

# 2016

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**General Studies - 3**

**Topic:** Developments in S&T and their applications; Awareness in Space

5) In your opinion, what efforts are required by various nations, space agencies and companies to send humans to Mars? What are the benefits of such mission? If India can afford such a mission technologically and financially, should it send humans to Mars? Critically comment. (200 Words)

Space and the interstitial bodies have always been a subject of research by various space stations and organisations around the world. While humans have dreamed about going to Mars practically since it was discovered, an actual mission in the foreseeable future comprising of humans in the mission may turn to reality by the following efforts :

1) Finance is the major problem. Collaboration with private companies who have been presenting more audacious plans to get there. Clearly, monetary assistance is the first effort that needs to be taken.

2) Lack of technology for the same is a hurdle. Minds from around the world would need to work together for this.

3) The fact that we can't properly store the necessary fuel long enough for a Mars trip, we don't yet have a vehicle capable of landing people on the Martian surface, and we aren't entirely sure what it will take to keep them alive once there. For this we can work on technology to build a "monster rocket" capable of getting large, heavy payloads off the Earth + technology to grow food and store fuel in the space.

Benefits of such mission :

1) The topography, land composition samples and water from that place may help scientists to discover if the place had a life existing there ever.

2) Some minerals which are yet to be discovered in the planet earth may be found there. Those may have importance to human kind.

3) The discoveries there can be used to improve quality of life on earth.

4) Another reason we should go to Mars is to galvanize the next generation of space explorers, to take up space studies as a subject.

5) Each country would want to work on this to establish reputation on earth as being the "MARS CAPITAL".

If India can afford such a mission technologically and financially, it should definitely work for sending people to Mars. The confidence gained after finding water from the

Mars mission will act as a fuel in India's efforts. But this shouldn't be compromised with the lives of the people involved.

**Topic:** Indian economy – planning

6) Critically evaluate the performance of NITI (National Institution of Transforming India) Aayog since its inception. (200 Words)

In a myriad step to replace PC, NITI aayog is aimed to foster better Inter-Ministerial coordination and better Centre-State relations. The institution is serving as a 'think tank', strengthening 'Cooperative Federalism' by recognising 'strong states make a strong nation' and inculcating 'bottom-up' approach for development process.

Though it has been one year in its inception, there have been mixed results regarding its performance.

Positive:

1. It has brought best minds at same platform, containing specialist from different areas, helping government to be an 'enabler' rather than a 'provider of first and last resort'.
2. The aayog has granted specific responsibilities to its members, for instance Task Force to tackle Agriculture Development under Dr. Arvind Panagariya, Revamping Indian Railways under Bibek Debroy etc.
3. Quantified work on the basis of priorities by forming sub-group of CM on revamping CSS, Swachh Bharat and Skill Development; focusing in specified direction.
4. Aayog is awarded a five star rating by the Bureau of Energy Efficiency (BEE) in pioneering the changes in Government Buildings.

Lagging areas:

1. The Aayog is not given full-autonomy because of which delays have been there, unlike EC (constitutional body) which have shown fulfilling results due to its independent structure.
2. Many states are still not attending Aayog's meeting showing its incompetence to cooperate with these states.
3. There is lack of competent officers and staff members leaving many posts vacant. Apart from that most officers consider NITI Aayog a punishment posting.

4. There is not a very clear distinction between the roles of NDC, Governing Council and Inter-State Council – which may lead to policy conflict.

On a whole, the institute has proved to be policy dynamo since its formation; bringing lowest level of government (villages) to the forefront in development process.

**Topic:** Disaster management

7) Do you think using army in disaster management operations is an ethical and rational move? Critically comment. (200 Words)

Army's primary role is to defend country from enemies. Using army in relief and rescue operations after a disaster goes against the primary responsibility of defending country.. However involvement of army in disaster management should be seen in fast recovery, operation feasibility and overall service to humanity. By that extension, this is both ethical and rational move.

Why ethical:

-Each human life has a value, be it on the border, in the war or in an earthquake. By using army, every single life saved in a disaster will be valuable. Kant's "life as an end in itself" justifies nobility of army's actions.

-A state is seen as protector of its people. Army is one of its arms which helps in fulfilling that purpose.

-It is just as it is the best way to quickly solve the problem, otherwise delay in relief operation will lead to more casualties which is inhumane and immoral.

Why rational:

-Civil bureaucracy lacks the skill to deal with complex situations.

-A disaster is like a war which needs army like capabilities to deal with.

-It increases civilian-military bonding.

Thus army in a disaster management brings speed, skill, strength and confidence to deal with situations. However certain caveats must be considered:

-Misuse of powers by few army-men which can lead to army-civilian conflict.

-Diverts fund, function and functionaries from defense role to disaster management role.

-Problem of co-ordination with state team.

However these problems are too far-fetched and weighs down against noble cause of public service. Hence involvement of army in disaster management is both ethical and rational.

**Topic:** Basics of cyber security

7) “The overdue initiative to revive NATGRID must therefore be accompanied by action on the even longer-pending need to have effective oversight of intelligence agencies by Parliament or an eminent group.” Explain what is NATGRID and comment on the statement. (200 Words)

What is NATGRID:- The National Intelligence Grid (NATGRID) is a centralised agency connecting databases of core security agencies of the Government of India to collect comprehensive patterns of intelligence that can be readily accessed by intelligence agencies. It was Conceived in the wake of the 2008 Mumbai attacks.

Recently Central government’s decision to revive NATGRID calls for caution and nuanced planning in the way it would be structured.

A lot more planning is needed so as to make it effective and to overcome various lacunae of Intelligence agencies. More thoughts by eminent groups and parliamentarians have to be given on the structure and working of NATGRID, so as to make it more effective.

Why Revival of NATGRID is Necessary:-

- 1) Since in the modern world, Social Media has become like a recruitment field for various non state actors like Terrorists, so information has to be collected about them to make a better fight against them.
- 2) Banking Channels are used by terrorists for Transactions, which should be sealed so as to check their activities.

Why Revival should not be Hasty rather Well Pondered:-

- 1) NATGRID will collect info from 21 sources like Credit cards, visa, banking info etc. With such huge DATA Safety and security of that data becomes a prime issue so that it does not fall in wrong hands.
- 2) As we have seen Earlier in the case of Snowden, How Private information by Intelligence agencies encroaches the Privacy of Individuals.
- 3) Such Huge Data needs huge, better and secure technologies to Handle that data.
- 4) Poor track record of the Indian security and intelligence agencies on individual privacy and liberty must be kept in mind.

Thus on one side Revival of agency like NATGRID is the need of the Hour but it should be well discussed and well mulled over on how to make it more secure, more efficient and more Citizen Friendly(i.e without affecting their privacy and personal space and liberty.)

**Topic:** PDS; Food security

8) In your opinion, what is the biggest weakness of the the public distribution system? Explain why. It is said that PDS works well in regions with low market access, high cereal prices, and high poverty. Do you agree? Discuss. (200 Words)

PDS is an Indian food security system scheme launched in 1997, aims to provide subsidized food and non-food items to India's poor. It is being maintained and procures grains through FCI, a Government-owned corporation.

The biggest weakness in PDS is the “Supply-Chain network” over which FCI functions, procuring food stocks from farmers’ doorsteps and delivering it to poor through ration shops. This has been due to following reasons:

1. Inefficient procurement policy, contractors in the mid of the supply chain are fetching most of the benefits.
2. The cost that it takes to carry food from farmers’ to poor is quite too high, leading to financial crunch in FCI.
3. The TPDS (Targeted PDS) is costly and gives rise to much corruption in between the chain, giving rise to malpractices like pilferage, hoarding etc.
4. Lack of storage facilities like cold storages, warehouses etc.; there has been losses in between the chain due to rotting, rodent attacks etc.

Although there are fallouts in the system but it is rightly said that PDS works well in regions with low market access, high cereal prices, and high poverty due to following reasons:

1. Robust network created through ration shops has helped to reach areas where access to market is not available.
2. During inflation as happened recently with pulses; PDS has proved to be boon for poor to get grains at subsidies rates.
3. Under PDS scheme, each family below the poverty line is eligible for 35 kg of rice or wheat every month, while a household above the poverty line is entitled to 15 kg of food grain on a monthly basis; which has helped in reducing poverty.

Since PDS has been a torch bearer to eliminate poverty it is important to remove bottlenecks as specified by Shanta Kumar HLC by involving PPP models, increasing storage and warehousing facility, using ICT measures etc.

**Topic:** Agriculture issues

6) Identify the major issues agriculture is facing in India and critically analyse if recently launched schemes are able to address these issues. (200 Words)

Since late 80s when Agricultural output reached its peak, we have been waiting for another golden period where our largest employee base delves.

Some of the problems faced are:

- 1) Depletion of Ground water especially in areas of low rainfall caused by excessive use in past.
- 2) Worsened quality of soil due to intense use of nitrogenous fertilizers.
- 3) Widespread illiteracy making people believe in practises like Slash & Burn, they think it enhances productivity.
- 4) Lack of MSP in other important food crops.
- 5) FCI suffering from financial problems due to huge arrears.
- 6) Difficulty in claiming of insurance amounts due to lack of communication & requisite services.
- 7) APMC & traders outlook of exploiting poor farmers.

To address these issues Government has taken several steps:

- 1) Kisan Vikas Patra has been a major success to help Government in financing agricultural technologies.
- 2) Providing Soil Health Cards has started to gain momentum & will show progress in years to come.
- 3) Increased MSP due to successive drought years has given respite.
- 4) DBT scheme has started & has potential to remove financial leakages.
- 5) Shanta Kumar committee has given recommendations to reform FCI, Government is yet to take action.
- 6) Ban by Punjab Government on slash & burn practise.

PM has repeatedly focussed on bringing a Second Green Revolution especially for Eastern India whose vast potential is still untapped, a new initiative must be brought in the same way other sectors have gained importance in the signature style of Government.

**Topic:** Security issues; Environmental pollution

7) “Climate change and terror are connected by a common source: the greed for fossil fuels without fostering liberal democracy.” Critically analyse. (200 Words)

Climate change and terrorism both are threat to humanity, the former for the long term, the latter as an immediate threat.

Climate change also synonymous with global warming is result of excessive use of fossil fuels. This leads to increase emission, increased greenhouse gas effect and ultimately temperature rise.

Terrorism needs financing. Fossil fuels has become a primary source of finance. Recently ISIS has captured many oil fields of Iraq and Syria and are selling crude at much below the market price ( @ 30 \$/bbl). This leads to market capture.

Thus there is a common denominator to climate change and terrorism: the role of fossil fuels. Oil also drives diplomacy and democracy in regions as evident in 1973 oil embargo, Iran-Iraq war, US invasion of Iraq and recent Arab springs. On the name of institutionalizing democracy blatant misuse of power is seen. More often instead of democracy civil war continues. This actually support terrorism as disgruntled communities resort to illegal means. Thus result is different from what was perceived at the onset.

This way fossil fuel has been fueling climate Change and terrorism and burning democracy during the process.

**Topic:** Energy; Pollution

8) A study by the Centre for Science and Environment earlier last year found that India’s coal-powered plants were some of the most inefficient in the world. Discuss the environmental and health cost of their inefficiency. Do you think, to control pollution, such coal plants should be closed permanently? Comment. (200 Words)

Indian thermal power plants are considered to be one of the most inefficient in the world and generate huge emissions with greater usage of coal per output. Such inefficiency can produce the following effects:

Environmental impact:

- 1) Disturbs the equilibrium of gaseous components in atmosphere i.e. greater emissions of Carbon monoxide and carbon dioxide
- 2) Generates heat and thus regions of low atmosphere are formed and bring changes in air flow
- 3) Greater inputs of coal necessitates greater extraction of resource from earth leading to landslides and earthquakes
- 4) Results in climate change which brings changes in rainfall patterns along with greater acid content

Health impact:

- 1) Emissions and fly ash proves lethal to human body and creates respiratory diseases, cardiovascular diseases and premature deaths
- 2) Pollutants can also hamper growth of brain in children

It is being argued that coal based plants should be shut down permanently. However, 1/3rd of the electricity is generated through these plants and a sudden shift to renewable sources of energy can't be made because of technological and financial constraints. In

this regard, it would be better to increase the efficiency of coal plants through adoption of super-critical, ultra-critical, carbon storage and carbon capture technologies to control the health and environmental hazards. Along with the adoption of these technologies, India should also focus on phased adoption of renewable sources like wind and solar to gradually phase out the coal power plants.

**Topic:** Agriculture – marketing

9) The idea of a unified farm market has been floating around since the early 2000s. It was included in the National Policy for Farmers brought out in 2007. How will creation of such market help agriculture? Examine. (200 Words)

Agriculture sector has been riddled with many problems relating to inefficient systems that handle the movement, storage and marketing of food grains. Apart from those, climate vagaries like rainfall deficits etc. compounds the situation minimising total income of farmers.

To streamline the market, government proposed Model APMC Act in 2003 so as to create 'Unified Farm Markets' or 'Mandis' in every state along with participation of private sector, which was also given impetus in NFP 2007. This will help agriculture sector in following manners:

1. It will link agriculture production to market by bringing together farmers, processors, and retailers helping to ensure value addition, minimising wastages and creating employment opportunity particularly in rural areas.
2. Facilitate efforts to increase the level of processing of agricultural and horticultural produce, especially focussing on perishables.
3. Reduce post-harvest losses by maintaining supply chains in sustainable manner.
4. Help in shifting farmers to more market driven and profitable farming activities.
5. With additional income generated to farmers they can shift to more diverse cropping pattern and can also carry non-farm activities like dairying, horticulture etc.
6. Food processing industries will boost through improved quality of food-grains.

Although these mandis have tried to integrate the system but due to varying rules across the states and lack of political will; many APMCs are not working at their adequate levels, ultimately harming farmers. To tame the situation, recent step to create Mega Food Parks (MFPs) have been a win-win move for both the farmers and consumers.

**Topic:** Awareness in IT; Inclusive growth

6) What are the strong arguments that can be made against Facebook's Free Basics initiative? Do you think, if it is implemented, this initiative will empower the poor and help in inclusive growth? Substantiate. (200 Words)

What is Free Basics:-Free Basics is an initiative by Facebook, to provide free access to 'basic' internet services to people who cannot afford internet access right now.

Arguments that can be made against Free Basics Initiative :

- 1) Against the Principle of Net Neutrality by Prioritizing one over other.
- 2) Monopolization in the internet also, FB will dictate what websites can be accessed and what not, thus act as a gatekeeper,
- 3) Will affect the new startups and entrepreneurs therefore affect innovation in India.
- 4) In the long run free basics can be misused for price manipulation for providing same services which once used to be free.
- 5) Data Privacy violation may happen.
- 6) Differential Pricing situation.

There is a Debate that whether Free Basics will Empower Poor and help in Inclusive Growth or Not, Keeping India in Mind FREE BASICS does not seem to be a way of achieving Inclusive Growth and Empowerment.

Why Free Basics is not a way to Achieve Inclusive Growth & Empowerment for Poor:-

- 1) Smartphones are needed to access net, Since many Poor don't have enough money to eat, smartphones and other Internet Conducive phones is a distant dream.
- 2) Most of the Poor household are illiterate and are technically Zero, lack of Technological Know how among poor will defeat the purpose of Free Basics.
- 3) Rural People in Villages and hinterlands are not versed in Hindi/English instead they use their Regional Language ,since most of content of Internet is in standard language , it will not help much.
- 4) For Poor People, Internet is not a basic need instead Food, Water , Electricity , Education, Housing, Banking, Transport etc are, Internet will not provide them these.

Free Basics can bring connectivity , knowledge and other empowerment(as claimed) but only after the above issues are resolved, Food , Water , Education, Housing , Banking and Transport should be the first Priority.

**Topic:** Latest developments in S&T

7) Compare and contrast Li Fi technology with Wi Fi technology. Discuss the advantages of Li Fi and its potential for India. Also examine if it will eventually replace Wi Fi around the world. (200 Words)

Li-Fi is a communication technology which uses visible light spectrum and is also called Visible Light Communication (VLC)

Comparison of Li-Fi with Wi-Fi technology:

-> Wi-Fi uses radio spectrum whereas Li-Fi uses visible light spectrum (and some part of UV and IR spectrum)

-> Wi Fi can't penetrate into water whereas Li Fi can do with ease

-> Speed of Li Fi is 100 times faster than Wi Fi

-> Li Fi can be restricted within opaque structure (like house) but Wi Fi have access even outside opaque structure

-> Wi-Fi is more harmful as Wi-Fi creates electronic pollution and can affect living organisms

Advantage of Li Fi and potential in India:

-> Appliances like LED, smartphones which radiate around visible light can become source of Li Fi. So it can find wide usage in traffic control, data transfer with smartphones and may also support energy transfer between appliances

-> Li-Fi can be used in marine technology and finds utility in submarines, naval operations etc.

-> Li-Fi can be used at places like hospitals, nuclear plants and petrochemicals where Wi-Fi can't be used

-> Li Fi can create a secure Local network (as it is packed inside an opaque structure) and can be used by our intelligence agencies

Can it replace Wi-Fi around the world?

Wi Fi is a well established technology and it can only migrate if there are cheaper technologies available. Given the huge cost involved installation needed for Li Fi and technological compliance of most of the devices, its very difficult. Moreover Li FI being based on VLC can be susceptible to interference from other daily appliances which are also based on VLC. But as the world is moving towards more efficient, high speed and eco friendly communication technology, it becomes interesting if Li Fi can be used as complementary to Wi Fi.

**Topic:** Cropping pattern

8) “The fact is that maize has beaten most other food crops, including wheat and rice, in terms of growth in production and productivity, especially in recent years.”

Examine the factors that have led to Maize’s success and its benefits for Indian economy. (200 Words)

The average productivity of maize has risen by 98% between 1986 and 2014 compared to about 50% surge in the average yields of wheat and rice during the same period. Following reasons are responsible for this:

- 1) Technological advancement to to enhance protein quality, raise beta-carotene (vitamin A) content and impart greater resistance against diseases and weather-induced stresses such as drought.
- 2) expansion in crop area+spread to new states like Tamil Nadu, Maharashtra etc
- 3) better crop management

4) use of hybrid varieties like sweetcorn, popcorn, baby corn and protein-upgraded corn

5) From a kharif crop it has evolved to be grown throughout the year.

It has a number of commercial uses as listed below, which have been beneficial for Indian economy :

1) Only 23 per cent of maize output is consumed as food; the rest is used as feed for poultry (more than 50%), livestock and fish, or for producing starch and brewery products.

2) Between 3.5 and 5 million tonnes of maize is exported annually to South-east Asian countries.

3) development of Sweetcorn and baby corn have opened up huge European markets. With further research, development of better protein rich varieties and disease+climate change resistant hybrids, maize is not only beneficial for Indian economy but could also be an answer to malnourishment.

**Topic:** Awareness in IT; Inclusive growth

5) "As per the "enabler of development" rationale, the Internet has value not in and of itself but rather as a medium that gives access to other basic goods and services." Elaborate. Also examine the role of government in giving internet access to the public. (200 Words)

With increasing Internet connectivity in India, arguments over its efficacy have been raised primarily as increased penetration itself is not an end in itself but means of access to goods and services which would promote innovation and productivity. These arguments are based on the following reasoning –

1. Greater internet penetration needs to be associated with Skill development to ensure its productive usage

2. The 2nd ARC propounded that e-governance initiatives needs to be associated with Business Process-Restructuring to ensure success of such initiatives

3. Internet penetration needs a minimum threshold above which only the positive results of increasing connectivity will be observed

4. Increasing connectivity has to be associated with improvement in other inputs like healthcare, education etc. for it to result in tangible improvement in productivity

Role of government in giving internet access to the public –

1. As a facilitator –

(i) Through infrastructural development like laying of fibre-cables, point terminals etc.

(ii) Providing digital literacy in information dissemination, sharing and feedback e.g. use of various farmer-centric apps like mKisan etc.

2. As a regulator –

(i) Through sale of spectrum, PPP for increasing penetration etc. e.g. recent collaboration with Google regarding Project Loon

(ii) Public policy making such as the National IT Policy, National Data Sharing and Access Policy etc. to ensure coordinated action on increasing internet access

**Topic:** Food security

6) To address the food-security problem, it is said that the scientific community is split between two main approaches: “tinker with agricultural details” (TAD) and “mend societal fundamentals” (MSF). What do you understand by these approaches? Which one is more effective? Examine. (200 Words)

"Tinker with agricultural details"(TAD) refers to increasing agricultural productivity and hence farm output. This will help in feeding the huge population that is growing at high rate. This is traditional view of achieving food security.

"Mend societal fundamentals"(MSF) refers to control of basic societal fundamentals in terms of existing inequalities, higher population etc. Thus the women empowerment, use of contraception, family planning program etc will come under MSF. Also more than food availability it is food affordability which plays an important role in food security. For that the income inequalities must be reduced by creating enabling environment.

For example, TAD in India are: Green revolution, White revolution, Organic farming, Soil health card, SRI technique etc. These aim to improve farm productivity.

MSF example can be family planning, achieving an optimum fertility (same mentioned under National population policy- 2000), ASHA model, 10% surcharge on people earning more than 1 crore rupees per year, promoting MSMEs and Dalit capitalism etc.

Traditionally TAD has been the driver of food security but there is a limitation on how much it can provide. Also as mentioned by Amrtya Sen it is entitlement which plays an important role in having access to food. Hence the right approach is keep tinkering with agricultural details but at the same time MSF to be pursued vigorously. This complementarity is key to success.

**Topic:** Conservation

7) What conditions are necessary for tigers to live, breed and increase their population? Examine the role of the National Tiger Conservation Authority (NTCA) in conserving tiger population. (200 Words)

Tiger is a largest cat species with beautiful dark vertical stripes its population is a clear indication of health of forest ecosystem . It is one of top predator which helps in keeping population of other species under control.

Conditions for tiger living and breeding are :

- Presence of large prey species.
- Large area with flourishing vegetation and water resources.
- loved to live in their own marked territories(through urine secretion) with minimum human interference.
- Intact animal corridors for free movement and caves, large hollow trees, for easy breeding.

NTCA is a statutory body under Ministry of Environment, Forest and Climate Change formed under Wild life protection act 1972 . Its role :

- By supervising and coordinating various conservation processes mentioned under WPA 1972.
- By conducting country level assessment of status of tiger , co - predators and their habitats.
- Proper implementation of project tiger by giving help to states .
- Giving protection to ecologically sensitive areas for tiger conservation.
- Strengthening efforts to prevent illegal poaching of animal for illegal trade .

India is home to the world's largest population of wild tigers Thus its protection is of utmost importance in wake of its dwindling population.

**Topic:** Various Security forces and agencies and their mandate

8) Compare and contrast the role and mandate of NSG with that of Army's. (200 Words)

The National Security Guard (NSG) :

The NSG is a special force unit created under Ministry of Home Affairs in 1984 following Operation Blue Star and Indira Gandhi Assassination.

Special adjudication is to combat internal terrorism in emergency ; deal with internal disturbances ; guard VIPs etc.

Sometimes they are referred as Black Cats because they put on black dresses and black cat insignia.

It has Special Force Mandate ,and its core operational capability is provided by Special Action Group (SAG) which is drawn from Indian Army.

The Special Rangers Group (SRG) ,the police component of NSG , which also handles VIP security ,is composed of personnel on deputation from Central Armed Police Forces and State Police Forces.

Indian Army (IA) :

Indian Army is land-based branch and the largest component of Armed Forces , founded in 1895 ,having the chronicle with East India Company.

The President of India is the Commander-in-chief of IA and commanded by Chief of Army Staff (COAS).

The primary mission of IA is to ensure National Security and Unity, defending the nation from external aggression and threats ,and maintaining peace and security within its borders.

As some NSG commandoes are handpicked from Indian Army ,the question arises in between personnel abilities and training. In recent Pathankot attack , NSG personnel were shooed despite of presence of Indian Army in the vicinity, in which latter could have served better according to the experts. Both NSG and Indian Army can be raised powerful and trustworthy ensuring ability building and maintaining synergy.

**Topic:** Infrastructure; Economic development; Pollution

9) Critically analyse the role of international finance institutions in sustainable development. (200 Words)

Sustainable development refers to development that is environmentally compatible, economically realistic and socially responsible. International financial institutions through their lending facility hold the cord to development which endangers environment or development which is sustainable in nature.

Role in sustainable development:

- a) Conditional lending: International financial institutes apply environmental and social safeguards to deflect damages that projects can cause.
- b) Increasing financing for renewable energy generation projects which give access to electricity to a significant marginalized population and low carbon growth projects.
- c) Accounting natural asset as part of economic wealth leading to consideration of natural capital as an important factor for sustainable development.

Despite these logistics, International Financial Institutions are unable to mitigate mass displacement, spillover damages and environment degradation that occur due to infrastructural developments.

Therefore, steps for further strengthening of safeguards:

- a) Legalizing safeguards: Making safeguards legally binding and enforceable rather than just being directives.
- b) Governing of safeguards through international policies and values rather than national systems which have limited effectiveness by law and practice.
- c) Third party monitoring: Introducing monitoring bodies to survey the implementation of the directives and submitting periodic reports. Such reports can be utilized as evidence to either continue or discontinue the funds.

**Topic:** S&T; Security issue – threats to internal security by state and non-state actors

4) Discuss the differences between Hydrogen bomb (thermonuclear) and atomic bomb. Why do you think international community and institutions have failed to ensure that North Korea do not possess nuclear devices? Examine. (200 Words)

Hydrogen bomb vs Atomic bomb:

1. Hydrogen bomb is based on nuclear fusion, atomic bomb is based on nuclear fission.
2. In hydrogen bomb two hydrogen nuclei fuse under very high temperature conditions, hence a small fission reaction is first used to create this high temperature.
3. Hydrogen bomb needs very high temperature compared to atom bomb.
4. Hydrogen bomb is much more destructive than atom bomb. For reference, the atomic bomb used on Hiroshima and Nagasaki were equivalent to 15-20 kilotons of TNT while the first hydrogen bomb tested by US in 1952 was equivalent to 10000 kilotons of TNT.

5. No hydrogen bomb has been used in a war ever.

Hence recent claim of successful testing of Hydrogen bomb by North Korea has created tensions in International diplomacy. US, Japan, South Korea etc are extremely worried. However the entire world, involving multilateral institutions like UN and AERB should be blamed for its inability to control North Korean Nuclear program.

Reasons can be traced as:

- Cold war between US and erstwhile USSR
- NPT and CTBT's discriminatory nature which forced countries like India to stay away from it. North Korea followed.
- Failure of China: The rising China can tame North Korea as both are ideologically more alike. However China itself is engaged in a pseudo cold war with America.
- Previous sanctions: North Korea previously tested atomic bombs in 2006,2009 and 2013. US and UN imposed certain sanctions which further alienated North Korea from nuclear disarmament process.
- Troubled neighborhood: Rivalry between North Korea and south Korea
- Kim Jong Un : is dictator of North Korea and has been irrational, erratic and sometimes maniac. This helps North Korea in becoming a rebel in International diplomacy.

*Topic: Infrastructure – transport*

5) It is said that India's transportation system is planned by different authorities in isolation, resulting in chaos – therefore it needs an integrated plan. Elaborate. (200 Words)

In India, various Ministries and departments have authority over different means of transportation like Roads and Highways by MoRTH, NHs by NHAI, Waterways and Shipping by the Ministry of Shipping, Railways by Ministry of Railways, and Aviation by the Ministry of Civil Aviation. The resultant mishap from this approach is the design of transportation facilities in isolation and resulting in chaos and unbalanced development.

The primary reason for this chaos is due to lack of umbrella agency to coordinate all these Ministries and Departments for outlaying comprehensive transportation facilities based on geographical and geological studies in a more cost effective and efficient manner. It is often criticised that our various means of our transportation are competitive rather than complimentary to each other. For example, our golden quadrilateral lanes are competitive to goods traffic and obstructive to inland waterways even though they are cost effective and eco-friendly. This is mainly due to constraints and poor maintenance of rail goods traffic and inland waterways. In fact,

this competition devoid development of other means of transportation and in a mid run roads and highways suffer from traffic congestion.

Chaos:

- 1) Lack of area-based approach leaves gaps in infrastructure and economic development which in turn resulted in imbalances in regional development.
- 2) The gaps include poor transportation connectivity from port to hinterland, gaps in road-rail connectivity and other issues.
- 3) Improper planning without considering geography of the region like drainage system, rocks and soil, and environment resulted in higher havoc during natural calamities. It is criticised that NHs are acting as 'check dams' for the free flow of flood water and further aggravated the devastation.
- 4) Huge expenditure has been incurred on transportation facilities, but still lagging behind in comparison to other developing countries, and high in road accidents and connectivity issues. This is mainly due to lack of coordination by various agencies of the government and between the Centre and the States.

Therefore, it is better to design a National Transportation Road Map in a comprehensive by coordination local stakeholders and build an excellent transportation network across the nation with good regional to national level connectivity. It compliments our developmental efforts in a positive manner.

**Topic:** Economic growth; Liberalization; Industrial policies

6) The media and entertainment sector in India is a Rs 1.2-lakh-crore industry. Discuss various issues this sector is facing and examine what government can do to address these issues. (200 Words)

Media and Entertainment sector is not only an industry but also an opinion maker and plays the role of an important "pillar of Democracy." Various issues this sector is facing can be illustrated as follows:

- (i) Regulation: This has been most prominent issue haunting and maligning the sector, e.g. paid news, manipulated contents, etc. pops up over and over again. While print media is regulated by teethless Press Council of India, the electronic media is largely self-regulated.
- (ii) Ownership and Investments: While foreign investment is welcomed in sector by open hand - allowing 100% FDI/FPI in DTH and Cable networks and non-news channel electronic media and 49% in news channels - ownership and its possible misuse by large conglomerates and political class need to be restricted.

(iii) Taxation: Uneven taxation policies of the states and levies thereon as entertainment comes under the power of state to tax induce uncertainties in the sector.

(iv) Licencing and Spectrum policy: Licencing for limited period and uncertain renewal policies after 10 years deter corporates from reliable and long term infrastructure creation. They could not put their skin into some uncertain sector. Also, government's own reluctance to reduce space between frequency spots for FM and Community radio is not letting more operators to bid at competitive prices.

(v) Efficiency and Transparency: Audit of unused and underused spectrum need to be done on regular basis and unallocated and inefficiently used space by public and other broadcasters need to be reallocated for efficient use and increased penetration to remote areas. Digitisation of cable television is a right step in this regard which could augment broadband coverage envisioned in our National Telecom Policy 2012. Further, auction and regulation of sector need to be done in a transparent manner.

What government can do:

1. Improve regulation by setting up an independent regulator statutorily.
  2. Streamline taxation regime by introducing GST.
  3. Induce transparency by devising standard licencing regime and auctioning of spectrum accommodating concerns of the industry.
  4. Owners of media houses must be prevented from operational interference.
- Finally, the Ministry of Information and Broadcasting should work as facilitator for development of the sector and attracting investment therein.

**Topic:** Economic growth

7) The Bankruptcy and Insolvency Code has been welcomed by the banking sector. Examine how this code will benefit the Indian economy. Also comment on the SARFAESI Act (Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act 2002). (200 Words)

Bankruptcy and Insolvency Code enacted on the recommendations of Vishwanathan Committee that seeks to fasten the insolvency )process is expected to help Indian economy in following ways:

- 1)Faster resolution of insolvency process will improve ease of doing business and attract investments in wake of Make in India
- 2)Deepening of bond market because of increased confidence of getting money back in case of insolvency
- 3)Fixing up the loopholes in existing laws and providing a uniform framework will boost entrepreneurship in wake of 'Stand Up' India scheme

4) Reduction in Non-Performing Assets of banks will release resources to be used for socio-economic development

SARAFESI Act, 2002 was enacted with a view to help the banks in dealing with Non-Performing Assets.

Pros:

1) Allows the bank to take possession of 'mortgaged' (on the basis of which loan has been taken) property after giving 60 days notice without court intervention

2) Establishment of Asset Reconstruction Committee that buys NPA and help them extract the best value

Cons:

1) Right of the borrower to appeal in higher cases even after the judgment of Debt Recovery Tribunals causes delay

2) SC judgment (Harsh Govardhan Sondagar v. International Assets Reconstruction Company Ltd., that doesn't allow dispossession of lessee of mortgaged property i.e. loanee had transferred the property to someone else and now the lessee can't be robbed of this property in case of default by loanee

Thus, it can be said that the new insolvency code is expected to expedite the process of debt recovery and will help improve the overall business environment in the country.

**Topic:** Pollution

8) In a move to curb vehicular pollution, the government announced it would prepone implementation of Bharat Stage (BS)-VI emission standards by a year, to April 2020. What do you understand by BS emission standard? What implications will it have for automobile manufacturers, environment and consumers if government decides to implement BS-VI skipping BS-V? Examine. (200 Words)

Bharat Emission Standards (BS) is standard set for automobile industry which quantifies the emission of pollutants like NO, PM etc.

This concept is borrowed from European Standards which are currently undergoing Euro VI standards as against our BS IV

Current rise of pollution and life threatening breathing air in metropolitan cities have pushed government to rethink and decided to follow better standards like BS VI by even skipping BS V.

Implications on Automobile manufacturers:

- > Sought for more investment in R & D
- > Upgrade current products which are not in adherence to BS VI which will need more time and investment
- > Will have to increase price to match investment which will have negative implications on sales figure

Implications on environment:

- > Will improve quality of air to large extent (reduction in pollutants will range upto 80% with respect to now)
- > As prices will increase, less people will buy cars and hence even lesser air pollution

Implications on consumer:

- > Will have to bear increase in cost of new automobile and already purchased (to upgrade to BS VI)
- > May not be able to buy new automobile (as it will impact affordability)
- > Consumer is also breathing the same air and hence he will have better air to breathe and escape from diseases

From economic perspective, it may sound to be a loss loss situation for everyone, but in long term, such decisions will definitely benefit society. Its our duty to prevent environment from getting unfavorable to life and sustain it for our future generation. Thus we should respect such noble decisions of government and adhere.

**Topic:** Employment

4) It is argued that India might fail to encash its demographic dividend advantage owing to several factors. Analyse these factors. (200 Words)

India "demographic dividend" has become a buzzword. The high birth rates, India's population surpassing China till 2022 and India being "younger" than the world in terms of average age is being seen as an opportunity to excel. But this opportunity is being impeded by the following factors :

- 1) Education :India's education system which does not focus on training students in employable skills. Indian education system's focus has been more on theory and less on practical training, which helps in developing employable technical skills.

2) Female participation : The amount of female participation in the workforce has been very low as compared to other countries owing to the various social factors.

3) Health : India's rankings for IMR, GHI have been very low. A quarter of the world's undernourished are in India. Nutritional deprivation causes lasting damage to children's physical and cognitive development. This leads to lower educational attainment, thereby impacting their economic productivity at a later stage in life.

4) Employment : Nepotism and lobbying issues in government jobs, lack of employment opportunities/jobs hence a vulnerable skilled population .

5) Lack of policy implementation : Political interference in education matters, no efficiency and lacuna in implementation of National Rural Health Mission(NRHM), ICDS, lack of health facilities, low Doctor/patient ratio have been the reasons why a major part of the country is caught in this web of poverty. India spends merely 1.2% of GDP on health as compared to 17% of USA, which needs to be reviewed.

MUDRA yojana, Pradhan Mantri Kaushal Vikas yojana, National Skill Development Mission, USTAAD, Nai Manzil are some of the schemes launched in India. A proper implementation of these schemes plus the success of Make in India is imperative if we want an able workforce.

**Topic:** Conservation; Environmental pollution

5) It is said, if countries try to restrict carbon emission, some of the proven reserves of fossil fuels will never be burnt and will remain stranded. How will this impact environment? Should this carbon be burnt? Discuss with special reference to India. (200 Words)

COP-21 was recently completed in Paris where world took pledge to control global temperature rise "well below 2 degree Celsius". This will need a major shift in energy uses from fossil fuel to non- fossil fuels.

Three types of fossil fuels will be primarily targeted: coal, gas and oil.

Restrictionist policy vis-à-vis fossil fuels will mean following:

- Limited window to extract crude oil as much as possible, as the world will be shifting to renewable energy. Hence OPEC countries ramping up their production.

-Similarly drive to extract maximum Coal before peak emissions

These are based on fear of losing market, fear of unrealized income ( especially for middle east where almost all economies are dependent on oil) etc.

This shift will effect environment in following way:

-More supply in short term, hence cheap oil, more consumption, increased GHG emissions, more pollution and temperature rise.

- For areas like Arctic and Antarctic this will help in containing exploration drive in long run

Should this carbon be burnt?

- For India which is still in development stage this limited time period should be utilized to increase coal production. This Will also give initial push to Make in India campaign.

- India' s 26 sedimentary basins need to be developed as soon as possible before oil becomes obsolete.

- Our INDC target sets 40% non-fossil fuel use by 2030. Hence the next 10-15 years are going to be crucial.

This is also based on historical injustice and on principle of common but differentiated responsibilities (CBDR)

**Topic:** Subsidies; DBT

6) Some argue that time is ripe for pushing Direct Benefits Transfer (DBT) for all subsidy programmes. Do you agree? Substantiate. (200 Words)

DBT is a subsidy providing mechanism that directly transfers subsidy in the beneficiaries' accounts using JAM – Jan Dhan Yojana account, Aadhar Card and Mobile number – trinity. This will help in following ways:

1. Filling leakages: DBT will help in reducing mal-practices like leakages, ultimately giving the beneficiary what he is entitled. Example: LPG subsidy.
2. Increasing incomes: with large number of schemes which are implemented with an intention to increase incomes of the poor, but due to delay and other factors most of the time poor gets subsidy after a long time (like in wages of MNREGA). DBT can reduce these cases.
3. Financial inclusion: with the provision of DBT, poor will get themselves included in financial system of the country, which will help them to get other benefits and will boost their saving.

On the other hand it would be wrong to include DBT in all subsidy programmes, because:

1. People may use money for other purposes rather than using it for what it is meant for like in case of PDS.

2. Due to lack of education and financial literacy, poor will keep themselves outside the purview of banks.
3. Inadequate development of the banking channel in rural areas is also a challenge.
4. Lack of adequate documents also leads to exclusion of many poor from banking sector.

Though DBT can be a game changing programme by directly reaching to the beneficiary but it requires development of robust infrastructure along with provision of training and supporting staffs; which can cover all poor under financial sector fabric.

**Topic:**Security challenges and their management in border areas;

5) In your opinion, what are the key pillars of counter-terrorism? Justify in the wake of recent terrorist attacks in India. Also examine if it's time for India to constitute the National Counter Terrorism Centre (NCTC). (200 Words)

Counter Terrorism Approach is not Brownian Motion rather it needs a well planned and Organized approach.

Key Pillars of Counter-Terrorism :-

1) Research and Information Gathering/Intelligence Information form the basis of any activity, without information no Counter Terrorist activity can be undertaken.

Our intelligence agencies were able to gather some information about the recent Pathankot attack but the lack of intelligence was clearly visible in the Gurudaspur and Mumbai Ataack.

2) Analysis and Processing of the Information gathered: Just collecting Information is not sufficient, Analysis of information helps in determining the pattern in terrorist activities + getting some more links related to terrorist groups. Overall Getting out value from Information.

Recent attacks on Pathankot and Gurudaspur revealed the weakness of our Analysis pillar, since we had the raw information but then also we were not able to prevent the attack.

3) A Single Body of Command: A Dedicated institutionalized body coordinating and conducting all kinds of counter-terrorism activities is needed to bring efficiency, with multiple bodies, accountability lies on none.

A state of confusion was seen in Pathankot attack whether to carry out the anti-terrorist operation with Army or NSG, whic wasted a lot of time and delay in the

operation. Had there been a single body of command this mishap and delay could have been avoided.

4) A Proper Framework and Methodology: Again a counter terrorist operation requires expertise and proper framework to succeed.

What is NCTC

NCTC is a proposed single body of command which will encompass, coordinate and command all the counter-terrorism related activities, be it Intelligence, Analysis or Action.

How Can NCTC Help:

- 1) NCTC can bring all the activities under one umbrella and thus helps in better integration and coordination.
- 2) NCTC as proposed can have members from multiple disciplines which help in better analysis and research of the Raw information.
- 3) NCTC being the single body of command and coordination, will hold accountability, which is missing at present.
- 4) The most imp. argument is that the present system has failed to tackle the terrorist activities in India, thus demanding for a more dedicated approach, which can be provided by NCTC.
- 5) If NCTC is integrated with NATGRID both together can bring more specialization, expertise.

Terrorism is a menace that needs to be countered, looking at the recent attacks on Gurdaspur and Pathankot + Pune, Mumbai, Delhi attacks, the need of the hour is a specialized approach to counter terrorism without which there will be many more Pathankots.

**Topic:** Role of external state and non-state actors in creating challenges to internal security.

6) “It is time to finally accept the reality and move forward on a broad sweep of reforms in the security establishment. This could be done at three levels – parliamentary oversight, a well-defined national security doctrine and a national security strategy to implement the doctrine, and, finally, an independent federal commission of accountability on security matters.” Elaborate. (200 Words)

The embarrassing state of affairs of Indian security establishment has been manifested by Mumbai terror attack and recent Pathankot attack which implies an

overhaul to the security apparatus. The overhaul can be done at three levels as under :-

**Parliamentary Oversight-**

The Intelligence agencies are opaque in functioning and in name of covert operations many times funds misuse has been cited. They are exempted from audit of Comptroller and Auditor General. This means a need to have Accountability and transparency in functioning which can be brought via parliamentary oversight. Though political misuse is another issue, yet diverse politics can handle that issue.

**National Security doctrine and Strategy to implement it**

This means in case of terror attack what roles are to be performed by State and Union Government, its officers and decision making rests upto what extent and level must be framed. Just like Constitution it must be doctrine to be followed in exigencies. It must be implemented irrespective of the political governments at Union and State governments. India lacks such doctrine.

**Federal Accountability commission-**

It will ensure not only accountability, but also will address the excesses done by armed, paramilitary and intelligence agencies. Like human rights violations due to AFSPA in J&K and North east.

National security is paramount and enacting a doctrine which ensures such with defined roles is need of hour. It will ensure safety and security, increase credibility of Government and ensure State as protector of rights of citizens.

**Topic: Pollution**

7) Examine the economic gains of Delhi government's odd – even road rationing policy decision and explore the possibility of attaining this policy objective through alternative means. (200 Words)

Delhi government's odd – even road rationing policy decision; aims to reduce pollution caused by vehicular emissions, which has been a major constituent of air pollution in Delhi along with construction dust, pollution due to stubble burning etc.

**Economic Gains:**

1. Reduction in use of Crude Oil: one of the biggest losses of man-hours was the congestion due to excessive amount of vehicles, making travel time longer and also leads to consumption of more fuel (petrol/diesel).

2. Increase in revenue through Metro/BRT: due to exclusion of approximately 50% private vehicle, public transport will get a boost; increasing revenue.
3. People will opt car-pooling: "free-rider" problems will reduce, releasing excessive pressure on crude oil.
4. Decrease in government's health expenditure.
5. Penalties collected through wrong-doers.

Alternatives means to attain the objective of this policy:

1. Moral suasion: people can be persuaded to carry out environment-friendly practices. This could be done through 'mass media', advertisements and awareness campaigns aiming to educate people about the evils of pollution.
2. Use of lead-free fuel: government must attempt to reduce use of lead blended petrol; which will not only increase life span of engine but will reduce pollution too.
3. Increase of road tax and parking charges thus discouraging people from going for private vehicles.
4. Subsidise public transport so that people prefer to use metro/bus service and increasing their capacity.

Though the odd-even policy has shown positive results; it is required other measures are also opted to reduce the pollution at faster pace.

**Topic:** Achievements of Indians in S&T

7) In the light of recent controversies regarding the Indian Science Congress (ISC) sessions, critically comment on problems afflicting science administration in India and examine the measures needed to address these problems. (200 Words)

Indian science Congress (ISC) comes under ministry of science and technology and holds an annual conference each year where India's scientific achievements and future prospects are discussed. For last two conferences ISC has come into attack for its bizarre claims which had not gone very well with scientific community. Last year it was claim of India being the original developer of aeroplane and jets (ex : Pushpak Vimana mentioned in Ramayana) and this year claim of Lord Shiva as the ancient environmentalist. Including mythological and religious figures to prove a point goes against principles of science as well as tantamounts to disrespect to these Godly figures.

Apart from this new "irrationality" Science administration in India is afflicted with following problems:

- Inadequate focus on quality research project
- Problem of financing
- Problem of plagiarism
- Problem of job and placements especially those who are involved in R& D.
- Poor industry and corporate support.
- Government intervention in administration of academic institutions>>loss of autonomy and decision making.

Some of these problems can be solved by:

- Limited intervention, the recent IIM bill must consider the issues of autonomy
- Problem of financing can be dealt by involving corporates by invoking CSR obligations. In this regard Tarun khanna committee recommendations must be considered ( Make in Universities programme)
- creating enabling environment ( INSPIRE scholarship scheme), MOOC and NPTEL courses for wider reach
- Foreign university collaboration
- Increasing budgetary expenditure on higher education
- Implementation of Dehradun declaration to increase quality of research in CSIR and other research bodies.

Thus both internal reforms and external engagement is required to improve science administration in India

**Topic:**Role of external state and non-state actors in creating challenges to internal security.

8) It is argued that spoiler attacks by non-state actors such as recent Pathankot attack will be increasingly ineffective for the Pakistani military and its non-state allies, and likely today to change the India-Pak equation. Do you agree with this argument? Analyse. (200 Words)

Spoiler attacks by non-state actors continue to mar Ind-Pak relations each time they pose to come close. However these attacks are likely to become ineffective because:

1. Attacks and its modus operandi and its timing have become quite predictable. A lot of soul-searching to plug the lapse in our own security framework post-Pathankot attack will ensure future attacks are effectively deterred.
2. India needs to be project itself as a responsible nation to get a UNSC seat. Unlike in the past, it cannot switch off talks abruptly as it has served no purpose.
3. Rather, with support from US and West, these spoilers can be tactfully used to push talk in India's favours by giving primacy to terrorism and ceasefire violations.
4. Even the media and civil societies in both the countries seem more supportive to the talk process unlike in the past.
5. TAPI pipeline and Heart of Asia engagements will further push the Pak government to act and preserve the Indo-Pak relations.

Pakistan army garners support by perpetuating anti-India sentiments in society. However with increased Track-II and Track-III diplomacy, favourable condition for a Indo-Pak bonhomie can be created. Success will depend on how effectively the Pak civil government tames its army and how effectively India achieves its agenda to get Pak act on cross border terrorism.

**Topic:** Prevention of money laundering; Effects of liberalization

9) What do you understand by transfer pricing? It is said that in the fight against black money, curbing illicit capital flight ought to be a higher priority than courting foreign capital. What do you understand by this statement? Discuss with examples. (200 Words)

Transfer pricing is the setting of the price for goods and services at which the divisions of a company transact with each other. It's a major tool for tax avoidance.

Black money is substituted to illicit financial flows due to tax evasion (illegal).

However, tax avoidance (legal but could be equally abusive) accounts for the lion's share of illicit capital flight and caused by various

means of Base erosion and profit shifting (BEPS) which includes

1. Aggressive transfer pricing by MNEs like Vodafone case.
2. Digital enterprises like google, facebook faces no taxation due to residence-based taxation
3. Use of treaty shopping to obtain treaty benefits in situations where such benefits not intended.
4. Offering tax incentives for specific sectors like renewable energy, exports etc.

All these are part of courting foreign capital as it brings capital for investment, employment and new technologies in India.

However, curbing Illicit flows (tax evasion and avoidance) ought to be a higher priority because –

1. India lost more through illicit flows than what we gained through FDI
2. Government has their tax revenues impacted.
3. Individuals shoulder the great share of state's debt burden by tax on consumption. Ex-GST
4. Domestic companies and Small and Medium enterprises pay disproportionately higher taxes.

Government has been steadily moving on the right path to address BEPS issues through Advance Pricing agreement, GAAR, Limitation of benefit clause.

**Topic:** Conservation & Environmental pollution

4) The union government is preparing legislation for involving riparian states for rejuvenating the Ganga river. What are the likely roadblocks this legislation might face? Is there a necessity of such a legislation? Critically examine. (200 Words)

The likely roadblocks which the legislation may face are –

1. Although the development of Inter-State Rivers falls under the Union list other activities such as usage of water for agriculture, irrigation etc. fall under the State List
2. Industries are also part of State List and hence their regulation under a centralized law goes against the principle of Cooperative federalism
3. As opposed to the Namami Gange Scheme which had the people living on its banks and local bodies among its focus areas, stakeholders under the proposed legislation are fewer
4. Environment polluting sources are already dealt under various legislations such as Environment(Protection) Act, Water Act etc.
5. Changes in regulation of diversion of water by States may increase instances of Inter-State and Centre-State disputes

However, there is a necessity for such as legislation as –

1. States have been unable address issues of illegal sand-mining, deforestation etc.
2. Cleaning up the river requires an integrated approach and coordination among States which may not be possible without Central oversight
3. States have no reason to oppose instalment of additional cleaning machines which would only help in improving agriculture, sanitation etc.
4. Diminished instances of epidemics and various water-borne diseases will lower pressure on State's health expenditure which falls under State list
5. Centre is better equipped regarding resources for technical know-how

**Topic:** Role of external state and non-state actors in creating challenges to internal security; Security challenges and their management in border areas

5) How can nations enhance the prevention of terrorist attacks in big cities and strategic bases worldwide? In the light of recent attacks on Paris, Pathankot and Peshawar, discuss. (200 Words)

Terrorism is an international problem in today's global community. Many nations are affected, whether directly or indirectly. Recent attacks on Peshawar (2014), Paris (2015), Kabul (2016) and Pathankot (2016) as well as several earlier attacks shows highly asymmetric and unpredictable nature of terrorist attacks and hence demands a preventive and comprehensive strategy to dismantle the upcoming threats.

Key observations:

- Rise in number of active terrorists groups such as ISIS, Al-Qaeda, JeM, Hamas etc. and each one having different agenda and role.
- Terrorist groups have access to advanced weapons and machinery being supplied by hidden agents.
- Rise of terrorist groups is also influenced by world power's tactics or strategic moves like USA arming Islamist rebels in Syria to counter President Bashar al-Assad who is a Russian ally.
- There is no proactive preventive strategy to handle such threats and most nations become concerned once damage is done.

Strategies for prevention of terrorist attacks:

- *Role of UNSC:* Can act as watchdog to keep an eye on world politics. Warn and condemn neo-cold-war practices so that super powers doesn't play their power games in disturbed countries like Syria, Afganistan or recent North Korea.

*-Finance and Weapons Monitoring:* UN etc an play a key role in cutting access to finance and weapons supply.

*- Global Cooperation:* Increasing cooperation means sharing lessons learnt, training personnel and emulating tactics, sharing intelligence and technology advancements between countries.

Example: Multiple Assault Counter-Terrorism Action Capabilities's evolution after LAPD studied Mumbai attacks.

*-Global Institutionalization:* Multilateral counter-terrorism bodies like GCTF could play a significant role via talks and policy proposals.

*-Online Monitoring:* Countries needs effective mechanism to monitor online activities as internet is becoming a key communication channel for terrorist groups. Although civil liberties should not be compromised.

*-Regional Blocs:* Regional groups like South Asian countries can come up with an effective regional institution to share knowledge, resources to counter threats.

*-Communication among intelligence agencies:* There is political unwillingness to allow direct top-to-top communication between intelligence agencies like RAW, ISI which some security experts believe If allowed, can be an huge step towards ensuring nation security.

So, conventional methods of warfare wont' work for upcoming threats and hence a global comprehensive strategy is the need of hour. We must focus on preventive measure and pro-actively dismantling the threats before they occur.

**Topic:** Environmental pollution

6) Write a note on the Saumitra Chaudhuri Committee report on Auto Fuel Vision and Policy 2025 and its significance. (200 Words)

Saumitra chaudhari committee was established by government to frame the national auto vision and fuel policy 2025. The Committee gave following Major recommendations:-

1) Implementing next Bharat Stage norms : Committee recommended for the Implementation of Bharat Stage 4 norms throught the country. Very Few Cities have till now went for Bharat Stage 4 norms.

2) Shift towards alternative fuels.The committee examined merits and demerits of possible alternative fuels vis-a-vis diesel and petrol like Methanol, Ethanol, Hydrogen, CNG, LPG and Hybrid Electric Vehicles.

3)Taxation norms : Taxing old vehicles more , and disincentivising its use , promoting CNG vehicles by less taxation(reducing the state VAT)

4)Need replace the existing PUC system to a more reliable computerized system.

5)BEE (Bureau of energy efficiency) labels on vehicles to show their fuel efficiency.

Significance of the Recommendations:

Political Significance:

1. This would reduce the carbon emission thus helping India in establishing itself as a responsible country on the global stage.

2. COP-21 has called for international approach to Curb Emissions, these efforts will help in building our image as a concerned nation.

3.This would reduce India's dependence on other countries which is especially an edge during war times to remain immune from geopolitical turbulence.

Economic Significance:

1. Crude import would reduce, hence reducing fiscal deficit.

2. Use of ethanol would reduce the woes of sugar industry.

Social Significance:

1.Cleaner air helps in various other fronts : reduce health vulnerability, social security strengthened, a healthy demography will certainly contribute more to GDP.

**Topic:** Idigenization of technology and developing new technology

5) Recently the union government announced the contours of new defence procurement procedure (DPP). Discuss its highlights, how it is different from DPP-2013 and examine if it compliments the Make in India initiative. (200 Words)

With a focus to give boost to indigenous private defence manufacturers, Defence ministry recently took leap forward steps by accepting the recommendations made by expert committee headed by Dhirendra Singh.

Highlights of DPP 2016:

1. Creation of 'Indigenously Designed, Developed and Manufactured (IDDM) platforms', which will get top priority while buying equipment and will be the first to be chosen for tenders.

2. Offsets clause increased from the current Rs. 300 crore to Rs. 2000 crore giving flexibility for foreign companies. Any greater value of contract will be re-invested (30%) in Indian defense industries which will help to upgrade indigenous technological capabilities and know-how.
3. Defence ministry has also decided to fund private R&D, so as to build a technology base.
4. 'Empowered committee' is created to solve disputes or unforeseen issues.

Contrast with DPP 2013:

1. Procurement categories were created in DPP 2013, in which a hierarchy with 'Buy (Indian)' as the most preferred category, followed by 'Buy and Make (Indian)', 'Make (Indian)', 'Buy and Make' and 'Buy (Global)'. While DPP 2016 established IDDM platform for indigenous companies.
2. Though DPP 2013 provided hierarchy but it did not prescribe the guidelines for selection of a particular category in preference to another. While DPP 2016 created two sub-categories under IDDM, making the system more transparent.
3. DAC was given charge to solve disputes, while new policy created a new committee to handle these cases.

Hence DPP's push to promote domestic manufacturing, including government funding for R&D and recognition of the MSME in technology development; will surely give impetus to 'Make in India', empowering defence sector for indigenisation.

**Topic:** Inclusive growth; Awareness in IT; Infrastructure

6) Information and communication technology (ICT) has been shown to be a powerful facilitator for meeting the Millennium Development Goals. In this regard, it is argued that a fibre optic network is a "durable" solution to increase internet connectivity across country. What challenges the government should address to provide national optic fibre network and what are its benefits? Examine. (200 Words)

To achieve MD goals ICT is undoubtedly a powerful facilitator and projects like e-Mitra in Rajasthan have shown excellent achievements in delivering e-services to rural and urban population.

But last mile internet connectivity with quality performance is basic input that is required before focusing on e-services or e-governance's schemes and Optical Fibre Network (OFN) seems to be key here.

Challenges to be addressed:

- > Expert Committee have asked for more funds to be spent for higher broadband capacities as demand increases in booming digital economy.
- > Involvement of States, besides private players, for speedier implementation of the project that has fallen far behind its planned schedule.
- > Option of build-own-operate-transfer model is not likely to work due to low purchasing power of rural areas so effective alternatives should be planned.
- > A dedicated nodal agency at national, state and district level is required for effective implementation and operation of network.
- > Some states like MP, TN, AP etc have come up with their own modal instead of following centre's which might delay the implementation.
- > With high illiteracy rates in rural areas, educating rural population to use e-services is required.
- > Lack of basic infrastructure like Electricity, Pucca-houses, availability of land etc. needs to be addressed.
- > Wireless networks, Project Loon etc can be integrated at local level to overcome infrastructural challenges.

Benefits of NOFN:

- > Fibre optics will provide a durable infrastructural solution and ensure high performance internet.
- > Will help in building digital economy.
- > Faster, effective and reliable delivery of e-services, e-governance schemes.
- > Connecting hinterland to mainstream India and rest of world.
- > Easy access to digital resources.
- > Will help in implementation of programs like Digital Locker, JAM trinity, Digital India etc.
- > Can be a huge step towards agriculture productivity and hence ensure food security for nation.

Internet is most effective channel to deliver e-services like education, health, e-governance etc and a strong and advanced infrastructural set-up is the need of hour and NOFN is undoubtedly an ambitious project to meet the needs.

**Topic:** Agriculture issues

4) Recently, two noted personalities authored a booklet named the Sarthak Krishi Yojana suggesting government various measures to revive agriculture in India. Discuss the recommendations made in the booklet. (200 Words)

Meaning: Mindful Agriculture Programme

Focus: Managerial framework for transformation in Agriculture

Concerns undertaken:

1. Agriculture a state subject: hence solution political and fragmented
2. Mathiness instead of truthiness: Solutions till now theoretical and impractical, no real world problems undertaken
3. No risk taking: State focus only on farmers instead of improving farming by risk taking
4. Backward and Forward linkages: problems in fragmented landholding, large population dependence, irrigation, technology, quality of seeds, storage, transport, etc.

Recommendations inspired from 5 pillars used in industrialisation of India: TRIPS

1. T (Technology) = outcome based technology policy encouraging research, innovation and incubation
2. R (Risks) = Agricultural Financing and Risk Institutions - Banks and financial institutions for formal credits
3. I (Institution) = Governance Institutions with holistic design and single agency of centre and states - Actively promote FPOs (farmer producer organisations)
4. P (Policy) = National Agricultural Policy - Focus on improving human and farm productivity
5. S (Skills): Agricultural Technical Training Institutes

Apart from this, consensus is necessary of states to have similar impact as Jan Dhan Yojana, APY, Swachh Bharat Mission etc

Also High-Level tasks are recommended such as setting up Krishi Ayog.

This programme keeps up to its name as real world practical issues are nicely addressed showing the mindfulness of the authors.

**Topic:** Food processing and related industries in India- scope and significance

5) In recent years many internet based start-ups have come up in food technology sector. Critically analyse their business model and their impact on the food sector. (200 Words)

The start-up industry has seen a significant rise in India with angel investors more willing to invest in creative ventures. However, Food tech start-ups have been faltering because of poor unit economics, which leads to negative cash flow. (revenue per food order or delivery minus the cost involved in the transaction)

Faulty Business Model:

- 1) Start-ups offer economically nonviable discounts to get more customers on board. In some cities, food delivery service doesn't make sense because of small distances for service delivery.
- 2) Lack of innovation in business models is the key reason for failures of most food tech start-ups.
- 3) Failing to woo institutional investors.

Impact on the food sector:

- 1) Startups have potential to generate market in rural areas along with huge existing urban. Agriculture can be boosted up based on demand by the prosecuting units.
- 2) Startups increase competition and availability of food options in market for consumers.
- 3) Home delivery kind of service increases their customer base also it's consumer friendly.

Food technology start ups can change the very scenario of food processing in India by many new innovative ideas. Startups should employ a model to cook food at its own kitchens, book orders on its app, and deliver it to customers (like the FreshMenu, a Bengaluru-based food start-up). Govt should provide startup friendly environment for Food Tech Startups by providing easy loans. Start Up India is a step in right direction.

Also refer,

<http://www.insightsonindia.com/2016/01/14/5-recent-years-many-internet-based-start-ups-come-food-technology-sector-critically-analyse-business-model-impact-food-sector/#comment-2456694175>

**Topic:** Economic growth

6) It is said that reforms in bankruptcy laws can play a crucial role in economic growth and financial stability. In the light of increasing non-performing assets (NPAs) in banks, discuss the statement. (200 Words)

NPAs refer to those loans which have been unpaid for over 90 days. With a gross NPA of over 4.5%, India's banking system is at risk

How Bankruptcy reforms help

Proposed measures by Banking Law Reform Committee include appointment of a director by the creditor in the defaulting firm, reducing the time line to liquidate the firm and takeover of its management .

By appointing of director and taking over the company, banks will ensure that it is run in the best financial manner. And, that its loans are repaid on time. This will reduce the defaults and the total NPA Setting of time limits checks against inordinate delays and that banks can recover their loans faster

Benefits of low NPA

1. As NPAs reduce, health of the entire banking sector will improve
2. Interest rates go down, making investment and house loans cheaper
3. More funds can now be transferred to other crucial sectors
4. It checks against run off banks and deveopment of financial crisis

Other benefits of bankruptcy reforms

1. Economic ineeffiency occured in time delays will be reduced
2. Easier exit will allow firms to take risk, boosts startups and help in the Start Up India and Make in India
- 3 Judicial logs will reduce

The earlier the suggestions of the Law Reform Committee is codified, the faster India will grow towards prosperity

**Topic:** Challenges to internal security; Linkages between development and spread of extremism.

7) How can technology be used to defeat the spread of Left Wing Extremism(LWE) by involving the tribal community in LWE affected regions? Examine. (200 Words)

Left wing extremism , spread across nine states is the biggest internal security threat to India . Because of lack of infrastructure and hostile terrain , role of technology is envisaged to defeat the spread of LWE . Such measures include :

1. Strategic : UAV drones , night vision and thermal imagery can provide surveillance in densely forested areas and track movements of naxalites
2. Ideological : Use of mobiles and radios can help communicating in local population , thus promoting awareness about development avenues and counter naxal ideology. Ex : use of All India Radio
3. Security : use of GPS radars and satellites for coordination among security agencies
4. Development : E-governance initiatives like online open schools and mobile and e-clinics will promote education and health , thus reducing illiteracy and malnourishment
5. Direct benefit transfers - using Jan dhan , mobile and Aadhar card can help in effective subsidy transfers
6. Grievance redressal - through online and telephonic registration of complaints . Ex : Lokvani initiative

However , technological solutions cannot replace the government's role , due to low awareness and digital and technological divide among tribal population . Corruption in lower bureaucracy and lack of government outreach has led to further alienation of such population .

Thus , other measures for confidence building like decentralised governance , infrastructure development , digital india initiative ,etc is necessary to bring an inclusive and sustainable growth in LWE areas.

Also refer,

<http://www.insightsonindia.com/2016/01/15/7-can-technology-used-defeat-spread-left-wing-extremism-lwe-involving-tribal-community-lwe-affected-regions-examine/#comment-2458988302>

**Topic:** Indian economy – growth; Resource mobilization

8) What do you understand by stagflation? It is predicted that India will be witnessing stagflation in near future. Examine why. (200 Words)

Stagflation = Stagnation + Inflation

As the name suggests, Stagflation is composite form where economy will be stagnant in terms of production, employment and other outputs with increase in prices. Not only India, other countries of world including China, European Union are concerned about such situation in future.

Reason why India is prone to stagflation:

-> Drop in global demand: Global demand has decreased considerably due to economic slowdowns and affected exports

-> Lack of private investment: Due to drop in demand, private investment is discouraged which is leading to stagnation and less capacity building.

-> Lack of public investment : Government of India is already pressurized by fiscal management Act, OROP, 7th pay commission and thus will be unable to invest more on capacity building. Unless government spends on infrastructure and industries, private investments won't come which makes India prone to stagnation

-> Natural calamities : Natural calamities like drought, flood, earthquake have significantly impacted India's agricultural production used to feed her ever increasing population and makes India prone to inflation.

However our economics is based on strong fundamentals and can withstand such pressures for some duration. However if public and private investment are not escalated, it can lead to economic disasters of which stagflation is the most dangerous (as it has been seen in Germany before Hitler)

**Topic:** Conservation; Environmental pollution

4) “The Paris Agreement has set targets for limiting temperature rise due to global warming which will be virtually impossible (1.5°C) or very difficult (well below 2°C) to realise.” Why is it argued that it’s either impossible or difficult to realize latest targets for limiting temperature? In the light of climate change science, discuss. (200 Words)

The arguments supporting the stand that the Paris agreement(PA) may be unsuccessful in achieving its targets are –

1. Carbon budgeting –

(i) Although the PA seeks to limit global temperature rise to within 1.5 deg. C, it failed to impose concrete quota to countries based on IPCC's AR5

(ii) Mitigation commitments under individual INDCs are of voluntary nature

2. Mitigation vs adaptive technologies –

(i) Concerns over the need for efficacy of negative emission technologies which may further worsen the scenario

(ii) Developed countries pushing for mitigative technologies(e.g. biofuels, green-tech etc.) whereas, developing countries support adaptive technologies (e.g. rain-water harvesting, water-desalinization etc.)

3. Green-tech issues –

(i) Developed countries are unwilling to transfer green-technology or waiver IPR rights to assist developing countries

(ii) Domestic manufacturing initiatives (e.g. the NSM of India) which stresses on indigenous tech-development is facing opposition in the WTO

4. Agriculture –

(i) Agriculture is the second highest emitter of GHGs(AR5), but curbing agricultural activities will threaten developing countries' food security

(ii) Since the Green Revolution, no path-breaking research into increasing productivity has been conducted and rather HYV seed are facing opposition in countries like India

Hence, although the PA is a landmark agreement in terms of laying out a roadmap post-2020, its success will depend heavily on ancillary factors such as tech-transfer, IPR issues, change in consumption pattern etc.

**Topic:** Indian economy – Growth

5) India's exports to every major region of the world declined during April–November 2015 year-on-year. Why do you think this has happened? What measures has government taken to halt this decline? Critically examine. (200 Words)

India's exports to every major region of the world have been declining consistently. Major decline of exports include petroleum products, gems and jewellery, agricultural produce, products of 8 core manufacturing industries, machinery, textiles, chemicals etc. Even India's high export products like generic drugs, pharma and automobiles, though in positive trend, could not sustain its growth rates. Moreover, some experts report that it is a dangerous trend called stagflation.

Reasons:

- 1) Slump in crude oil prices all over the world severely affected India's petroleum products exports.
- 2) Decline in holistic global demand, and economic activity.
- 3) Slow down of China - as it is one of the major trade partner for India.
- 4) Rupee appreciation over major currencies and subsequent depreciation of major competitive currencies like Yuan/Renminbi.
- 5) India's exports are fast losing competitive prices due to poor logistics infrastructure and tax terrorism at different levels. For example, major dependence on road logistics is cost ineffective and even government's 2 or 3 % support could not fill it.
- 6) Narrow base of manufacturing sector and high tilt towards conventional products. For example, even in our major textile exports, we are more dependent on yarn, but not recognized the new trends like technical textiles.
- 7) Our exports are being subjected to trade and non-trade barriers, particular in developed countries. Critics argue that it was India's failure to negotiations reduced market access.
- 8) India signed many trade pacts for geo-political reasons than commercial one's. The best example is SAFTA, which has not resulted in any significant export gains despite the obvious logistics advantage and similar consumer preference of the South Asian population.
- 9) Failure of India's FTA, PTAs (Preferential Trade Agreements), CEPAs. They are not comprehensive and are highly narrow in trade selection, thus affecting our cheaper competitive exports like generic drugs in Japan, China etc.
- 10) The recently concluded TPP and its strict IP regime has no interest on India and adversely affected our exports.

Steps taken:

- 1) Subsidy waiver on petrol and diesel, rationalising subsidies in other areas to enhance funding to crucial areas of economic activity.

2) Taken up exclusive industrial corridors, upgrading water ways, road and port improvements for increase cost effectiveness for exports. However, these are moving at a snail's pace.

3) High level diplomatic focus on bilateral and multilateral agreements to increase and diversify market access to face these types of shocks.

4) Technology upgradation initiatives like ATUFS - for textile industry (also to concentrate on technical textiles).

5) Entrepreneurship promotion with initiatives like Make in India, Startup India Stand up India.

6) Progressive taxation measures like GST, ensuring consistent flow of investment with better insolvency and bankruptcy code.

Diversifying our export products and increasing market access are the need of the hour for India to control this situation.

**Topic:** Indian economy – growth; Inclusive growth and development

6) “Human development in India remains inadequate because the focus remains on GDP growth.” Critically comment. (200 Words)

India has become the 3rd largest economy of the world as measured by GDP in Purchasing Power terms. Moreover, our GDP growth rate at around 7.5% is the largest among the big countries. In spite of this rosy picture, there are cause for concerns from human development perspective

1. GDP per capita- Because of high population and its growth rate in India, the income of an average individual is one of the lowest in the world
2. Inequality - GDP growth has witnessed mostly being because of rich getting richer, without lot of change in poor's condition. India today has the highest no of poor in the world
3. HDI- Income growth hides improvements on health, education indices. Measuring by HDI, which includes education and health, India ranks at 130th position in the world.
4. As public sector expenditure on social security schemes such as MGNREGA , Food Security decrease, the social indices such as Infant Mortality Rates have failed to improve to the desired limits

Nonetheless, GDP can't be altogether ignored. Higher GDP means higher tax collections which can then be used for anti-poverty and human development programs. That is one reason why during the years of high growth of last decade, India's poverty also reduced by 10% points as measured by Ranagarajan Line, Tendulkar line, WB, etc

GDP, therefore is a good metric but an incomplete one. Govt should also therefore keep an eye on Human Development Index or the Gross National Happiness Index used in Bhutan to get a clearer picture

**Topic:** Changes in industrial policy and their effects on industrial growth.

7) "The government funding of start-ups, either directly or indirectly, in the midst of a thriving venture-capital industry, is ill advised." In the light of India's new start-up policy, comment on the statement. (200 Words)

With the intent of solidifying the entrepreneurship base in India, the government of India has set up the Start Up India program. It will ensure more incubators are set, multiply collaboration with academia and industry, and provide a crucial source of funding

However, it has been criticised on the following accounts

1. Incorrect Priority - Critics call for greater expenditure on public infrastructure, anti-poverty programs, instead of startup funding where venture capitalists and angel funds are already present
2. e-commerce oriented startup - Most of the startups are in the e-commerce sector which has lesser multiplying effect and employment generation than most industries
3. Distortion- Subsidising will distort the industry base to few specific sectors, leading to lesser growth
4. Corruption- Money laundering, illegal transfer could get a boost via the government medium
- 5 Dependence on government may lead to mediocrity and political interference as seen in the public sector

However, there is still some merit

1. Equality - Government protection is required to bring the startups on level terms as those of other countries, where their governments protect them

2. Industries of tomorrow- Investment today will boost the entire sector and the country in the future
3. Govt intervention could ensure that the startups are oriented in the National Interests
4. Uncontrolled venture capitalists can become the private high charging money lenders of yester years
5. Govt will get a massive return on the high flying startups which will help future development programs

Start Up India in particular attempts to diversify the start up base to beyond IITs & beyond e-commerce sectors. Further, sums transferred are not very high. Therefore, the attempt from the govt, on a whole, is welcome

Also see:

<http://a.disquscdn.com/uploads/mediaembed/images/3070/4462/original.jpg>  
<http://a.disquscdn.com/uploads/mediaembed/images/3070/4463/original.jpg>

**Topic:** Environmental pollution; S&T

4) Upgrading to upgrade to meet BS-VI norms has implications both for consumers and oil marketing companies (OMCs). Examine what are these implications and why OMCs will be affected.(200 Words)

The incumbent governments' resolution to implement Bharat Stage-VI emission standards should be seen in the light of urgent environmental concerns. The move, however, has myriad implications on it's various stakeholders.

ON CONSUMERS-

(A) POSITIVES- (a) Reduction in air pollution levels will inevitably lessen the exposure of people to carcinogenic gases.

(b) Reduction in the incidences of respiratory and cardiovascular diseases.

(c) A more clean surrounding is not only aesthetically pleasing but also creates a feel-good factor.

(B) NEGATIVES- (a) Fuel prices will be elevated leading to cascading effects on the purchasing power of consumers.

(b) Rise in the cost of four-wheelers will mar the middle class aspirations of owning a car.

(c) It may lead to inflation as the cost of consumer items may shoot up due to heightened transportation cost.

OIL MARKETING COMPANIES- Oil marketing companies stand affected as they have to go for upgraded technologies to adhere to the emission standards in a very short span of time. The implications on them can be stated as such-

(A) POSITIVES-(a) As stakeholders in the environmental cause, they will be party to a greater good,enhancing their social responsibility.

(b) Government may help subsidise their efforts to meet the humongous cost.

(c) An environment of healthy competition will be created amongst the companies to heed to the standards.

(B) NEGATIVES- (a) Time and cash constraint to meet the required norms.

(b) Lack of indigenously available technology, most of it has to be imported.

(c) Loss of revenue will hurt their profit prospects.

Inspite of the odds, the move needs a serious push to dilute the environmental damages that we have caused over the years.

**Topic:** S&T; Employment; Industrial policy and effect

5) Critically analyse the provisions of union government's "Start-up India" plan and the challenges that lie in its implementation. (200 Words)

Highlights of the scheme:

- 1) A sum of 10000 crore rupee to facilitate funding for next four years.
- 2) Self certification for compliance.
- 3) No Labour-law inspection for next three years.
- 4) Relaxation in norms for public procurement.
- 5) More Incubators and 500 new laboratories with 3D printing facilities.
- 6) Tax exemption for first three years.

Problems and challenges:

- 1.) To be eligible for the scheme they have to show that their innovation "Significantly Improved " the existing one. But government is not equipped to define the "Significant ", which can be misused and leads to Corruption, Crony capitalism, Red tapism and Deliberate Delays.
- 2.) There are no safeguards to ensure that Indian start-ups are not overtaken by foreign companies.
- 3.) De-domiciling of Indian startups, for example Flip-kart is registered in Singapore
- 4.) The scheme as again opened the doors for Bureaucrats to enter the process.

overall business climate in India still demands reforms.

However, the if the scheme is implemented properly there can be a paradigm shift in the business environment and the Brain-Drain of India could be checked creating more employment and avenues for Innovation and research.

**Topic:** S&T; Awareness in biotechnology

6) What do you understand by optogenetics? Examine how is it different from CLARITY – another related method. Also discuss applications of CLARITY and Optogenetics. (200 Words)

Science has always been fascinated by the workings of the human mind. Optogenetics and Clarity are recent scientific methods devised to enhance the study of the human brain. Both however differ in their reach and efficacy though serving the same function.

**OPTOGENETICS-**

In optogenetics specific targetted cells are infused with a gene that directs the production of a light-sensitive protein (derived from algae or other microbes) that can then turn brain cells on or off in response to a focussed light signal. This“illuminates” the brain, enabling researchers to manipulate electrical activity. This process however doesn't give the picture of the brain in it's entirety. Hence, Clarity was developed to fill in the gaps.

**CLARITY-**This process makes brains transparent, by building a hydrogel inside the brain, removing lipids that make the brain opaque. This allows scientists to study the wiring of a three-dimensional brain in its entirety, without having to laboriously dissect and reassemble tissues as has been the practice. Clarity has been developing faster than optogenetics for it's enhanced results.

APPLICATIONS- Both can be used in figuring out the mechanisms of psychiatric disorders like Alzheimer's, Parkinsons and other mental conditions like anxiety, stress and frustration.

**Topic:** Linkages between development and spread of extremism

5) "The Maoists' agenda to keep the tribals away from the advantages of development can be defeated only if the direct action of security forces is supplemented effectively with developmental works." Do you think this strategy has worked to curb naxalism? Critically comment. (200 Words)

While more direct security action is indeed needed to protect the civilians and the state, it needs to be balanced by development activities because

1. Development brings the state closer to the people , and challenges the naxalite driven brainwashing that paints state as a villain
2. Development brings better avenues of employment for the naxals, than fighting against the state

The govt of India, and the state governments have realised this and have therefore supplemented security measures with development activities like building of roads, schools, mobile towers, notifying PESA act, 1996 , FRA Act, etc . They have largely been successful as seen below

1. The no of incidences of Naxal related violence is largely falling over time
2. Pro development activities in erstwhile Naxal bastions like Sarnada forests in Jharkhand and Bastar region in Chattisgarh, has won national and international acclaim and the regions have been 'liberated' now
3. Naxals too realise the role of development and that is why they have started attacking roads, telecom towers, other development activities
4. Growing proximity of state with the affected regions is also leading to growing no of surrenders every year, as the naxals become aware of better prospects

Nonetheless, the battle is only half won. Corruption, leakages etc have ensured that only a part of development works actually reach the poor tribals. Hopefully, schemes like PM Jan Dhan Yojana, Direct Benefit Transfers, mobile telephony augments the state efforts and lead to a Naxal free India

**Topic:**Resource mobilization; Economic issues

6) The functioning of debt recovery tribunals (DRTs), created to help financial institutions recover dues speedily without being subjected to the lengthy procedures of usual civil courts, appears to cause more pain than gain for banks. Critically examine. (200 Words)

Debt Recovery Tribunals were setup to expedite recovery proceedings and speedy adjudication of matters concerning debt recovery of banks.

**SUCCESS-**

1. Earlier debt recovery cases had to be filed in ordinary civil courts which took years (often 10-15) to be adjudicated.

DRTs have helped reduce the litigation time.

2 Recovery of dues due to banks wasn't given importance by civil courts. DRTs function solely for the said purpose.

3. DRTs are quasi-judicial institutions, with well-laid out duties and powers.

4.Easier filing of applications and less fees. The maximum amount the tribunal can extract as fees is `1,50,000 and the

minimum amount is `12000. After `10 lakh, each lakh will add `1000 in the fees. This is far less than what civil courts charge.

**FAILURES-**

1. DRTs are burdened with huge backlog of cases due to shortage of staff.

2. Cases in DRTs are dragging on for years instead of the mandated 6 months time period.

3.Frequent approval of stay petitions and the abuse of other loopholes mars the effectiveness of DRTs.

4. Shortage of Appellate Tribunals hinders the appeal process.

Setting up of more DRTs and Appellate tribunals , appointing more officials and plugging the loopholes in law will help in strengthening the DRTs and make them more viable.

**Topic:** Industrial policies and their effect

7) Will the Start-up India campaign end up making India the start-up hub of the world? Critically comment. (200 Words)

The startup India campaign seeks to provide funds, tax holidays, ease down the exit process and provide fast track mechanism for filing patent applications. This campaign can turn India into a startup hub because:

- 1) Meets the need of fund for startups and helps them in creating a strong foot in market
- 2) Favorable conditions exist like rising pace of urbanization and large market
- 3) Ease down the business-doing process by ensuring a single point registration of startups
- 4) Allowing the startups to self-certify compliance with labor and environmental laws ensure that these startups don't have to go through tough regulatory clearances
- 5) Academic support through creation of 'startup India Hub' which allows banks, incubators, legal partners, universities and R&D institutions to come on single platform

However, this campaign may not prove successful because:

- 1) Ensuring compliance with archaic laws not in tune with modern trends is itself a difficult thing
- 2) Low levels of penetration of digital infrastructure in India which forms the bedrock for these startups
- 3) Evidences of failure of startups e.g. in food technology sector as a result of faulty business model
- 4) Indian education shuns the people from innovating and taking risk which can prove successful in long run
- 5) Strict regulations on forex regulations that inhibit investments in these startups and result in re-domiciling to countries like Singapore
- 6) Need of certification from inter-ministerial board to be qualified as 'startup' can delay their approval and associated benefits

Thus, 'startup India' campaign is a move in right direction but needs to be adequately supported through easing down business regulations and promoting investments in these startups.

**Topic:** Subsidies; Environmental pollution; Conservation

3) Critically analyse the environmental impact of subsidies, especially in the India.  
(200 Words)

Subsidies help in attainment of more disposable income in the hands of farmers which help them diversify output. It helps in reduction of poverty, help the striving middle class, increase in export production etc. However, there are many negative externalities attached to it.

They are:

#### AGRICULTURE SUBSIDIES

Inefficient use of water resources and ground water depletion. Subsidies encourage farmers to pump more water than they need. Results in changes in cropping pattern, soil nutrient levels, increased salinity levels, overloading of croplands, reduced fallows etc

#### FERTILIZER SUBSIDIES

Promotes overuse of fertilizers and pesticides. Such subsidies provide a way to enhance per yield production, leading to soil degradation.

#### FOOD SUBSIDIES

Huge demand for increased population results in pressure to provide food subsidies to the poor. The Food security act is a measure. It puts the burden on farmers to produce more, resulting in inefficient crop management, degradation etc. This coupled with unpredictable monsoon results in crop failures and hence decrease in fertility levels. MSP's attract farmers to produce cash crops

#### ENERGY SUBSIDIES

Leads to increase in use of fossil fuels, thereby going against global need to reduce its impact on temperature levels. Excessive use of diesel increases pollution levels.

#### KEROSENE SUBSIDIES

Adulteration with petrol leading to pollution

However, one can't ignore the positive impact on environment like:

1) Subsidies in LPG have promoted use of cleaner fuel

- 2) Lower tariffs for import of cleaner technology with more focus on renewable energy
- 3) R& D, information dissemination by the govt can also be seen as subsidies in the light of least environmental impact
- 4) Electricity subsidies will allow use of efficient technology to harness hydropower with least loss

Government is trying its best via UDAY Scheme(For DISCOMS), Neeranchal(watershed mangagement), soil health cards, soil testing labs, m-kisan portal, the recent International Solar Alliance(ISA) etc to effectively use the subsidies. Providing subsidies is not the issue but using the subsidies with least effect on environment and humans is the deal.

**Topic:** Awareness in IT; Agriculture; Economic growth and development

4) Technological change is an endogenous factor in growth and Internet is technology at its best. Discuss how internet tools such as e-commerce can help in growth and development of rural regions in India. (200 Words)

Internet recently has been foremost among all the technology-driven development taking place all over the world. With boost to internet penetration through initiatives like Digital India, NOFN, Project Loon and Free Basis internet tools can help in growth of rural regions in India esp through e-commerce:

1. Provide large and global market place for indigenous local products, art and craft. GI tagged products can expand their global footprint. Private players need to step in to leverage this potential in rural hinterland. Eg. Craftvilla and Kudumshree
2. National Agriculture Market e-Platform: It will help in price discovery, enable efficient trading system and better distribution of food between food deficit and surplus region and provide for better remuneration for farmers. Government both union and states should work together to make it a possibility.
3. E-commerce boost in urban areas can help rural areas if contract farming is allowed under APMC act without any caveats.
4. With improvement in rural incomes, the e-commerce will provide rural buyers with lots of choice in terms of buying high quality seeds, fertilizers, pump set and other consumer goods etc without commuting to urban areas.

However it is important that e-commerce is driven by the rural people rather than private players from outside. Model like rural cluster level e-tailers and Taobao model of China can be emulated.

**Topic:** Developments in S&T

6) What do you understand by photonics? Explain its various applications. (200 Words)

Photonics is the science and technology of generating, controlling, and detecting photons, which are particles of light.

Photonics is modern era replacement of electronics. Current microprocessors are based on electrons movement and hence research is under way to use Photons to improve the power of microprocessors.

Benefits of Photonics:

- High speed than electronics as copper wires create a bottleneck for data transfer.
- High confining optical technology.
- Is very stable and posses Well-characterised processing.

Applications of Photonics:

Applications of photonics includes all areas from everyday life to the most advanced science.

- Consumer equipment: barcode scanner, printer, CD/DVD/Blu-ray devices, remote control devices
- Telecommunications: optical fiber communications, optical down converter to microwave
- Medicine: correction of poor eyesight, laser surgery, surgical endoscopy, tattoo removal
- Industrial manufacturing: the use of lasers for welding, drilling, cutting, and various methods of surface modification
- Construction: laser leveling, laser rangefinding, smart structures
- Aviation: photonic gyroscopes lacking mobile parts

- Military: IR sensors, command and control, navigation, search and rescue, mine laying and detection
- Entertainment: laser shows, beam effects, holographic art
- Information processing like Big Data analytics.
- Metrology: time and frequency measurements, rangefinding
- Photonic computing: clock distribution and communication between computers, printed circuit boards, or within optoelectronic integrated circuits; in the future: quantum computing

Research is underway at *Centre for Nano Science and Engineering (CeNSE) at the IISc, Bengaluru* in the area of photonic integrated circuits which is likely to change the communication speeds in ICs and hence build high speed devices to explore potential applications.

7) Curbing tax evasion to boost public finance is part of the United Nations' Sustainable Development Goals (SDGs). In the light of this statement and recent recommendations of the Organisation for Economic Co-operation and Development (OECD)-led project on Base Erosion and Profit Shifting (BEPS) on tax avoidance, critically discuss the need for India to implement these recommendations and the challenges India faces in their implementation. (200 Words)

The seemingly biggest hurdle in India's development at present, is the lack of availability of adequate amount public finance for development. Without such public investment very little can be achieved in the social sector development.

According to the OECD led project on BEPS, India needs to implement 15 goals, which include effectively controlled foreign company rules, prevention of granting treaty benefits, mandatory disclosure rules, along with other measures.

The need for this arises because:

1. Most of the black money evading from India, finds its way back through FDI, by which corporate is able to evade a huge amount of tax, which is detrimental to economy.
2. The implementation will result in laying foundation of a modern international tax framework under which profits are taxed where economic activity and value creation occur.
3. Contrary to the fears of the corporate, depending on the planning structure used, the measures will ensure that income is taxed at least one time and not more than once

4. It will help in decreasing the menace of tax havens, which engulf of the tax money of the developing countries all over the world.

Challenges faced by India:

1. Over accommodative nature of the incumbent govt in case of satisfying the corporate world, as can be seen in postponement of implementation of SIT report on black money.
2. No effort to renegotiate the provisions of DTAA agreements with the known tax havens, to discourage tax evasion
3. Ability of the rich businessmen to sidestep the monitoring authorities, to continue the tax evasion, due to the wide spread corruption India.
4. Even when the violators are caught, there is a long gestation period in the legal process, which makes it easier for distorting facts, which destroys the whole purpose of implementing the measures, and encourages the black market even more.

So, there is a need for India to become an Offshore Financial Centre itself, following the practice of countries like US. Some measures have been taken in this regard, like the construction of GIFT city in Gujarat, which will have similar economic measures for offshore money.

**Topic:** Employment; Energy; Economic growth; Industrial policies

8) India hopes to have 175 Gw worth of renewable energy (RE) capacity by 2022 and the next target is to double this, to 350 Gw of RE by 2030 i.e. 40 per cent of actual power generation would be from renewables by 2030. Are there any negatives from this major shift in energy generation from renewables? Critically examine. (200 Words)

Renewable energy like solar, wind and tidal energy are energy of the future. They are here forever, unlike fossil fuels. Plus, they emit no Carbon dioxide or air pollutants. Further, they are present almost everywhere on the earth, unlike conventional fuels which are concentrated leading to political scrambles

Yet, the decision to drastically raise RE production, suffers from the following challenges

1. Money - The solar mission is being pegged at a 100 billion \$, making it a costly venture for a poor country like ours. Others like wind suffer the same

2. Per unit cost - The cost of every unit of RE is much more than that of conventional fossil fuels
3. Technology - Most of the RE tech is under foreign patents. The manufacturing base too is in western nations and in China. This could lead to foreign exchange problems and dependency
4. Grid Integration- RE provides an unpredictable supply due to changing weather conditions making grid integration costly and difficult
5. Storage- Batteries required are expensive and are laden with toxic chemicals.
6. Huge land acquisition required for solar is a challenge in agri-dominated India.

Nonetheless, some green shoots have been seen such as Clean Development Fund as promised under Paris summit to fund RE tech in developing countries, Green Energy Corridor for better grid integration, and rooftop solar program to offset land acquisition problems, making RE on a whole extremely welcome

**Topic:** Resource mobilization

4) It is said that the Chinese Communist Party has been much more successful than the democratic and parliamentary Indian elites in mobilising significant resources to finance a strategy of social investment and public services. Discuss why. (200 Words)

China catapulted itself from a poor country to the world's largest economy by PPP in a short span of time, also boosting its social indicators in the process. It was possible because of the following inherent advantages of CCP over parliamentary democracy

1. One party rule, means govt does not have to face opposition/roadblocks to its policies
2. Greater power concentration allows for better collaboration in decision making and execution
3. Investors do not have to worry about changing policies with govt change, policy paralysis due to coalition government headaces, etc
4. Costs of holding elections every 5 years in centre and states, costs lakhs of crores to the exchequer, diverting crucial funds
5. Same party govt in provinces leads to better federal coordination

Yet, Chinese success vis-a-vis India has been more because of other factors

1. China opened its economy 15 years before India leading it to prosper economically and in terms of social development
2. Market size- China has the world's largest population and every firm desires to target this market base
3. Tight implementation such as that of one-child policy rule, unlike that of India, helps it to deliver schemes better on ground
4. Critics point out that Chinese data are often exaggerated.
5. Chinese insistence on technology transfer helped the manufacturing sector to grow which pulled millions out of poverty

In fact, even though communist rule might have a hand in raising growth, it is more than offset by dictatorial tendencies, abuse of human rights, denial of freedom to the citizens among others. India may not be richer by money, but it sure is richer by holistic development of its citizen, thanks to democracy

**Topic:** Developments in S&T; Awareness in biotechnology, nanotechnology

5) Write a note on the spread and threat of Antibiotic-resistant bacteria to humans and examine how can nanotechnology help fight these bacteria. (200 Words)

Antibiotic resistance is a worldwide problem. New forms of antibiotic resistance can cross international boundaries and spread between continents with ease. World health leaders have described antibiotic resistant micro organism as "Night mare" and pose a catastrophic threat to people in every country of the world..

Spread :

1. Indiscriminate use of antibiotics is the single most important factor leading to antibiotic resistant
2. Spread through animals who have been treated with antibiotics for preventing, control and to treat diseases in animals
3. spread of resistance strain of bacteria from person to person or from non human source in the environment
4. Data on antibiotics use in human health care and in agriculture are not systematically collected.

Threats..

1. Infection caused by resistant micro organisms often fails to respond to the standard treatment
2. Increases the cost of health care.
3. Jeopardizes health care gains to society as without effective anti microbials for prevention and treatment of infection the success of organ transplantation, major surgeries would be compromised.
4. Anti microbial resistance threatens the effective prevention and treatment of an ever increasing range of infection caused by virus, bacteria, fungi etc

#### Role of nano technology

1. Diagnosis using efficient nano sensors or probes can speed up the treatment process at an early stage of diseases
2. Nano based drug carriers for existing antibiotics enhance their bioavailability and make them more target specific
3. Also the combination of nanoparticles along with antibiotics make them more lethal to micro organisms.
4. Recent advances in nano technology holds immense potential to modify surface properties which can be exploited for targeting biofilms to control bacterial spread

To conclude nano sciences can offer accurate, economical, less time consuming methods etc which wil help to avert microbial spread and it's consequences..

**Topic:** Energy; Industrial policies

6) Recently the union government released new Power Tariff Policy. Discuss its provisions, reasons why it's revised and the implications for consumers and power producers. (200 Words)

Provisions of the new power policy:

1. Rationalisation of tariff for end consumer, letting DISCOM pass on some of the additional costs to the consumer as a result of any tax/cess levied on them
2. Enable generators to sell electricity to the government by including their excess power into the grid
3. Enabling microgrids and their integration into the national grid creating an veritable market for electricity

4. Enforcing renewable purchases by generation companies and coal-fired plants, mandating them to offset at least part of the generation to renewable means,

Why it was revised:

1. Discoms in a financial crunch, need to be bailed out by banks and need refinancing every time due to distorted subsidy regime which is the result of populist pressure to keep tariffs low

2. Electricity generation from thermal power plants causes Climate change and pollution which are contributing to extreme climatic conditions

3. Irregular access of electricity to domestic and industrial consumers, power cuts and irrational tariffs

Implications for consumers:

1. Tariffs will rise

2. Regular connectivity and uninterrupted 24x7 supply

3. They can now use modern technology to produce their own electricity and sell to the govt via microgrids etc.

Implication for producers:

1. Will have to take the unpopular measure of passing the cost on to the consumer

2. will have to invest in grid upgradation for the new features of enabling generators to plug-in

3. need a strategy on offsetting for climate change by buying renewable energy

4. need more investment

**Topic:** Awareness in the fields of Space,

7) Discuss the significance and applications of the Indian Regional Navigation Satellite System (IRNSS) of the Indian Space Research Organisation (Isro). (200 Words)

ISRO conceived IRNSS in 2010, when India released to install its own communication satellites replacing country's dependence on foreign navigational systems such as the US GPS and the Russian GLONASS.

Significance:

1. Communication: the system is aimed to provide better communication services which will be divided into two categories viz. 'Standard Positioning Services'

available to all users and 'Restricted Services' provided to authorised users such as armed forces.

2. It will make India self-dependent on its own network system and also extending services up to 1500 km from the mainland,

covering SAARC countries as well.

3. Completion of project with 7 satellites installed in geosynchronous (4) and geostationary (3), will add India among nations having their own navigation system such as US's GPS, China ongoing BEIDOU.

Applications:

1. Better mapping of terrestrial boundary of the country, helping in marking precisely coordinates of landmarks like forests, roads etc.

2. Disseminating timely disaster alert to vulnerable areas.

3. Goods such as ammonium nitrate (MHA recently made regulatory measures) could be geo tagged reducing its wrong use.

4. Terrestrial navigation aid for hikers and travellers.

5. Visual and voice navigation for drivers.

6. Precise timing helping in better scientific calculations during experimentations and other activities.

**Topic:** Energy

5) Why solar tariffs are falling and what they mean for India's renewable energy sector? Discuss. (200 Words)

After the Paris conference, all nations have shown a resolve to move towards renewable sources. This has made Solar energy a sunrise sector.

Recent auctions have shown fall in solar tariffs, this can be attributed to -

1. Reduced price of polysilicon which is used to make solar panels. Plus increased production by China.

2. Recurrent Govt's push towards solar energy. The ISA has been a clear signal towards the private

sector about the intent of nations.

3. Govt policies have also reflected this intent. Ex- MII. This invites more private players increasing

competition and reducing prices.

4. The Govt has taken initiatives like establishment of solar parks with no land acquisition hassles

and other allied clearances has been appreciated by the private players.

5. The bundling of renewable energy generated with conventional energy would ensure sale and lower

tariffs so the consumers would also be at ease.

6. Involvement of NTPC has also ensured returns.

But on close perusal, we realize that these rates have fallen only in Rajasthan and AP because the Govt has built solar parks there. Moreover, these companies are not Indian. Indian providers

are sceptical about the sustainability of these projects because –

1. Indian solar industry is not mature yet.

2. The Green Corridor which facilitates transmission of renewable power is still not built. This could result in the same T&D loss situation that has already mired the conventional energy sector.

3. Govt still does not have proper capabilities to handle excess power.

Impact on renewable sector –

1. Cheap Ren power would encourage consumers who are sceptical of the prices, increasing demand.

2. To provide cheap power, the solar panels would be imported. Domestic industry instead of

flourishing would be hit.

3. Other Ren suppliers like Wind energy providers would be hit as State's will prefer cheap

solar alternative.

This clearly shows, if Govt provides proper environment, Ren energy sector can see rise. But Govt policies should also address the concerns of the domestic suppliers too. This would help India achieve its NDCs plus trigger growth.

**Topic:** Agriculture

6) It is said that to combat droughts, Agriculture should be revived with a different approach to water, soil, crops and research. Discuss which alternative model of agricultural development is required in this regard. (200 Words)

That only 45% of Net Sown Area of a Monsoon dependent India is under irrigation, shows the susceptibility of our agriculture to droughts Following are the lacuna in our current approach and their remedies

#### Water

Problem- Shortage of funds, bueracratc hassles, corruption, overlap of hundreds of schmes has resulted in slow increment of irrigation programs

#### Solution

1. Greater focus on creation of durable assests like ponds, tanks, etc under MNREGA while ensuring proper monitoring using technologies like Satellite imagery, etc
2. Rainwater harvesting, promotion of drip and trip irrigation, spreading traditional water storage techniques like khadin, etc

#### Soil

Use of chemical fertilisers reduce the water retention capacity of soil

Solution- Promotion of organic farming. Govt efforts to convert urban solid waste into organic fertilisers is a welcome step in this regard

#### Crops

Problem- Post green revolution, water guzzling HYV seeds became prominent. Further, spread of paddy which consumes more water intensified the trend

#### Solution-

1. MSP on paddy should be reduced, while that on crops which use less water such as millets and pulses ought to be increased
2. SRI farming technique that uses less water but still provides a bumper yield need to be incentivised

#### Research

Problem- There is a shortage of drought resistant crops. More importantly, agriculture reseach is in a piteous state in India

Solution-

1. Greater research on Genetically Modified varieties which can sustain drought be prioritised
2. Research environment needs to be improved by providing greater funds, making research politically independent, greater salaries for professors to incentivise best minds to come, etc

Agriculture is the top employer of India. The more secure it is made using insurance, research, sustainable practices, technology, the more people can be lifted out of poverty

**Topic:** Security challenges and their management

7) Is the post-independence Indian state an inheritor of the strategic legacy of the pre-1947 state? To what extent does it adopt as its own the strategic positions of the pre-1947 state? Does it need a new security doctrine? Critically analyse. (200 Words)

In spite of India following the British framework of governance post-independence, India's strategic outlook has little in common with its pre-British legacy due to the following –

1. India actively supported the decolonization process in Africa and Asia post-independence as opposed to Britain which attempted to retain control over Suez Canal
2. India's ambition of building a blue-water navy is borne out of its desire to protect its maritime borders and not for overseas force-projection
3. India has always maintained a neutral stand on international affairs (e.g. Israel-Palestine issue, Russia-Ukraine etc.) with assurance of action under the UN framework
4. India has actively promoted its soft-power globally through multi-track diplomacy instead of projecting military might as was done by British India in Burma
5. India's responded to domestic security issues by promoting civil liberties and development as opposed to British India which had imposed Criminal Tribes Act, Vernacular Press Act etc.

A new security doctrine is required in this regard as –

1. India's policy of neutrality has lost ground in post-Cold War era

2. New forms of security threats such as terrorism, drugs-trafficking etc. have arisen since pre-1947
3. Ideological brainwashing is now a potent threat due to increased information dissemination and globalization
4. Technology now plays an important role in conflicts
5. New warfare avenues through cyber-space, outerspace, WMDs etc.

**Topic:** Conservation

8) Analyse the provisions of National Mission for a Green India proposal and their likely impact on current forest use practice. (200 Words)

The provisions of GIM can be seen under the following heads –

1. Environmental –

- (i) Aims to achieve the National Forest Policy(1988) objective of 33% forest cover
- (ii) Improve ecosystem services, hydrological services and carbon sequestration

2. Economic –

- (i) Increase forest-based income of households living around the forests
- (ii) Reclamation of ravines, abandoned mining areas etc. for productive land-use

3. Social –

- (i) Emphasis on traditional ecological knowledge of communities
- (ii) Promoting alternative fuel-sources to forest timber and promoting fuel-use efficiency

4. Institutional –

- (i) Strengthening Gram Sabha for decentralized governance of forests by revamping JFMCs
- (ii) Engaging schools and colleges, NGOs and other CSIs

The likely impact on forest use practices can be seen as follows –

1. Environmental –

- (i) Promotion of sustainable agriculture practices to conserve forest coverage

(ii) Emphasis on incorporating likely impact on critical environmental services before implementing projects

2. Economic –

(i) Scientific forest-produce collection and use of traditional forest-dweller knowledge

(ii) Increased land-area for agriculture giving impetus to large-land-holdings

3. Social –

(i) Improved social standing of tribals and due to improvement in economic conditions and adoption of clean energy-practices respectively

(ii) Lower instances of extremist ideologies gaining foothold among tribals

4. Institutional –

(i) Decentralization of responsibility in line with the principles of cooperative federalism and subsidiarity

(ii) Development of respect for environment among the youth of the country

Hence, the overarching and integrated framework of GIM can be an effective route for holistic forestry development if implemented earnestly.

**Topic: Indian economy**

7) From January to December 2015, India's total exports were significantly lower than the same time of the previous year and are continuing to decline. Examine the reasons and measures needed to halt the decline. (200 Words)

India's exports to every major region of the world have been declining consistently. Major decline of exports include petroleum products, gems and jewellery, agricultural produce, products of 8 core manufacturing industries, machinery, textiles, chemicals etc. Even India's high export products like generic drugs, pharma and automobiles, though in positive trend, could not sustain its growth rates. Moreover, some experts report that it is a dangerous trend called stagflation.

Reasons:

1) Slump in crude oil prices all over the world severely affected India's petroleum products exports.

2) Decline in holistic global demand, and economic activity.

- 3) Slow down of China - as it is one of the major trade partner for India.
- 4) Rupee appreciation over major currencies and subsequent depreciation of major competitive currencies like Yuan/Renminbi.
- 5) India's exports are fast losing competitive prices due to poor logistics infrastructure and tax terrorism at different levels. For example, major dependence on road logistics is cost ineffective and even government's 2 or 3 % support could not fill it.
- 6) Narrow base of manufacturing sector and high tilt towards conventional products. For example, even in our major textile exports, we are more dependent on yarn, but not recognized the new trends like technical textiles.
- 7) Our exports are being subjected to trade and non-trade barriers, particular in developed countries. Critics argue that it was India's failure to negotiations reduced market access.
- 8) India signed many trade pacts for geo-political reasons than commercial one's. The best example is SAFTA, which has not resulted in any significant export gains despite the obvious logistics advantage and similar consumer preference of the South Asian population.
- 9) Failure of India's FTA, PTAs (Preferential Trade Agreements), CEPAs. They are not comprehensive and are highly narrow in trade selection, thus affecting our cheaper competitive exports like generic drugs in Japan, China etc.
- 10) The recently concluded TPP and its strict IP regime has no interest on India and adversely affected our exports.

### Steps taken:

- 1) Subsidy waiver on petrol and diesel, rationalising subsidies in other areas to enhance funding to crucial areas of economic activity.
- 2) Taken up exclusive industrial corridors, upgrading water ways, road and port improvements for increase cost effectiveness for exports. However, these are moving at a snail's pace.
- 3) High level diplomatic focus on bilateral and multilateral agreements to increase and diversify market access to face these types of shocks.
- 4) Technology upgradation initiatives like ATUFS - for textile industry (also to concentrate on technical textiles).
- 5) Entrepreneurship promotion with initiatives like Make in India, Startup India Stand up India.

6) Progressive taxation measures like GST, ensuring consistent flow of investment with better insolvency and bankruptcy code.

Diversifying our export products and increasing market access are the need of the hour for India to control this situation.

**Topic:** Role of external state and non-state actors in creating challenges to internal security.

5) Has jihadi terrorism emerged as existential threat to Indian society or to the world civilization? Critically examine. (200 Words)

Jihadi terrorism, which has grown in strength in the past few years, primarily due to rising sophistication regarding use of technology, financing avenues etc. The existential threat they pose to the world community are –

1. The ISIS has captured vast areas in northern Iraq and Syria affecting their territorial integrity
2. The Taliban in NWFP region of Pakistan has put immense economic and military pressure on Pakistan threatening its stability
3. The threat of Taliban's return to power in Afghanistan persists, threatening to send it back to medieval ages
4. Rising intolerance against Islam in Western nations like France and Germany may foment internal rebellion

Although, India has been subjected to jihadi attacks, India's strength lies in a multicultural and tolerant society which has prevented the threat of Indian Balkanization.

Also, the jihadi threat is unlikely to pose an existential-threat to most of world community as –

1. The UN has taken several measures to prevent terrorist financing, UNSC resolutions, setting up of Counter-Terrorism Committee etc. which is evidence multi-pronged worldwide strategy
2. The Tallinn manual on Cyber-Security proposes guideline for strengthen cyberspace of nations strengthening them against cyber-attacks
3. Majority of the world Muslims are against the IS according to a Pew Research Center Report

4. Majority of the nation-states today have strong institutions and are based on democratic principles

**Topic:** Money-laundering and its prevention

6) Discuss the the Financial Action Task Force (FATF) recommendations to stop money laundering and steps taken by India on these recommendations. (200 Words)

The recommendation of FATF on money-laundering(ML) can be seen under the following heads –

1. Legal –

(i) Legislations to criminalize ML in accordance with Vienna and Palermo Convention of UN

(ii) Provisions for attaching property, assets etc. of entities involved in ML

2. Financial –

(i) Strengthening of regulatory mechanism for financial institutions

(ii) Enhanced diligence and record-keeping of financial institutions

3. Institutional –

(i) Setting up a Financial Investigating Unit for information acquiring and analysis

(ii) Measures to prevent unlawful use of legal persons

4. International Cooperation –

(i) Measures to prevent any avenue for tax-evasion, attachment of foreign properties etc.

(ii) Render mutual legal assistance or extradition

Steps taken by India are –

1. Legal –

(i) Legislating the Prevention of Money Laundering Act

(ii) Enactment of FEM Act to restrict foreign currency outflow

2. Financial –

(i) Setting up the Financial Stability and Development Council to coordinate India's international interface with FATF, Financial Stability Board etc.

(ii) Launching of the National Risk Assessment exercise to identify sectors susceptible to ML

3. Institutional –

(i) A Financial Investigating Unit has been setup as an independent body

(ii) The Aadhar Scheme was implemented to prevent impersonation and in the process prevent ML

4. International cooperation –

(i) Signing OECD's Multilateral Competent Authority Agreement on tax evasion

(ii) Directing SEBI to closely scrutinize FII, especially through P-notes

**Topic:** Economic growth; Climate change

7) Analyse the implications of extreme weather events on global and Indian economic growth. (200 Words)

Extreme weather is something that falls outside the normal weather patterns. It can range from a flood, Drought to Thunderstorms & hurricane/cyclones, blizzard, Tornadoes to Heat waves etc. It may take place over one day or period of time.

Some of the implications of extreme weather to global economy:

1. Blizzard snow storms like recently hit the east coast of USA can impact major transport such as airport closure or delay the air flight.
2. Extreme weather warnings can arouse fear in consumers. so, many consumers make large purchases both before and after the extreme events effecting retailing market.
3. Floods effect economy such as 2011 floods in Thailand submerged hundreds of factories near Bangkok, creating a worldwide shortage of computer hard drives.
4. Hurricane or tropical cyclone can result in extensive property damage, crop damage. Thus increase the cost for building/constructing activities and agriculture activities.
5. Severe droughts in places like Texas, Australia, Russia, East Africa. Deadly heat waves have hit Europe, india & record numbers of tornadoes across the United States. Losses from such events helped push the cost of weather disasters worldwide.

Some of implication to indian economy:

1. Unseasonal heavy rains caused immense damage to crops and led to a price rise of vegetables and pulses etc.
2. Floods effect major to indian economy like recent floods in gujurat, assam, Uttarakhand, maharastra, bihar, chennai resulted in damage to building,roadways,vehicles are cost financial burden.
3. Cyclones hit india major to east coast india results into extensive damage to numerous houses, closing ship or delay in cargo ship industry such recent cyclone Aila,komen etc.
4. Drought like condition impact majorly to agriculture industry due to reducing production of crops such as rice,cotton & other crops. It is severe in maharastra, telangana, karnataka and bundelkhand region etc. India needs to increase budgetary allocations for irrigation projects and offer higher procurement prices for crops to support farmers.

**Topic:**Indian economy – growth and development

6) Despite low oil prices, why do you think the value of Rupee is falling? What implications does this have on economy? Discuss. (200 Words)

Low oil prices is generally considered good for India. India is a major importer of crude oil. Reduction in oil prices mean reduction in current account deficit, which in turn reduces the depreciation of the currency.

However, recently there has been significant fall in oil prices and yet the rupee is declining in value. The reasons are

- 1)Drastic fall in oil prices have instilled fears in the world market. Investors have flocked towards US dollar, considered a safe haven. This has reduced the demand for rupee . Thus a strong US dollar implies a weak rupee.
- 2)Chinese yuan devaluation has led to surge of cheap imports in India which has negated the benefits of lower CAD due to low oil prices.
- 3) Tightening of American monetary policy has led to outflow of investments leading to declining value of rupee
- 4)Exports have taken a hit since oil exporting countries have suffered due to low oil prices. Their demands for imports have declined which has affected Indian exporters.

It has both positive and negative implication for the economy.

A] Positives

- 1) Government could give opportunity to invest in much neglected sectors like education, health, social sectors, infrastructure and Railways
- 2) It is an opportunity to clean up PSU banks whose performance has been dismal
- 3) The government could reduce subsidies and rationalise excise duty and cess
- 4) Reduction in oil prices has been primarily due to reluctance of Saudi Arabia to reduce production and thus yield market share to US' shale gas producers. Low oil prices would increase its demand and reduce demand for costly shale gas. This would affect US economy. In order to stimulate the economy, the Federal Bank might not increase rates. Ease of borrowing would lead to capital inflows in India.

**B] Negatives**

- 1) Declining rupee along with cheaper imports from China would widen the CAD
- 2) Widening of CAD due to depreciation of rupee would cause inflation in the economy. Tight monetary policy to rein in inflation would impact borrowing for investment
- 3) Debt servicing burden of government would increase
- 4) Remittances would have increased in the normal scenario but millions of Indians working in the Gulf region (oil-dependent countries who export oil) would lose their jobs. Thus net remittances would decrease only.

**Topic:** Resource mobilization; Devolution of powers and finances to local bodies

7) It is said that to mobilize resources for better infrastructure in towns and cities, one revenue stream that could hugely empower municipalities is professional tax. Examine why and how it should be imposed. Also comment if you support increasing the ceiling of this tax. (200 Words)

Examining why Professional tax should be imposed :

1- Municipalities' revenue are not commensurate with rising Urban India needs - In India, there are around 4000 municipalities. Their annual aggregate revenue is less than 1 trillion, including central and state governments grants and loans. However, urban India needs at least 3 trillion of capital expenditure besides revenue expenditure.

2- Roll out of GST : It will lead to further loss in revenue of local governments by removing taxes such as octroi, entry or local body tax.

3- Economic Boom : Recent rise in economic growth has led to rise in per capita household income. So, it is reasonable to impose professional tax to leverage this economic boom.

4- making Infrastructure services a revenue generating activities : We need to invest extensively in urban infrastructure to make our cities more livable. Then better infrastructure services and facilities can be harnessed to generate revenue by imposing innovative taxes like professional tax.

Examining how professional tax should be imposed :

1- State government, under its jurisdiction of imposing professional tax under article 276 of our constitution, should provide local governments power to levy and collect professional tax.

2- Parliament should amend the law in order to increase the ceiling from currently 2,500 rupees a year to 12,000 as recommended by the 14th Finance Commission. Earlier in 1988, Parliament had increased the constitutional assembly decided ceiling of rupees 250 to 2,500 & since then it has not been amended, despite repeated recommendations by various finance commissions.

Finally, Central government should provide resources to the local government for better & efficient collection of professional tax. Given majority of this professional tax would be used to finance infrastructure which is also the main priority of the central government, it would be a win-win situation for all centre, state and local governments.

**Topic:** Achievements in S&T

**8) Write a short note on Xpert MTB/RIF and its relevance for India. (150 Words)**

The Xpert MTB/RIF is a new fully automated diagnostic molecular test for tuberculosis and has the potential to revolutionize and transform TB care and control. The test-

1. Simultaneously detects TB and rifampicin drug resistance
2. Provides accurate results in less than two hours so that patients can be offered proper treatment on the same day.
3. Has as minimal bio-safety requirements, training, and can be housed in non-conventional laboratories.

RELEVANCE FOR INDIA-

1. TACKLING THE TB BURDEN- According to WHO statistics, India has the largest number of TB patients in the world. With an estimated economic loss of \$100 million annually, any measure to help treat the disease will be more than welcome in India.

2. HEALTH CARE COSTS- The new diagnostic tool comes as a boon for the millions of poor in India who can ill-afford the pricey tests. Better and timely results would help in the patients as opposed to conventional diagnostic tests which are more prone to human error and time consuming.

A healthy demography would help India reap the benefits of an active demographic dividend and concentrate on strengthening other social areas as well

**Topic:** basics of cyber security;

9) In recent years phishing has emerged as one of biggest threats to individuals and to economy as well. Examine how phishing is done, its implications and measures required to stop individuals becoming to victims to it. (200 Words)

Phishing is a fraudulent attempt, usually made through email, to steal ones' personal information such as- credit card number, social security number, account number or password.

HOW DOES IT HAPPEN?

1. MASQUERADING- Usually such emails appear to come from well known organizations. Unsuspecting individuals click on the given link and enter their personal informations and banking details.

2. HACKING- Gangs hack the bank databases and obtain Aadhar card and pan card informations.

3. AVAILING SIM CARDS- Duplicate sim cards are then availed with the stolen identities. Once the sim card gets activated the criminals procure the ONE TIME PASSWORD (for netbanking) from the bank, rendering the original phone number and password of the user useless.

IMPLICATIONS-

ON INDIVIDUALS-

1. IDENTITY THEFT- Recovery of identity can be time consuming and mentally harassing.

2. MONETARY LOSS- Once lost, getting the money back may be impossible.

ON ORGANIZATIONS-

1. COST LIABILITY- The institutions will have to spend a lot for prevention and remediation of such frauds.

2. BRAND EROSION- The label may get affected due to trust deficit amongst the customers.

ON AUTHORITIES-

1. TRACING BURDEN- Since such frauds occur mostly on an online platform, tracing the roots of these crimes will be difficult.

2. LACK OF MEANS- The already burdened police and cyber-crime branches lack the digital and institutional means to tackle such sophisticated organized frauds.

MEASURES TO BE TAKEN BY -

1. AWARENESS- Individuals should take informed decisions and not fall prey to such online gimmicks. They should be made aware that legitimate organizations will never ask for personal information via e-mail.

2. STRENGTHENING INSTITUTIONAL MEASURES- Banks and other entities should make proper verification before issuing duplicate passwords. Police should watch for fake complaints filed for lost identities.

3. DEDICATED CYBER CELL- Cyber cell should be set up and given the autonomy to deal with online financial frauds and identity theft. Training should be imparted in line with evolving cyber crime.

4. STRINGENT PUNISHMENT- Strict punishment should be meted out to deter possible future way wards from seeking easy means to earn big bucks.

**Topic:**Indigenization of technology and developing new technology

5) “The high cost and poor serviceability of foreign aircraft (with long-term dependence for the supply of critical spare parts) underline the importance of developing indigenous capabilities.” In the light of recent Rafale deal, critically comment on the statement. (200 Words)

India’s air-force has inarguably the least amount of indigenization amongst the three organs of the armed forces. Resultantly, increased foreign dependence has exposed India to additional riders such as separate agreements for spare-parts without any provision for ToT as in the case of the recent Rafale deal.

This necessitates the development of indigenous capabilities due to the following reasons –

1. Impetus to domestic defence industry for which MoD is currently the primary buyer
2. Emphasis on indigenous development in India rather than just assembling of military equipment
3. Impetus to R&D within the country due to increased industry-engagement
4. Improved R&D scenario, coupled with better pay and other benefits may prevent brain-drain from India
5. India could emerge as an arms exporter which it currently cannot, due to restrictions of foreign countries regarding exports

In this backdrop the following measures can be undertaken –

1. Allow private sector companies access to public funded R&D infrastructure and testing facilities as recommended by Dhirendra Singh Committee
2. Set up a dedicated defence technology university similar to the ones setup by Dept. of Atomic Energy and Apace as recommended by Rama Rao Committee
3. Setup an exports arm of DRDO similar to Antrix of ISRO
4. Tax benefits for defence manufacturing industries on the lines given to power, telecom etc. industries

**Topic:** Resource mobilization; Infrastructure

6) Do you think the building of infrastructure should be left to the private sector and bank financing rather than through fiscal resources? Substantiate. (200 Words)

Erstwhile Planning Commission has estimated 45 lakh crore rupees of infrastructure spending in the plan period spanning 2012-17, and most of it is expected to be funded by private sector backed by banking finance. But hitherto experience shows private finance cannot be reliable and sustainable source for infrastructure fund as compared to public resources.

Private investment is not a major source, why?

Main objective of private investment is quick and competitive profit. Due to long gestation period, land acquisition complexities, low return, even negative return... most of these infrastructure projects are not attractive options.

Banks are reluctant to finance infrastructure due to;

- 1) Loan to this sector has disproportionate share in NPA
- 2) Compliance to Basel III and new accounting standard compel banks to keep face away from infrastructure finance.

Why public finance is the ideal option?

- 1) It will bring crowd in effect and can give confidence to private investment.
- 2) Developing countries should follow this model considering the level of development and at the same time income of the people is prohibitive to use privately financed infrastructure.
- 3) Money spend on roads, ports and other areas will add to government asset. It will increase GDP in future and improve government's debt servicing capacity.
- 4) We have successful models in this regard. US, Europe, Japan ...relied on public resource for this sector for reconstruction after world war.
- 5) Rural infrastructure development is the sole responsibility of government where mostly poor people resides, and agriculture and allied activity is the source of income.

Government should press pause button on FRBMA for the time being in favour of infrastructure when the world is going for a recession and finance can be done through disinvestment. Private investment can be accommodated where it is possible such as national high ways, ports....A complete reliance on private fund impractical at this juncture.

**Topic:** Issues of buffer stocks and food security

7) Do you think it is time for India to import food to build stocks for food security as international commodity prices are low today? Critically analyse. (200 Words)

GoI may be considered the option of importing food because :

- 1- To feed ever increasing population of the country.
- 2- Increasing the frequency and intensity of extreme weather events leading to huge loss in agricultural production.

3- Windfall decline in agricultural commodities prices in the international market.

However, considering import option is not the demand of the time because :

1- Cheap import will artificially drive down commodities prices and leaving farmers into a perpetual cycle of poverty.

2- Our problem is not of insufficient production (we are still the top producer of foodgrain, pulses, sugarcane, tea and many more)but of price spikes (onions, pulses) , volatility in production , low yields.

So, what is the need of the time ??

1- Low yields : In India, only 7% of the total agricultural budget is spent on agricultural R&D, compared to 13% in China & 51% in high income countries. So, this should be substantially increased.

In addition, Agricultural extension services should be improved between farms and the research centres.

2- Volatility in Production : Government should shift from the lop-sided price support policies (MSP regime) to income security regime.

In addition, government should increase efficiency by reducing post harvest losses (they can add upto 15% to the net production).

3- Price Spike : Government has already established a Price Stablisation Fund considering recent crisis in onions and pulses.

**Topic:** Infrastructure; Energy; Paper-2 – Federalism

7) “The UDAY scheme is not only a bailout programme but a show of ‘collaborative federalism’.” Critically examine. (200 Words)

Electricity is a subject in the concurrent list and the UDAY scheme is a show of collaborative federalism between centre and the states because of their shared responsibilities to revive discoms:

States' part in taking the responsibilities:

1, States will take over 75% of the debts of discoms over the two years till 2016-17. This will give more flexibility to manage the debt, as it is taken over by states.

2, States will take the losses of discoms in a graded manner till 2021

3, State DISCOMs shall comply with the Renewable Purchase Obligations as directed by the Ministry of Power.

Centre's part in incentivising states:

1, The debt taken by states in this regard will not be shown in the calculation of the fiscal deficit of states, giving some respite to state finances.

2, Participating states will receive priority funding from schemes like Deen Dayal Upadhyay Gram Jyothi Yojana, Power sector development fund, Integrated power Development Scheme and other schemes.

3, States will be supported through additional incentives to utilize its full power generation capacity like issue of coal at notified prices, low cost power from NTPC and other CPSEs.

As both the centre and states feel the need to revive Discoms for them to operate efficiently and get them out of the vicious debt cycle in financing their operations, it is clear show of collaborative federalism. Obligations on states and incentives from the centre to make sure the states show interest in the revival of the Discoms is a healthy way and collaborative effort in moving forward to rejuvenate the Electricity Sector of the country.

**Topic:** Cropping pattern

8) Pulses, India's most consumed protein-rich food group, have continued to pressure food inflation upwards even as the prices of most other items have cooled off. Examine the reasons for their high prices, impact on poor and measures needed to be taken to cool off their prices. (200 Words)

India is home to largest share of vegetarians who mainly depend on pulses and dairy products to extract protein for themselves. Even during time when international and domestic prices for agricultural commodities are at low, India is finding hard to control food inflation due to rising prices of pulses due to number of reasons:

-> Poor agricultural policy: Our policy has been centred around green revolution (rice and wheat) which has outcasted pulses

-> Supply-demand mismatch: Lack of provisions through which mismatch can be forecast and avoided

-> MSP and poor procurement: Poor procurement of pulses and dismal increase in MSP is not encouraging for producers

-> Government regulation: Tax is imposed on export to control domestic price which is not encouraging for producers

-> Poor agro-infrastructure: Lack of irrigation, credit facilitation, availability of quality seeds to producers (farmers)

-> Availability at international market: Pulses are not readily available and supply-demand is tight in international market.

-> Climate change: It has impacted all the crops and is a deep concern for agrarian economy like ours

-> Black marketing and hoarding

Impact:

-> Inflation and nutritional deficiency : Pulses remain an essential food item for protein and less supply will lead to high price.

-> Import and subsidy : Higher import, subsidy will burden our fiscal and current account.

-> Poor people are more vulnerable to price rise which pushes them towards malnutrition -> Social and health loss

Measures:

-> Alternate source: Promote alternate vegetarian source of protein like maize, dairy and less usage of pulses

-> Pulse revolution: Formulate policy which will benefit producers of pulses in long run (just like green revolution)

-> Capacity building: Better agro infrastructure to avail irrigation, credit and high quality seeds

-> Science and Technology: Investment in R&D and make pulses sustain climate change (like drought, flood)

-> Forecast for future: Formulate effective forecast mechanism to predict and avoid such situations in future.

Recent steps like uniform crop insurance, unified irrigation schemes are welcoming but government needs to have pulse centric approach to counter the situation and to realize self sufficient.

**Topic:** Resource mobilization; Indian economy – growth

9) Do you think cutting of policy rates by the Reserve Bank of India (RBI) help firms and consumers? Critically examine. (200 Words)

Banks have been observed to be relatively quick to cut their deposit rates (interest paid on deposits), but not so quick to cut their lending rates (interest at which banks lends money) with RBI policy rate changes. The asymmetry causes a chunk of money to be left with banks in form of capital, that is eventually used to repair their balance sheets laden with black marks of bad loans and non-performing assets. But at the same time, consumers also matter to the bank. So if Banks are sensitive of their consumers, why the policy rate cuts by RBI are not passed adequately to consumer base. The reasons are multi-pronged:

1. Small borrowers have little or no access to alternative forms of finance, this creates a kind of monopoly of banks and hence reduces competitiveness. However large firms have the option of shifting to debentures.
2. Less reliance on debt-financing (being risky): The extra capital build by not passing interest rate cuts, hedges banks against risky debt financing.
3. Regulation on banks to maintain capital buffer against loans it lends: Such regulations force banks to shore up their balance sheets. Only way to do that is through the extra build capital.
4. NPAs, bad loans: NPAs causes stress in bank's lending motives. Such stress is relieved by the extra capital it accumulates by not passing rate cut benefits to consumers.
5. Small rate cuts have not seen bringing new lot of customers to banks, as a consumer is concerned of his monthly installments and such rate cuts don't bring a considerable change in that.
6. Profit motive of Banks.

Despite shortcomings, RBI rate cut always benefits economy and thus consumers and firms as:

1. Infrastructure investment gets a push
2. Home loans and corporate loans get cheaper
3. Housing and automobile sector also gets a boost
4. Boosting overall nation's GDP
5. Creation of new jobs

No doubt the rate cuts by RBI has benefited consumers and organisations but the effect intended is not seen yet. RBI's introduction of Marginal Cost of funds based Lending Rate is a step in right direction which will mandate for banks to cut their lending rate when RBI cuts Repo rate.

**Topic:** Conservation

6) Describe the joint forest management (JFM), the National Afforestation Programme (NAP) and the forest landscape restoration (FLR) approaches of forest conservation and management. Examine the challenges facing forestry in India. (200 Words)

The new forest conservation approaches in India are multi-pronged strategies which exhort the principles of decentralisation and community participation in conserving the ecology.

**JOINT FOREST MANAGEMENT-** The Indian Forest Policy of 1988 delineated the concept of JFM in which the state governments and the local people would together share the responsibility of conserving forests and utilize the benefits accrued from this management.

**NATIONAL AFFORESTATION PROGRAM-** It is the flagship program of National Afforestation and Eco Development Board. The program envisions setting up Forest Development Agencies which will provide institutional and financial support to improve forests and livelihood of people. The village acts as the unit of planning and implementation of policies.

**FOREST LANDSCAPE RESTORATION-**It is a process of forest restoration that aims to regain ecological integrity and enhance human wellbeing in degraded forest landscapes.

**CHALLENGES FACING FORESTRY IN INDIA-**

1. **IRONY OF OPEN TREASURY-** Forests are believed to be vast expanse of resources to be used and exploited without any restraint. Slash and burn agriculture, unapolegetic deforestation, and ill-conceived notions of its free availability poses an existential threat to it.
2. **DEVELOPMENTAL AGENDAS-** To fulfill the post independent objectives of industrialisation and growth, several developmental works were carried out like setting up of dams, mines, power plants, extension of railway lines etc which led to exponential felling of trees. This process is continuing till date what with the current mission of MAKE IN INDIA giving teeth to it.
3. **DILUTED ENVIRONMENTAL LAWS-** Environment regulations are being diluted to make way for easy clearances for industrial and business projects. For ex- CAMPA fund has been proposed to make up for any kind of deforestation. The current amendment to the LARR Act seeks to dilute the consent and Environment Impact Assessment clause.

4. CORRUPT COLLUSIONS- The forest officials at the ground level are increasingly colluding with timber mafia for petty monetary gains. This defeats the very purpose of their service and hampers the ecological balance

The challenges stated above should be dealt with immediate urgency to transform the objectives of various forest policies into practical results.

**Topic:** Conservation; Pollution; Security issues

7) What do you understand by climate violence? It is said that India is at top of climate violence in the world. Examine why. (200 Words)

Violence caused on the environment and climate due to various ecological disputes and conflicts among human beings even for the basic resources such as water and forests is called climate violence. India has been said to be at the top of climate violence as maximum number of conflicts have been reported from here. Some of these conflicts are related to water management, fossil fuels and climate justice, industrial and utilities conflicts, tourism recreation and biodiversity conflicts.

REASONS FOR CLIMATE VIOLENCE IN INDIA-

1. Population- With a population of 125 crores and scarcity of resources conflicts are bound to arise as people are struggling for survival. For examples, poor people in Delhi's winter will definitely make use of bonfire no matter if it is polluting cities and causing breathing problems in others.

2. Thrust on Industrialization- Due to competition and various relaxed norms industries are booming up resulting into violence. For example- leather industries in Kanpur are polluting Ganga. Now, if Ganga's water is not potable, then people will shift to other water resources and hence polluting them. Also, people of nearby industries will have to be relocated to other regions leading to many construction activities and hence pollution

3. Industrial units exploiting loopholes in environmental clearances- Nexus between bureaucrats, politicians and industrialists for getting EIA done is also contributing factor in such violence.

4. Bad management of resources- Resources are few and demand are many leading again to conflicts. For example, scarcity of water resources has led to shortage. This resulted into appropriation of water sources and channels by industrial units with political nexus.

Climate violence can be avoided if there is fit between knowledge generation and decision making. This link is missing in India. So, to connect this link the govt can take various steps like:

1. Educate the people about the harm of climate violence using various electronic and print means. People need to be reminded that climate violence can also cause human violence.

2. Decision making has to be made more accountable and transparent. In this technology can play a major role

Thus, though there is conflict between development and climate change which was visible in COP 21 held last year. So the efforts should be put on by govt for sustainable development which benefits both humankind and climate.