfare including poaching kam karna
- Annual monitoring n counting to assess tiger count
- Global tiger forum

Latest data shows >4k tigers today in 50 TRs

Steps r good bt

- Forest officials surveillance lacking
- Corruption- involvement of forest officers

Recently, snow leopard hs been shifted to vulnerable cat from endangered (50 250 10000)

Hw?- India started Project snow leopard, involved communities, gave compensation fr loss of livestock

Mosses act as indicators of pollution. Y>

Cz dont hv any root system, dependent on environment fr absorption of PM which r nutrients fr it; high moss growth indicates pollution in air which is supporting the growth

Aadhaar contains wat all- Biometric info (pic, fingerprint n eye scan) n Demographic info (name address DoB; 12 digit acc no to all resident Indians; Proof of identity BUT nt of citizenship or domicile

Nw Aadhaar is needed fr IT filing, train tickets booking, admission to schools, benefits availing etc. Reliance JIO used Aadhaar to issue SIM; this allows possibility of accessing all ur call records, connecting them with ur earnings, travel details, thus leaving ample scope fr Govt to do surveillance n even worse, foreign terrorists, hackers or agencies to get access to this

Smart Cards r an alternative- done by UK, eliminated centralised DB maintenance n decentralised authentication hoti hai when customer keys in the PIN no

Govt must incorporate the clause of personal privacy n assure citizens of its ability to protect

A new project named "**Sahara Forest Project**" has been launched in Jordan. It aims to turn Jordan's sand dunes into farming land to produce food using sun and sea water.

Methanol has been produced from Methane using oxygen from atmosphere. Earlier, only from natural gas, which results in release of GHG. So, cheaper and eco friendly move

TRAI plan to set up PDO (Public data offices), Comment on merits and demerits

Start with WB report says- 10% inc in Net penetration leads to 1.4% GDP growth.

TRAI is planning to launch open wifi network, any entity can set up PDO to sell wifi to customers in small amounts at cheap rates.

Good step:

- Affordability- not all can afford 3G and 4G; Enhance penetration of internet
- Bring down digital divide
- In line with Digital India initiative
- Students and youth can make good use of their time while on the go by accessing e books and content
- In emergency timings when phone network and internet go down, wifi can help in connecting people such as in Nepal earthquake

Negatives:

- Massive security threat- data of large number of users accessing public wifi will be vulnerable to hackers
- Personal info such as whatsapp content; credit card details etc can be stolen
- Given India's track record, likelihood of corruption leading to pilferage of crores of Rupees, scams etc

India's waste management crisis

The collapse of a great wall of garbage in east Delhi's Ghazipur area, sweeping people and vehicles into a nearby canal. Accident brought to light the messy state of affairs of solid waste management in the country.

Problems

- Weak norms and poor implementation- Solid Waste management rules not being followed
- Government apathy and sheer neglect resulting in increasing mounds of waste in cities
- Poor awareness among citizens, do not segregate wet and dry waste

- Lack of funds prevents Municipalities from undertaking scientific waste mgmt
- Lack of Technology n skilled manpower hampers further

Solutions

- Sanitary landfills instead of regular ones
- Urgent need to tk up biomethanation n composting plants
- Incorporating rag pickers n other unorganised sector workers in Municipalities efforts to tackle segregation n recycling
- Waste trtmnt plants hv d potential to generate revenue as well- Eg national tariff policy allows fr 100% procurement from STPs
- Biomethanation n biomining need of the hour
- Can tk cues from countries like Singapore, netherland known fr recycling, scientific waste disposal

Also a part of SMART city, AMRUT, SDG n Climate goals

Wht shd be the components of a payments system policy

Safety, speed, cost effectiveness, interoperability between interfaces, taking care of the disruptive technologies such as cryptocurrency and also blockchain technology. Focus shd be on generating awareness, spreading digital literacy and Internet penetration to allow maximum coverage

Features of PCPNDT Act; Why Section 22 in news recently?

PCPNDT Act- It prohibits sex selection before or after conception

Offences under this act include

- Sale, distribution n promotion of sex detection ultrasound machines
- Communicating the sex of the foetus to pregnant woman or relatives thru signs, written or verbal means
- Advertising sex selection n detection
- Use of US machines for any purpose other than those mentioned in the act such as detecting malformations, abnormalities etc

SECTION 22 OF PCPNDT :-

Section 22 of the PCPNDT Act pertains to prohibition of advertisements relating to pre-natal determination of sex and punishment for contravention.

Court's ruling

- The court ordered that the search engines "shall appoint their 'In-House Expert Body' which shall take steps to see that if any words or any key words that can be shown on the Internet which has the potentiality to go counter to Section 22 of the 1994 Act, should be deleted forthwith."
- It also said that the in-house expert body "shall on its own understanding" delete anything that violates the letter and spirit of language of Section 22 of the 1994 Act.

- In case of doubt, they are free to approach the Ministry's nodal agency and be guided by the latter.

6) What are organoids? How they are created and what are their applications? Discuss.

Ans- Stem cell is a cell that can be used to differentiate into diff types of body parts or organs

Organoids r miniaturised n simplified version of organs which r created in artificial conditions using stem cells. These stem cells can be embryonic or even those derived from adult stem cells.

Method of creation- developed in a 3D media, stem cells form embryo type bodies; these r then treated to make them replicate n produce desired organoids.

Apps- landmark in future organ transplantation; in studying anatomy of body in minute details; used fr testing drugs etc

STEM CELLS- can be embryonic or adult organs stem cells (found in organs of adults such as in brain, bone marrow etc) n pluripotent stem cells- means a normal cell induced to bcm a stem cell

Haplo banks r places which store embryonic stem cells in expectation of future use, eg in cord cell banking

Q- Why despite using similar tech as others do, our trains r nt able to run at 130-150 mph?

Overutilisation on most of d tracks leaves little or no time to repair n maintenance

What is Hidden Hunger?- Deficiency of vital nutrients in diet

Elephants destroy crops every yr, lead to man animal conflicts, 500 humans n 100 elephants r lost due to conflicts pa; what to do to stop them frm straying into human habitations?

- Planting crops which they dont like eg: tobacco, chilli especially in outer regions
- Local measures like barbed wire fencing of fields, scarecrows etc
- Restore the elephant corridors, rejuvenate d vegetation so that their need to stray into nearby areas reduces
- Technology can cm to rescue, In telangana villages, an app based monitoring mechanism ws used which proved quite useful in tracing elephant movements, warning ppl of their arrival n they cd tk apt steps to save crops n human lives

Payment of Gratuity (Amendment) Bill, 2017

Increases the ceiling on gratuity to 20 lacs which ws 10 lacs earlier; To mk it at par with Govt employees for pvt sector employees . 7th Pay comm had revised gratuity to 20 lacs, so need to revise fr pvt sector too.

Will provide social security to ppl after retirement, whether due to superannuation or physical disablement

The present upper ceiling on gratuity amount under the Act is Rs. 10 Lakh. The provisions for Central Government employees under Central Civil Services (Pension) Rules, 1972 with regard to gratuity are also similar. Before implementation of 7th Central Pay Commission, the ceiling under CCS (Pension) Rules, 1972 was Rs. 10 Lakh. However, with implementation of 7th Central Pay Commission, in case of Government servants, the ceiling now is Rs. 20 Lakhs effective from 1.1.2016.

CASSINI-HUYGENS mission to Saturn's moon TITAN

Huygens was the lander on moon and Cassini made several rounds of the moon before now disintegrating into its atmosphere....Importance- It was first landing ever achieved in outer space; it found reactions happening beneath icy surface; it found features like sea, rains and wind; ITS hospitable

Q- 4) What is an orphan drug? It is said that there is a need for a nationwide policy on the treatment of rare diseases that incentivizes the development of orphan drugs. Elaborate.
Ans- Orphan drugs are the drugs used of treating or diagnosing for rare diseases. Pharmaceutical companies, envisaging poor demand do not commercially develop them.

There is a need for nationwide policy as

1. **Right to health and accessibility to healthcare** as mentioned in the constitution under the **articles 21, 38 and 46**. So state has the duty to ensure that a person has access to affordable healthcare.
2. **Insurance companies exclude rare diseases** from coverage. This puts the onus of very expensive treatments on the patients.
3. Due to **lack of economies of scale and monopoly of the pharmaceutical companies** the drugs are priced at exorbitant rates which are not affordable in a country like India without insurance.

Way forward

1. A **comprehensive drug policy** on orphan drugs is needed which can include benefits like **tax breaks, shorter clinical trials, exclusivity and funding among others**
2. The Insurance Regulatory and Development Authority should **reconsider its exclusion of genetic diseases from coverage** so that wider healthcare coverage is possible.
3. **Rare disease coverage under CSR, Companies Act** should be promoted.

Cue can be taken from Karnataka which has already put in place a policy on rare diseases. A nationwide policy would go a long way in ensuring that people with rare diseases are not left behind.

FDCs- fixed dose combination drugs are the ones which contain 2 or more drugs in single pill

- To improve patient compliance but adverse impacts include- organ failures, serious side effects and also AMR

Inequality in India

- Thomas Piketty says inequality at its highest level since pre independence times (1922)
 - Growth in China has been more egalitarian (possibly due to Mao revolution impact)
- Okay since Kuznets curve also predicts the same...but has severe implications for society
- Can cause social political and economic instability
 - Growth would be unsustainable
 - Social unrest and chaos could erupt- Naxalism was an outcome of inequality only

Phillips curve? Can it be used to project inflation?

- Inverse relationship between Inflation and Unemployment. **with economic growth comes inflation, which in turn should lead to more jobs and less unemployment.**
Why?...Because when wages are lower, workers refuse to accept such low wages, so unemployment goes up at low inflation levels...Contrary, when wages are high due to inflation (even if nominal wage is high and real wage is low), it tricks them into accepting wages...thus unemployment goes down.

But, loose monetary policy could increase money supply and inflation; Yet structural problems in economy could keep jobs down...leading to inflation and high unemployment

It has been found that even when wages are low, people are ready to work....So wages are flexible, not as rigid as assumed by Phillips

So, proved wrong during 70s when stagflation occurred. So market was stagnant (poor employment levels) and yet inflation was high.

BULLET Train, how does it lead to economic growth for India? ...

Economic- jobs creation, boost to construction sector, domino effect on logistics, warehousing, housing projects on the way; fillip to economic activity and help attract investments driven by high speed connectivity

Ecological- reduce carbon footprint by promoting a cleaner mode of transportation

Capacity building and training- training institutions at vadodara, help build capacity; experience from our officials in managing such a large project...both will come handy in future high speed projects

Symbolic- India would be seen as a country with high tech infrastructure, adds to soft power

Strategic- brings India and Japan closer..India chose Japan despite a cheaper Chinese option availability

- Create large no of jobs in construction sector. Construction will produce positive impact on steel, cement n infra sector
- Will give a boost to Mk in India which is one of the stated objectives of this project. This in turn will create mr jobs
- Improved infra n connectivity will help attract investment in India
- Faster n convenient movement of ppl, services n goods will boost the economic activity in the regions connected. Domino effect on growth of logistics, warehousing, industrial units n housing along d route. Greater economic activity will increase her economic influence in the region
- India will be getting access to cutting edge technology too
- Promote capacity building- Eg HS Rail training institute coming up at Vadodara, that will provide assistance to other high speed projects in India. Also, managing a project of this size n oplexity will be a great experience builder fr indian officials
- Reduce carbon footprint given high traffic density on this route (Cleaner energy, reduce the dependence on oil), ppl wd prefer to travel via faster mode
- Cheap loans at near zero rate, will help in cost savings fr India

However, drawbacks are:

- Its been successful on only high density routes, else cd end up as loss making
- High ticket costs cd lower affordability n thus usage of the bullet train

All over the world hv been highly successful

Q- Why Credit Rating Agencies shd be regulated?

CRA rates creditworthiness of a security or the issuer of security. (it assesses their ability to repay their liabilities). Give egs...Fitch icra Moody Care

They shd be regulated because: mk headings-----customers.....CR firms,.....Companies.....Country

- Regulation is imp to protect interests of investors who go by these ratings in making investment decisions
- Their ratings influence firms' ability to raise debt at low cost
- Since most CRAs r based out of India, they can be used as a geopolitical tool to influence investments in an economy
- FPIs mk decisions on these ratings and these FPIs r imp source of BoP fr a country
- There exists an imp incentive fr CRAs to give higher rating to their clients as it helps them get mr business. Often these very firms r providing consultancy services also to the clients. Clients wd want to pay mr to them fr getting better rating

Regulation helps ensure objective, impartial n transparent functioning of CRAs

Therefore SEBI hs introduced rules to regulate them such as stipulated 5 yrs of experience fr promoters of CRAs, min net worth requirements and also set upper limit fr crossholdings between CRAs,

Negative Implications of regulation: cd curb competition in an already monopolistic mkt

Waterways development

National Waterways Act 2016 aims to promote n develop waterways in india as a cost efficient n eco friendly means of transportation.

- Clubbed 5 waterways established thru 5 individual acts earlier

- It set up 106 more WWS in one go, taking the total waterways to 111
- It sets up NAWA as the nodal body to regulate n develop waterways

Opportunity

- Large no of rivers n canals in the country offer a good opportunity
- Logistics cost in India thru roads n railways is high
- This is an eco friendly n Fuel efficient
- cheaper alternative to road transport n faster too.....decongestion on roads
- dsnt require construction or maintenance like roads do, though other infra is reqd
- opportunity to generate millions of jobs
- N for states, to boost their revenues
- Cruise, tourism n passenger traffic potential is also there

How shd be done?

- Collection of relevant data on seasonal flows in rivers n canals
- Coordinating the release of water from barrages to ensure navigable width n depth of water in waterbodies
- In case of mutipurpose projects, navigation as an opportunity to be kept in mind in the initial stages only
- Construction of robust infra- barrages, terminals procuring mechanised boats etc
- Arranging fr regular dredging n desilting
- Use of technology (RIS) to ensure non congestion, free flow of traffic n prevention of accidents

Probs

- Paucity of funds, can be collected thru
 - o Clean energy fund
 - o Road cess (applied on high speed diesel n petrol)
- Rivers r navigable only in particular seasons when flow is above minimum threshold
- Special protection n care will be required during flooding periods

Imp of Central Road Fund (Amendment) Bill- at present cess collected on high speed diesel n petrol goes to NHA n states. This is to be used fr development of national n state highways n rural roads.

The amendment seeks to allocate a part (2.5%) of the cess towards national waterway dev. This will be given to NAWA. Will translate into 2k cr roughly

Significance of this: write the benefits of the NWs as mentioned abv

What are REITs?

REITs are similar to mutual funds. While mutual funds provide for an opportunity to invest in equity stocks, REITs allow one to invest in income-generating real estate assets.

How does an REIT work?

REITs raise funds from a large number of investors and directly invest that sum in income-generating real estate properties (which could be offices, residential apartments, shopping centres, hotels and warehouses). The trusts are listed in stock exchanges so that investors can buy units in the trust.

White collar crimes- financially motivated non violent crimes conducted by professionals. Egs: money laundering, shell companies, ponzi schemes, fudging of accounts, insider trading etc.

The law ministry has given its concurrence to **the draft Fugitive Economic Offenders bill** that will give powers to the government to confiscate property of economic offenders and defaulters who flee India.

Benefits

- It will deter the economic offenders from taking the easy route of fleeing the country to avoid arrest. Their fleeing causes probs like
 - o loss of time of authorities in convincing foreign govts to extradite the culprit
 - o Undermines the rule of law
 - o Wastage of court's time n efforts
- Will be applicable in case of economic offence involving 100 cr or more loss

Predatory Journalism- publishing research findings in fake journals, these do not have any peer review mechanism, they do not enjoy legitimacy in the scientific community.

Why India does not consider China market economy?

India considers Chinese firms as operating in a non-market economy due to the significant control of the state in firms' operations and input factors such as raw material, power, land, and labour.

China is known for keeping its currency devalued, US called it currency manipulator

For these reasons India imposes ADD on Chinese products.

India is justified because- India's action is based on rules accepted by WTO, India does it not against China only but on the basis of the merits of the case- any other country that might be tampering the prices eg Korea n Japan ke against bhi lagayi thi ADD. Besides, India is known for playing by the rules but China violates the set norms

National Steel Policy 2017- increase per capita steel consumption to 160 kg by 2030; housing, auto n infra sectors to be biggest consumers, reduce dependence on imported coal, invest in R&D, increase efficiency to reduce energy intensity

National Strategic Partnership Model: fr jt production to boost Mk in India n indigenisation of defence parts, basis dhirendra singh committee...

Regulatory bodies in India	Sector	Functions
Telecom Regulatory Authority of India	Telecommunication and Tariffs	To make regulations to ease competition and enhance the efficiency in the operation of telecommunication services
The Competition Commission of India	Company affairs	To protect the interest of consumers, prevent some practices having harmful effect on competition
Securities and Exchange Board of India	Securities (Stock) and Capital Market	To safeguard the interests of investors and to regulate the securities market.
Food Safety and Standards Authority of India	Food industry	To ensure the food quality, to watch and regulate the processing, manufacture, distribution, sale and import of food.
Medical Council of India	Medical education	To regulate and set up high and uniform standards of medical education
Reserve Bank of India	Banking and Monetary regulations	It executes multiple functions as a custodian to regulate all the banking and the monetary function in country
Insurance Regulatory and Development Authority	Insurance	To regulate and enhance insurance business and reinsurance business in India.
National Bank for Agriculture and Rural Development	Financing Rural Development	Functions as a supreme body for catering the credit needs of all types of rural development and agricultural

Central Board of Film Certification	Certification and Censorship	To regulate and monitor the public exhibition of movies.
Pension Fund Regulatory and Development Authority	Pension and welfare	To regulate promote and develop the pension sector in the country.

Central electricity regulatory commission

TRAI- regulatory body n TDSAT- adjudicatory body

River linking project

One of the negatives-

Geological- Rivers change their course every 100 yrs or so, if rivers change their course after the project is completed, it wd be a massive waste of time n funds

Mihir Shah committee suggested that non flooding of downstream areas wd result in non deposition of rich fertile alluvium on land, adversely impacting soil fertility

Adverse impact on corridors between forests, cd lead to genetic depression among animals n affect their survivability

Impact on biodiversity in rivers as well as oceans

Quantum Computing

Typical computer stores info in binary states ie BITS (0,1), Quantum computing uses concepts of quantum physics n stores information in the form of multiple states **qubits**, instead of binary only. V fast, high speed of processing.

Interesting property is that all these levels interact with one another, if one tries to gain unauthorised access to information, he wd end up destroying it

DST is planning to fund into quantum computing

USES of Quantum computing- safe satellite communication lines, safe military communications, personalised marketing to fit customers' specific interests; can be used in elections propaganda to suit unique voter profile; space technology to discover new patterns, space mapping can be better analysed using these computers; biotechnology uses- ABR, genetic engineering

Saubhagya- Free electricity scheme to poor

DMIC- Del Mum Industrial corridor, passes thru 6 states

Aim- to create a mega infra thru generation of mfg n investment clusters across 6 states

Japan is providing tech n financial support

Fiscal consolidation refers to the reduction in fiscal deficit which means increase in revenues and **proper alignment of expenses** (meaning increase in capital expenditure n decrease in revenue expenditure).

1. Civil Aviation Policy

□ The Policy aims at:

- o India to become **3rd largest civil aviation market by 2022 from 9th.**
- o **Enhancing ease of doing business** through deregulation, simplified procedures and e-governance.
- o **Promoting 'Make in India'** in Civil Aviation Sector.

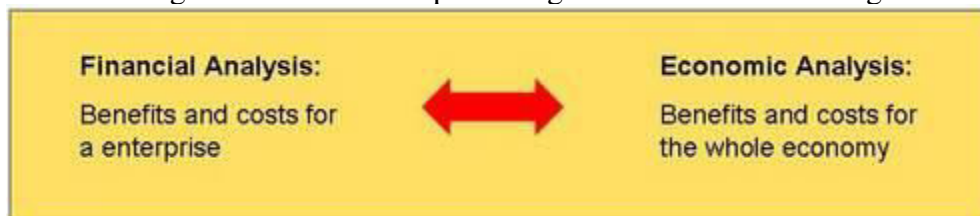
□ WHAT'S THERE IN THE POLICY?

- o **Capping of fare:** Rs 1,200 for 30 minutes and Rs 2,500 for hour-long flights.
- o **2% levy on all air tickets to fund regional connectivity scheme** and providing viability gap funding for airlines to encourage operations on regional routes.
- o The government will look to develop inactive 350 airports
- o India will have an **open-sky policy** for countries beyond the 5,000-km radius from Delhi on a reciprocal basis.
- o **5/20 rule scrapped.** Under the new rules, airlines must still have 20 planes before they can fly internationally, but no longer need to have operated for five years.

UDAN- a mkt based RCS to promote connectivity to unserved n underserved regions

Features

- 2500 per hour cost
- 80:20 split centre n state
- Govt to finance thru VGF (20% by central govt +20% by ministry) (done fr economically viable bt financially non viable projects), will charge levies on regional flights
- Connect regions bw 200 to 800 Km
- Atleast 50% of seats to be reserved fr RCS
- State govt to ensure no airport charges n oder concessions r given



Pradhan mantri Kaushal Vikas Yojna-15-35 yr olds, training n skilling, cash component on completion of training

PM Yuva Yojna- entrepreneurship promote thru higher education instis, ITIs n MOOCs

Janni Suraksha Yojna- 100% CSS

- Promote institutional deliveries....performance incentive fr ASHA workers
- Hs brt down socio economic disparity, insti deliveries gone up to 80%

MDM wali ka naam hai- Matritva Vandan Yojna...6k benefit under NFSA

Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA) - essential checkups during pregnancy From **third to sixth month of pregnancy.**

Swadesh Darshan Scheme

☐ The **Ministry of Tourism** has launched the **Swadesh Darshan Scheme** in 2014-15 with an aim to **develop theme based tourist circuits** in the country.

☐ Synergizing efforts to **focus on needs and concerns of all stakeholders** and enhance **employment opportunities.**

☐ **Thirteen thematic circuits** have been identified, for development namely:

North-East India Circuit, Buddhist Circuit, Himalayan Circuit, Coastal Circuit, Krishna Circuit, Desert Circuit, Tribal Circuit, Eco Circuit, Wildlife Circuit, Rural Circuit, Spiritual Circuit, Ramayana Circuit and Heritage Circuit.

Heritage Infrastructure Development and Augmentation Yojana (HRIDAY)

12 cities chosen such as Ajmer amritsar Mathura Varanasi Puri Dwarika etc
Preservtion...beautification.....restoration.....torusim promotion

SMART hai so smart things like e governance, SPV route, foreign govts participation- US UK Japan Germany etc,

around 100 cities in the country will be developed.

Bottom-up approach has been the key planning principle under Smart City Mission.

• These cities will be developed to have **basic infrastructure** through assured water and power supply, sanitation and solid waste management, efficient urban mobility and public transport, IT connectivity, e-governance and citizen participation.

Pradhan Mantri Ujjwala Yojana

☐ It aims at providing **Free LPG connections** to **Women from BPL Households.**

☐ The scheme is being implemented by the **Ministry of Petroleum and Natural Gas.**

5 cr connections in 3 yrs.....1600 benefit to get connection.....to be funded thru Give it up savings

National Gas Hub

a trading platform for gas at market-determined price.

☒ A gas hub is a physical point where several gas pipelines come together or intersect.

Benefits---- mkt based price discovery.....will help exploration firms as mkt driven prices..... in line with foreign countries' practice.....

Mining Surveillance System (MSS)

- Using cartosat observations

HIMANSH

☒ It is India's **Remote and High-Altitude research Station** opened recently in Himalaya.

☒ To better **study and quantify the Himalayan glacier responses** towards the climate change.

Shyama Prasad Mukherjee rural urban mission RURBAN- replacement of PURA, 300 clusters, each fr 50 cr, convergence of diff schemes, Ministry of rural development

Deendayal Antyodaya Yojana – National Rural Livelihoods Mission -(DAY -RLM)

Promoted thru SHGs....poverty reduction, financial inclusion, livelihood protection

LWEs ke liye SAMADHAN

SAMPADA.....processing etc in villages

SAUBHAGYA.....free electricity to poor

Fr Tribals-.....VANJEEVAN.....**livelihood mapping, skill gap analysis**

5. Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013

☒ The objectives of 2013 Act:

- **Eliminate the insanitary latrines.**
- **Prohibit:-**
 - Employment as Manual Scavengers
 - Hazardous manual cleaning of sewer and septic tanks
- Survey of Manual Scavengers and their rehabilitation

Essential Services Maintenance Act (ESMA)

☒ The Essential Services Maintenance Act (ESMA) is an act of Parliament of India. **It is a central law.**

☒ It was established to **ensure the delivery of certain services**, which if obstructed would affect the normal life of the people. These include services like **public transport (bus services), health services (doctors and hospitals).**

☒ Although it is a very powerful law, **its execution rests entirely on the discretion of the State government. Each state** in the union of India hence **has a separate state Essential Services Maintenance Act**

Sendai Framework

Sendai Framework for Disaster Risk Reduction 2015-2030” was adopted during the **Third UN World Conference on Disaster Risk Reduction** held in Sendai, Japan in March, **2015.** (United Nations Office for Disaster Risk Reduction (UNISDR))

☒ The Framework is for 15-year. It is a **voluntary and non-binding agreement** which recognizes that **the State has the primary role to reduce disaster risk** but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.

☒ - Is successor instrument to the **Hyogo Framework** for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters.

☒ **The Four Priorities for Action under the Framework: (USIP..understanding D. risk, Strengthen risk governance, invest in DM, Preparedness)**

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

Seven Global Targets in the Sendai Framework for Disaster Risk Reduction	
(a)	Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rate in the decade 2020-2030 compared to the period 2005-2015;
(b)	Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020-2030 compared to the period 2005-2015;
(c)	Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030;
(d)	Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030;
(e)	Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020;
(f)	Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030;
(g)	Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.

10. Asian Ministerial Conference on Housing n Urban Dev

Urban Plus Approach ws advocated

New urban Agenda ws d theme of **United Nations-Habitat III conference in Quito** in October 2016.

India hs bcm a member of IVI- to develop vaccines fr infectious diseases (especially fr children), initially set up by UN, nw independent

Also a member of CEPI, launched at WEF, to develop drugs fr diseases that can turn into epidemics eg Zika did....Public as well as Pvt (set up bhi to pvt type body ne kiya hai na, so pvt players too)... **Coalition for Epidemic Preparedness Innovations**

Orphan drugs- those used fr rare diseases

National Green Highway Mission.....

National green energy corridor

1st gen biofuel- using sugars (eg frm sugarcane molasses) n oils like Neem, Jatropha.....2nd Gen biofuel (non edible plant products) is that uses woody crops.....3rd gen is that uses algae...4th gen is that uses carbon sequestration

Bio refinery in Bathinda (2nd generation).....will help produce ethanol (renewable source of energy)..can be used to process rice straw (no need of burning).....will help meet ethanol blending program of 10%

Solid Waste Mgmt Rules 2016

- Responsibility of waste generator to segregate into 3 – wet dry n hazardous
- RWAs, hotels etc also hv to hv onsite waste collection and mgmt
- Hierarchy of waste treatment- landfill is the last resort
- Ragpickers to be integrated into the formal system
- Can be fined if do nt segregate.....states to decide the fine

BHIM

- Can work on basic phones- cz supports USSD (**Unstructured Supplementary Service Data**)
- Smartphones too- supports QR code....so no need of swiping machine
- Developed by NPCI

QR code

A 2D matrix- a machine readable bar code (black n white squares). It stores url or oder information.....much mr data than can be stored in a regular bar code...works even if partially damaged...error correction capability

Benami Transactions (Prohibition) Amendment Act, 2016

- o The Benami transactions are those transactions in which the real beneficiary is not the person in whose name the transaction {particularly purchase of property} has been done.
- o Benami property may include assets of any kind including movable, immovable, tangible, intangible
- As per the Act, properties held benami are liable for confiscation by the government, without payment of compensation.

The 2016 Act seeks to amend and strengthen Benami Transaction (Prohibition) Act, 1988. **(20 saal se no rules were framed)- correct baat**

Wats bioeconomy n wat hv we dn fr this?

Bio economy refers to sustainable use of biological resources fr food, energy n oder needs...a new concept...australia, US n UK r working on this

India launched it in Meghalaya

M-SIPS policy

Launched in 2012...promote electronics mfg in country

Modified further nw...GOAL is to be a **net zero importer** of electronics by 2020

Amended Technology Upgradation Fund Scheme (ATUFS) fr export promotion of textiles (apparels) n geo textiles (sunrise sector)....job promotion.....funds to be given on evidence basis ie when jobs hv been generated

Google tax / Equalisation Levy

☑ It will apply to **payments for online advertisements made by Indian business entities to non-residents** (such as Google, Yahoo, Twitter, Facebook) where the aggregate payment in a financial year to a non-resident exceeds Rs 1 lakh.

☑ **Only B2B transactions** attract this levy.

☑ **India became the first country to impose equalisation levy**, popularly being called Google Tax

Small Finance Banks (small small needs of small sections)(25 50 75 100)

They r banks specially set up with the objective of catering to unserved n underserved sections of society such as small n marginal farmers, artisans, small businesses, unorganised sector entities etc.

Wat they can do?

- Accept deposits n lend
- Provide other financial products such as insurance n MFs
- 25 lacs tak ke 50% loans
- 75% lending towards PSL
- Shd hv 100% capital

What they can't?

- Cant lend to large corporates

Payment Banks eg Airtel, Paytm, India Post

Not like regular banks, main aim is financial inclusion

No LENDING (jabki small finance is fr finance),

Mainly in remittance services n simple financial products like MFs

Accept deposits of up to 1 lac

SLR requirement- 75% of demand deposits to be held in SLR securities

only debit card nt credit card

PONJI SCHEME-

A Ponzi can be any scheme in which the **returns to promised to older investors are paid from the money collected from new investors**, and not actual profits from the investments.

☑ Ponzi schemes are banned under the **Prize Chit and Money Circulation (Banning) Act, 1978** and the **State government concerned is the enforcement agency**.

☑ Though it is a Central Act, the respective State governments are the enforcement agency of this law.

☑ Ponzi schemes **do not fall under the regulatory purview of SEBI**.

☑ The Union Government has issued model guidelines for states titled the **Direct Selling Guidelines 2016 framework** to regulate direct selling and multi-level marketing businesses to protect consumers from Ponzi frauds. These rules prevent collection of upfront fee from marketing agents (sellers)

Scramjet and Cryogenic

Scramjet engine tested successfully recently.....air breathing propulsion system.....uses atmospheric oxygen.....which makes it light.....can be used only during atmospheric stages.....eco friendly as waste is water only.....NOMOVING PARTS

Cryogenic is a diff technology...cooling H n O to extremely low temps.....this is extremely useful cz reduces dependence on foreign countries fr heavy weight launches, >4k Kg.....India joins elite club with this.....used it in GSLV Mark III..... **Cryogenic engines are used in the upper stage** of a rocket launch as they provide the maximum thrust to a launcher vehicle.

PSLV XL launched 104 satellites

3D printing- additive mfg in which layers r added one by one under computer control to produce 3D objects

Project loon.....google.....need an antenna to receive the signal.....today being used fr weather prediction too.....along with of course internet data delivery.....solar powered
FB- Aquila.....solar powered
Microsoft- whitefi

Li Fi- Light fidelity...bulb..uses visible light to transmit data...bt line of communication.....sulight etc can interfere.....Benefits- Green energy since uses less power, less pollution, mr secure since low range.....can be used where radio waves cause interference such as flights, petrol pumps

Raman effect- wavelength change when passes thru a medium

Doppler effect- wavelength or freq change when relative movement of source n observer

Medicine nobel.....autophagy....cell recycling mechanism.....hw do they use waste cellular parts to produce energy.....Imp cz prevents cancer, diabetes etc

Chemistry novel.....molecular machines.....molecules that acts as machines,,,,,,can be programmed to perform desired tasks.....new material, sensors or storage systems

CRISPR- (clustered regularly interspaced palindromic repeat) sequence of DNA that regulates Cas9 enzyme to edit the genome. This enzyme can cut portions of DNA seq and replace them with new ones... This tech has been used to store movie into DNA of a bacteria. Wen bacteria multiplied, the movie multiplied too.....all world data can be stored into a Kg of DNA

FCRA- by Home ministry

FEMA- by ED, Fin Ministry

NSEL Scam- FTIL owns 99.99% stake in nsel. They sold forward contracts with a settlement cycle of 30-40 days, while Govt allows only 1 day forward contracts. Secondly, most of them did nt hv an underlying asset. Its believed that warehouse receipts hv been issued by a grp copamny r fake.

Merger of NSEL-FTIL is solution.....opposed by FTIL.....technically wrong cz 2 separate legal entities they r...although logically, FTIL owns 99.99% share, so responsible....

FMC ws merged with SEBI

Pellet gun hv been replaced with PAVA- chilly based pd.....other options r use paper, plastic etc to mk pellet guns instead of metal, other methods r tazer guns, tear gas etc

Chemical weapons- sarin, chlorine, phosgene, mustard gas

Antisense Technology- Genetic engineering using RNA.....protein synthesis is inhibited by gene silencing using the RNA modification.....cancer n AIDS treatment

Tax on agriculture.....can enhance access of farmers to credit because verified source of income.....

Probs- anti populist measure...risks being seen as anti-poor.....amendment needed in constitution as agri is a state subject

What is e-governance?

Use of ICT to improve governance..

Biotechnology- Use of biological processes or organisms to manufacture products that improve quality of life of humans

Rustam n Lakshay r eggs of indigenous UAVs

Preponing of BS VI norms implementation fr **2020 to 2018 fr** Delhi (rest places 2020 only)- hs following concerns (already we had bypassed BS 4 stage n Shifted BS 3 to BS 5)

Financial- smaller cars preferred in India- difficult to fit in these cars, infra upgradatiocost of vehicles is going to go up by upto Rs 2 lac as cos need to recoup investments made to transition to BS 6

Technological- Automakers need to make design changes to engines – incorporate Diesel particulate matter and selective catalytic reduction. Oil firms will need to mkinfra changes, , testing which takes 4-5 yrs. These changes need to be dn in a short span of time

Practical- hw to manage entry of inter state vehicles which will be running on BS 5 nroms. Also, it wd be inconvenient fr firms to manufacture vehicles fr only one city

Philanthropy- Co Impact Initiative

Co Impact initiative was started by Bill Gates and Warren Buffet who urge other individuals to come forward n pledge philanthropic support. In India also, this initiave has found imp takers such as Nandan Nilekani. Bain's "Indian Philanthropy Report 2017" notes that individual philanthropists contributed Rs36,000 crore in 2017, a sixfold increase from Rs6,000 crore in 2011.

Onion Prices have dropped hugely, hw to tackle?

- **Trade policy interventions-** promoting exports in case of oversupply and vice versa, this shd be done in advance once advance estimates of production r available.
- Storage- modern cold storage facilities shd be promoted
- Processing- dehydrating the onions n promoting their usage in restaurnats, fast food chains etc and promoting their exports is another imp thing

7) What do you understand by solar irrigation? Examine the benefits of the Solar Power as a Remunerative Crop (SPaRC) model compared to other solar irrigation models. (150 Words)

Ans- Using solar power to draw water for irrigation instead of diesel pumps or electricity

Sparc Model means solar energy based pumps r used in farms fr irrigation n surplus electricity generated is sold to disoms so solar energy generates income fr d farmer, acts like a cash crop.

Benefits- encourages efficient n non exploitative use of water n electricity as ay surplus energy generates income, else in case of subsidised electricity, exploitation of water n electricity takes place. It is in line with doubling the farmer income goal. Subsidy burden of Govt will reduce

One drawback is that solar pumps require land fr installation, that leaves less land available fr farming. A solution is to promote solar tree like solar panels which use less land n mk use of vertical space.

Other models of solar energy use are- Central solar power plant in village connected to grid- benefit is subsidy burden of Govt will go down, environmental friendly approach, discoms can buy surplus electricity and meet their RPO obligations. BUT it ds nt encourage efficient use of water n electricity

SMART GRID- smart grid is one that makes use of digital technology that allows 2 way communication bw user n utility firm, greater efficiency by quickly managing defects, problems

Fertiliser subsidies- Diversion problem (due to low prices mainly), overuse problem despite NBS cz Urea price is amng lowest in d world which promotes its overuse. Urea is priced on cost based pricing method against NBS fr oders, it promotes inefficient production, they dont feel motivated to reduce inefficiencies.

Steps taken in past:- Soil Health Crd (SHC), NBS, Neem Coated Urea

Now need is to- DBT of subsidies and correcting urea pricing..let it be driven by Demad n supply

Canalisation is monopolisation of imports/exports eg: only few firms r allowed to import fertilliser....bcz fear that sm traders wr under invoicing their trade; improvement in bargaining power by limiting trade to sm big state corporations

[6\) A National Technical Advisory Group on Immunisation \(NTAGI\) has proposed that a vaccine against the human papillomavirus \(HPV\), which causes cervical cancer, be introduced in India's Universal Immunisation Programme \(UIP\). Discuss the issues involved in introduction of HPV vaccine.](#)

Ans- **Issues- efficacy- vaccine works only against a few of over 100 strains of virus; Cost- is upward of 2k fr a single shot n 3 shots r needed per girl; rate of incidence- is on decline over 3 decades as hygiene conditions hv improved; Side effects r also there**

Y introduce?- Australia which introduced hs one of the lowest cervical cancer incidences in the world, Who says no conclusive evidence of side effects

- Number of people living with the disease- 2.5 million
- Every year, new cancer patients registered: Over 7 lakh
- Cancer-related deaths: 5,56,400

Essential commodities Act is related to agriculture wherein there are limits to private stockholding

ESMA is applicable to medical profession and transportation to ensure smooth continuance of essential services. Invoked recently by Rajasthan Govt

Q- Focus on saving tigers in turn has led to neglect of so many other species. Comment

Ans- Tiger being a charismatic species, in turn leads to protection of other species as well. But this extra focus on one species only can result in neglect of smaller species as well. This is reflected in:

- Hangul- Bhakarwal (Gujjars (newspaper)) encroachment in to habitat of Hangul in Dachigam sanctuary
- Sangai Deer- Habitat fragmentation in Loktak lake
- Great Indian Bustard- state bird of Rajasthan, Pokhran nuclear test (74 n 98) n then power lines
- Pigmy Hog- disappearance of Terai grasslands
- Malabar Civet- habitat destruction
- Pangolin- most hunted mammal for its scales having medicinal value and its meat being a delicacy in China

So, Need is to make efforts towards protection based on threat to survival n nt merely focusing on few majestic species

B N Srikrishna committee appointed to propose recommendations on data protection. It has released white paper which talks about

- Setting up of a data protection authority
- Law shd be applicable to both govt n pvt data collectors
- Fines against violators and direct compensation to complainants

GDP (consumer perspective) vs GVA (producer perspective)

$GVA = GDP + \text{subsidies} - \text{taxes}$

Both measure final value of goods n services produced in an economy. GVA takes away the variations due to tax n subsidies (tax collection improvement due to better compliance may signal an increase in output even when there is none), GVA is better measure for policymakers to decide which sector needs incentives etc. while GDP comes handy in making cross country comparisons. GVA shows economic activity from producer side/supply side while GDP gives consumer side, $GDP = C + I$ (investment) + G (Govt spending) + $X - M$

FoF means pooling in money as a fund to invest in a variety of funds eg NIIIF will pool in money from various investors to invest in no of infra projects. So, instead of direct investment in bond, security etc, investors r investing money in a fund which in turn will invest in diff assets

As per CBDT released data, **4 cr Individuals filed returns, out of this- 2.9 cr showed zero taxable income (5 lacs)** and remaining 1 cr paid taxes in 2014-15

WRT Transgender Bill or otherwise u can say- poor implementation/enforcement of laws is a concern For eg: Kochi Metro allowed 3rd gender to be a part of workforce but many of those who got d job were

denied accomodation in the neighbourhood and had to ultimately leave d job....so effective implementation is the key and also public perception needs to undergo a change..education can be the best enabler here.

Over 40% of Indonesian capital is under sea today. (Jakarta)