



# VISION IAS

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## GENERAL STUDIES (TEST CODE : 1072)

|                   |              |                     |         |
|-------------------|--------------|---------------------|---------|
| Name of Candidate | KUMAR ANURAG |                     |         |
| Medium Hindi/Eng. | ENG          | Registration Number | 26074   |
| Center            | ORN          | Date                | 23/9/18 |

### INDEX TABLE

| Q. No. | Maximum Marks | Marks Obtained |
|--------|---------------|----------------|
| 1      | 10            |                |
| 2      | 10            |                |
| 3      | 10            |                |
| 4      | 10            |                |
| 5      | 10            |                |
| 6      | 10            |                |
| 7      | 10            |                |
| 8      | 10            |                |
| 9      | 10            |                |
| 10     | 10            |                |
| 11     | 15            |                |
| 12     | 15            |                |
| 13     | 15            |                |
| 14     | 15            |                |
| 15     | 15            |                |
| 16     | 15            |                |
| 17     | 15            |                |
| 18     | 15            |                |
| 19     | 15            |                |
| 20     | 15            |                |

Total Marks Obtained:

Remarks:

Signature of Examiner

### INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
2. There are TWENTY questions printed in ENGLISH.
3. All questions are compulsory.
4. The number of marks carried by a question/part is indicated against it.
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other than the authorized one.
6. Word limit in questions, if specified, should be adhered to.
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.

16-B, 2<sup>nd</sup> Floor, Above National Trust Building, Bada Bazar Marg, Old Rajinder Nagar, Delhi-110060

M-1/4, Plot No-A-12/13, 1<sup>st</sup> Floor, Ansal Building, Dr. Vidya Sagar Homeopathic Clinic, Mukherjee Nagar, Delhi-110009

## EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

1. Explain <sup>①</sup> why it is important to urgently address the problem of poor land records and infirmity of land titles in India. Also <sup>②</sup> discuss how this problem can be addressed. 3.5hr

(150 Words) 10

Land has multi-dimensional aspect in the functioning of the economy - as an asset, as a source of revenue and also as a source of production.

### # Challenge of poor land records in India

- \* colonial heritage of Zamindari system has led to unrecorded ownership
- \* poor infrastructural capacity post Independence has led to keeping of unmaintained records

### # Need to address the problem

Economic  
Loss

- ① Land can not be used as an asset / collateral for borrowing / transaction
- ② Land being a vital capital is locked up in litigation
- ③ Rise in the land prices, especially the shadow prices of the land
- ④ Impact ease of doing business adversely
- ⑤ Agricultural sector faces issues due to locked up land, fragmentation of land

Social  
loss

- ① Land often becomes the source of contention and riots, violence in the society
- ② Corruption and exploitation by the officers over the ambiguous land records
- ③ Usually the minorities & vulnerable section faces the brunt of poor land record.

### # Solving the problem

- \* Digital land titling : to maintain an uniform record
- \* use of satellite mapping as advocated by Economic Survey 2016-17
- \* Blockchain technology to update the land record
- \* fast track courts to solve the ongoing land disputes on urgent basis

Government has taken various initiatives such as Digital India to cater to the digitisation of land records.

2. ① What are the special features of the infrastructure sector that make its financing a challenge? ② What measures have been taken to facilitate adequate amount of finance to this sector? (150 Words) 10

Rishu Judge Ahluwalia committee had highlighted the need of ₹40 trillion for infrastructural development of India.

### # Challenges in financing infrastructure sector

#### \*Economic factors

- ① Heavy fixed capital is needed
- ② long gestation period
- ③ High risk associated in the projects due to Inflation, exchange rate volatility and business environment
- ④ Heavy machinery required, at times unviable in developing nations.

#### \*social factors

- ① land acquisition and rehabilitation in large infrastructure projects
- ② Social Impact Assessments add up to the cost of financing infrastructure

\* Other

- ① Environmental Accounting also add up to the cost

# Measures taken

- ① Invits and REITS are issued to pool the finances for infrastructure
- ② National Infrastructure Investment fund has been established
- ③ Governmental policies such as:
- Resolving NPAs through 4R & IBC
  - Disinvestment → National Investment Fund
- ④ Money channelising through:
- SIDBI
  - IDBI banks.
- ⑤ PPP: relaxed norms of FDI and high involvement through HAM model etc.

It is rightly said that If you travel by rail and road, but economists travel by infrastructure.

3. ① Despite favourable circumstances, India's electronics manufacturing has been unable to respond to the rising demand. Discuss. What steps can be taken to address this situation? (150 Words) 10

Economic Survey has highlighted that at the current rate of imports, by 2025, Electronic imports will overtake oil & gas imports of India.

#### # Favourable circumstances

- ① large market (1.2 billion consumer)
- ② open and growing economy (a 7-2% p.a)
- ③ cheap labour
- ④ favourable government policies such as SEZ, NIMZ

Yet, demand is not met.

#### # Challenges to electronics manufacturing

- ① Cheaper imports from China - distorts the domestic production in India
- ② Inverted Duty structure for electronic raw materials such as chips, IDEM.

- ③ Higher cost of production - due to constraints as highlighted in the Case of Doing Business Report 2017  
→ electricity → labour regulation → transportation
- ④ Technological issues in terms of early design and innovation
- ⑤ Digital transformation in the economy has also pushed demand rising exponentially.

### # steps that can be taken

- ① Rationalising the tariff structure
- ② Countervailing & Anti-dumping measures against Chinese imports
- ③ Facilitating Case of Doing Business in India through Make in India.

CASE:

Recently, Samsung's largest plant was inaugurated in Noida by PM Moon Jae In & Narendra Modi.

- ④ Rationalising labour laws; Special Economic zone.

Electronics is the fuel for 21<sup>st</sup> century growth.

4. Despite registering a high growth rate in the post-reform era, India continues to witness a high incidence of poverty. Explain this paradox and suggest ways to resolve it. (150 Words) 10

The paradox of high growth rate and high poverty has been widely discussed by Amartya Sen in Uncertain Alogy and has often been known as sen-Shagwath debate. An average growth rate of ~4% post independence marked with poverty rate of 21% as per Census 2011 (Tendulkar Committee) and 51% of multi-dimensional poverty.

### # CAUSE for such Paradox

- Growth Pattern → ① strategy of unbalanced growth — unbalanced model adopted post independence
- ② Top-down approach with heavy focus on industrialisation during early planning period
- Economic Reforms → ① Green Revolution was not equitable in terms of return
- ② 1991 LPG reforms drove the services sector, while Agricultural sector lagged (employing 86% of the work force)

- Policy Approach** → ① Poverty alleviation measures were adopted in silos and a coherent strategy was missing.
- ② Agricultural distress persists - such as irrigation network of only 45%, fragmented land
- ③ Human capital (education & Health) also lags behind in terms of quality and investment.

### # Resolving the paradox

**Inclusive growth**

- Agricultural driven focus such as doubling farmer's income
- doubling investment in education (6% of GDP) and health (4% of GDP)
- Encouraging gender mix in workforce participation

**Policy Approach**

- Targeted approach. eg: 115 Aspirational District Program of NITI Aayog
- Rural development through skilling, SHAs and financial inclusion.

Poverty free India is a new India.

5. In light of the argument that India has entered a regime of "permanent surpluses" <sup>①</sup>discuss whether the time has come to remove agricultural commodities completely from Essential Commodities Act. (150 Words) 10

India had met with the highest production of food - 174 mt and even higher of horticulture production. The argument of permanent surplus revolves around:

- \* high production
- \* Agricultural trade surplus
- \* largest producers of milk, groundnut, pulses, wheat etc.
- \* Despite production, agricultural distress persists as market pricing are being constrained by Essential Commodities Act.

#### # Removing Agriculture from ECA

- \* constraints large bulk buyers from storing and holding grains
- \* inhibits exports of agri products
- \* limits farmers income with non-realisation of market price.

- \* Major bulk buyers keep off from agri-transactions
- \* other avenues such as Contract Farming are largely not exploited
- \* Excessive production leads to glut in the market, Cobweb model predicts about limited production next year.

CASE: \* Ashok Arunati as well as Balwari Committee have recommended about removal of products from ECA.

### # challenges & solutions

- \* While the step would be pro-farmer, inflation would be anti-consumer.
- \* Might lead to excessive exports, limiting food availability in domestic market.

Thus, a cohesive and comprehensive approach is needed that checks into malpractices while allowing the market forces to work.

6. The 1988 National Forest Policy (NFP) was visionary in its scope and ambition. However, there is a need for a new forest policy in the current context. Discuss. ③ sch. (150 Words) 10

1988 National Forest Policy was initiated to meet the objective of sustainable development and inclusive growth. It catered to:

- \* the rights of the forest dwellers
- \* respect for the wildlife habitat & forest natural resources
- \* aim for increasing the forest cover to 33% of the area.

# However, with changing times, consumption pattern and market demands, there is a need for a new forest policy:

- \* Climate change: appeared as a major threat to the globalised world
- \* rampant deforestation and degradation, 33% of the area is degraded wasteland
- \* wild-human conflict due to encroachment in the forest area

- \* better allocation of forest rights are needed between the dwellers & outsiders
  - \* forests have come up as a natural solution to mitigating disaster impacts
  - \* Afforestation to be the tool rather than just checking deforestation
  - \* Rampant rise in forest fires also demands a relook in the policy.
- # It is through the NFP that the government can meet its INDC target and mitigate the negative consequences of climate change. Initiatives such as:
- \* forest surveys
  - \* CAMPA
  - \* National Green Highway mission are the steps in the right direction.

7. (1) How does rapid urbanization increases the vulnerability to major disasters?  
(2) Explaining with examples, suggest measures to develop disaster-resilient cities. (150 Words) 10

Urban sprawl and unplanned development has been termed as the major source for aggravated impact of natural disasters.

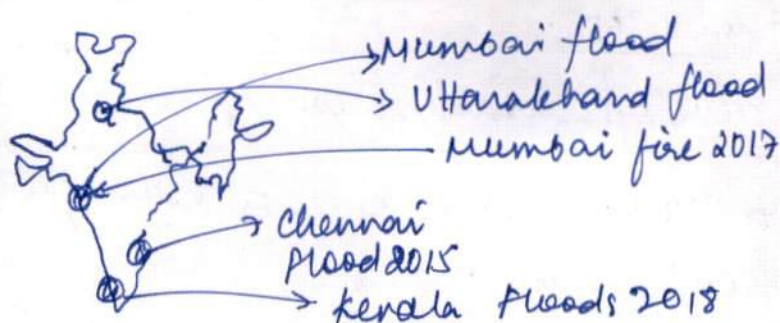


Fig: Disasters aggravated by Urbanisation

# How urbanisation increases vulnerability?

- \* Population density : larger chunk of people impacted in a small area
- \* Urban pattern of consumption : leads to choking of drainages and encroachment of lakes, wetlands. Thus, takes away the natural absorbers of floods.
- \* Deforestation : limits the ability to check wind, water during storms. Leads to erosion and silting of river basins.

\* Encroachment: on flood plains makes people vulnerable to river level rise.  
eg: Kerala floods, 2018.

\* cementation: limits groundwater recharge

\* Infrastructure: increases casualties during earthquake.  
eg: Nepal quake 2015.

### # Measures to develop disaster resilient cities

\* Planning: to avoid encroachments on forests, wetlands, flood plains.

\* Decentralisation: of disaster preparation and mitigation

\* Technology: to augment infrastructure capabilities. eg: Japan's infrastructure is both earthquake & Tsunami resistant.

\* Community participation: through drills & trainings. eg: Japan, South-East Asian nations.

Sendai Framework 2015-30 talks about understanding the risk, vulnerability, mapping and then building the capacity to mitigate the disaster.

8. (1) Explain DNA profiling and highlight its forensic application. Also (2) discuss the significance of DNA Technology (Use and Application) Regulation Bill, 2018 in this regard. (150 Words) 10

DNA profiling refers to storing the DNA mapping of an individual in a data bank and then using such data banks to identify criminals & individuals as the need arises.

# Its forensic application:

\* as the DNA mapping is unique to individuals, it has high success rate in identifying criminals in crime scene.

\* can trace the pedigree and hereditary lineage of individual

\* can help in identifying missing children and dead bodies.

# DNA Technology Bill, 2018 was introduced recently to legalise DNA profiling to aid police and criminal investigation.

# Its significance lies in:

- \* correct identification with limited human error
- \* quicker investigation and judicial procedures
- \* can strengthen the policing capabilities and deter criminals who are once recorded in the profiling data base
- \* can help the state to identify missing individuals and dead bodies.

- ~~#~~ However, it throws various challenges to:
- \* state profiling individuals on the basis of their genetic makeup
  - \* possibility of racism and discrimination. eg: Aryan theory
  - \* Against the Article 21 of constitution that guarantees Right to life including ownership of the genes & DNA to the individual.

While DNA profiling will aid the state capacity, a regulation & check is must -

9. What is meant by the term Blue Water Capabilities? In this context, identify the key measures that have been undertaken to enhance the blue water capabilities of the Indian Navy. (150 Words) 10

Blue water Capabilities refers to the ability and strength of a naval force to command not only the region of its territorial water but also regions of High seas and international waters.

CASE: US Naval Forces have the strongest Blue water capabilities with maximum number of aircraft carrier

# The key measures to enhance Blue water capabilities of Indian navy are:

\* Military (navy) exercises: such as Malabar exercise, KIMPAC etc

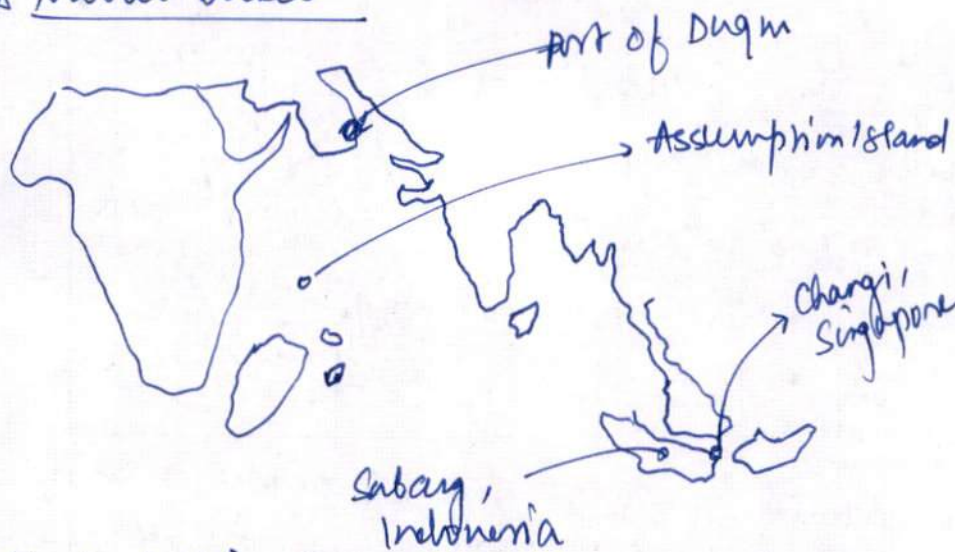
\* IONS: Indian Ocean Naval Symposium with other Indian ocean nations to strengthen cooperation

\* Inducting and rebuilding Aircraft carriers such as INS Vikrant in making.

\* Submarine capabilities such as: INS

Arishant developed indigenously; scorpene  
series

\* Naval bases



that India has negotiated to allow  
navy operability.

\* agreements such as LEMOA, BECA  
and COMCASA with USA.

\* largest naval base along Karnataka  
Coast

India has 7500 km long coastline and  
~~sea~~ place at sea is the only way  
out to peace in the nation.

10. Identify the factors that make India vulnerable to drug trafficking? Also discuss the key steps taken to deal with it in our country. (150 Words) 10

As per UNODC report, more than 30% of the Indian youth are involved in some form of drug consumption.

# Factors that make India vulnerable:

\* International actors:



\* High youth population: Thus creating the market

\* Unemployment and academic pressure; performance pressure at work

\* Easy availability and

\* Involvement of police machinery.  
eg: Punjab drug case.

### # Key steps taken:

\* Narcotic Drugs and Psychotropic Substances Act was initiated that made:

- ↳ drug consumption a criminal offence
- ↳ drug possession a criminal offence

\* International negotiations and agreements such as  
Single Convention of Narcotic Drugs, 1954

\* Drug Bureau to check the manufacturing, sale and illicit wealth generated out of such activities.

\* Scheduling of medicinal drugs → H  
→ X  
to limit the supply (regulation).

CASE: Movie such as Uda Punjab is a community led approach to raise awareness about the menace.

Solution lies in accepting drug abuse as an issue rather than crime, initiating rehabilitation and social acceptance of the issue.

11. How do higher global crude oil prices affect the Indian economy? What steps can be taken to gradually insulate India from global oil price volatility in the long term? (250 Words) 15

While India has 0.75% share of natural oil & gas reserves, it houses 17% of the world population - leading to a great mismatch in demand and supply, higher imports and vulnerability.

### # Global crude oil prices affecting Indian economy

\* Nomura as well as Economic Survey 2017-18 has pointed that:  
Every \$10 increase in oil prices lead to  
→ ~1% rise in Inflation  
→ ~0.3% fall in GDP  
→ ~0.7% ↑ in CAD.

\* Inflation: hits the consumers hard as oil is the basic raw input for transportation, manufacturing and industries.

\* Current Account Deficit: widens as higher prices for imports are paid; leads to depletion of foreign exchange reserve.

- \* lowers investment : in the economy as
  - ① RBI raises interest rate to counter inflation
  - ② Inflation diminishes 'animal spirit' of investment in private sector
- \* Hits agriculture : dependent on diesel motors for pumping
- \* lower export : as production loses their competitiveness due to higher input cost.

# Long term solution to oil price volatility

Diversification

→ ① of its trade sources such as USA, Middle East, Africa, Central Asia

→ energy mix between oil & gas; focussing on crude to strengthen its refinery capacity

Renewables

→ shift to renewable energy; target of 175 GW by 2022

→ National Biofuel Policy 2017 to look for alternatives

Mobility → promotion of e-vehicles and hybrid vehicles

→ Impetus on public transport

Reserves → maintaining strategic reserves to smoothen fluctuations

→ to bring domestic price stability

CASE: Economists have rightly said about oil that there is either too much of it, or too little of it all the time.

Explorations → of other alternatives such as coal bed methane, shale gas reserves.

With rapidly growing economy, per-capita energy consumption of India is increasing. Thus, adopting long-term measures is in India's strategic interest.

12. <sup>1A</sup> Critically discuss the role of private sector in skill development in India in recent years. In this context, what are the measures required to improve oversight as well as financing in the skill development sector?

(250 Words) 15

Institutions such as ILO and World Bank have highlighted the 'Unskilled India' issue with around 70% of the graduates unfit for skilled jobs. Keeping this in view government had initiated various <sup>schemes</sup> initiatives.

- \* PM Kaushal Vikas Yojana
  - \* Ministry of Skill Development & Entrepreneurship
  - \* National Skill Development Corporation
- Along with the private participation.

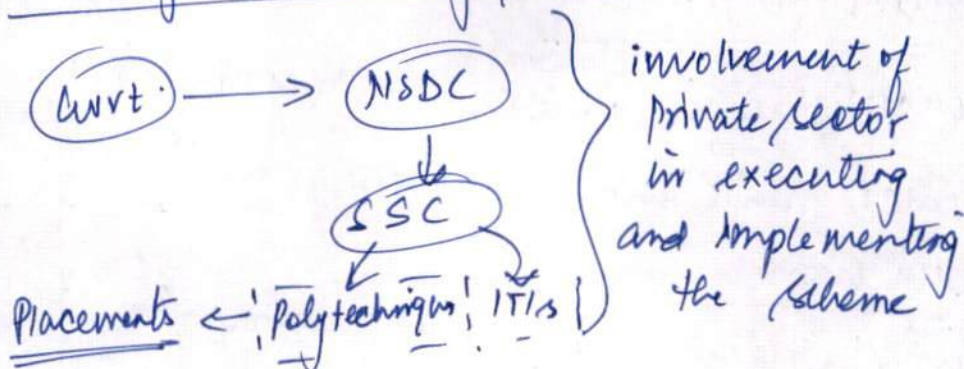
# Role of private sectors in skill development

\* Positives

- (SS)
- ① Sector Skill Council are instituted with the involvement of industries that have the responsibility of training and placements as per industry demand.

② ITIs and Polytechnique institutions are  
run by private bodies

③ Funding and Skilling pattern



### \* Negatives

Sharda Prasad Committee has highly criticised the SSCs and labelled them as hot bed of corruption.

- ① limited accountability and conflict of interest in SSC management
- ② low placement - as low as 17% was noted by the committee
- ③ industry demand and skill supply mismatch
- ④ Poor quality of training as the focus

is on achieving the target rather than quality.

⑤ lack of trainers.

### # Measures required

- ① consolidation of SSCs as recommended
- ② strict adherence to Skill Quality Framework
- ③ National regulator to be setup for the skilling institutes
- ④ financing pattern to be based on placement rate and outcomes rather than numbers of skills imparted

Education, Health and Skills are the quintessentials for a 'New India' and for the nation to reap its demographic dividend.

13. The e-commerce sector has been booming in India for the last few years. Examine the need for its regulation in light of the recently proposed draft e-commerce policy. Further, identify the challenges that the sector is currently facing. (250 Words) 15

Acquisition of Flipkart by Walmart highlights the scale of operations of e-commerce in India - the deal alone is worth \$18 billion.

### # Reasons for booming e-commerce

- o Internet penetration has increased; 420 million Indians under Internet connectivity
- o Smart phone penetration increasing
- o Less cash economy transition

In order to cater to the changing market structure, need has arose to regulate e-commerce via e-commerce policy because

& E-commerce has become billion dollar industry with strong posiforward and back ward linkage.

- \* legislations such as Consumer protection Act do not cover the protection under e-commerce
  - \* e-commerce as intermediaries in (market model, B2B model) have limited accountability
  - \* Data Colonisation as e-commerce platforms accumulate large amount of private data
  - \* Privacy Issue due to no data protection framework yet in India
  - \* Rapid growth in connectivity in rural areas have made the region vulnerable to online frauds and scams.
  - \* Monopolisation of the ecommerce market is also happening with only limited participants dominating it.
- Thus, a policy guiding the market has become necessary.

## # Challenges faced

## # Financial

- ① especially startups heavily relying on venture capitals & Angel Funds - which are situational and limited
- ② Limited asset as collaterals as majority are market models.

## # Structural

- ① limited internet penetration and digital literacy keeps the demand constrained
- ② logistics in India is constrained by poor road & rail connectivity, especially in rural and remote areas.

## # Economical

- ① market dominance by few big players
- ② FDI is restrained in inventory based model.

e-commerce holds key to future Indian economic growth with rising literacy and internet connectivity.

14. Explaining the importance, highlight the achievements of dairy sector in India. Examine whether over-production is the reason for the problems being faced by the dairy industry. Give some solutions to address the problems. (250 Words) 15

Dairy sector is one of the most important agro-based sector. It holds immense importance:

- \* provides income-security to farmers
- \* provides raw materials for agricultural produces (eg: manures)
- \* caters to food security issue
- \* forward linkages to food processing sector

### # Achievements of Dairy Sector

- \* Operation Flood has led to creation of various successful Cooperatives:
  - ↳ gender equality in workforce
  - ↳ income & financial security to farmers
  - ↳ rural development
- eg: AMUL in Gujarat, Mother Dairy in NCR

- \* India has become the largest producer of milk in the world ✓
- \* Various breeds of cattle are being domesticated, with India having around 350 million of them.

### # Examining the problem

- \* Overproduction
  - Proliferation of cooperatives have led to glut in the market in some regions.
  - Competition among producers has increased.  
eg: Amul, Mother Dairy in North-West;  
Sudha in Bihar region.
  - Lesser price results in losses and shutting down of cooperatives.
- \* Quality Issues as sanitary measures are important for the sector
- \* limited food processing and usually direct sale limits the potential.

- \* Value added products such as fabrics, sweets, paneer are not being derived and focused upon - limiting the potential
- \* limited to negative dairy exports.

### # Addressing the problem:

- \* Diversification of dairy production across various geographic regions
- \* linking with cold storages & mega food parks (SAMPADA scheme) for food processing
- \* Investing in MSMEs and startups through MUDRA for milk derived products and exports through APEX.
- \* Negotiations in WTO to ease sanitary and phytosanitary measures.

Ashok Dalwai committee has recommended dairy sector as the major link towards doubling farmers income -

15. There has been a focus on Textile and Apparels industry in India in recent years. Elaborate the potential of this industry and the challenges that lie in achieving it. What steps have been taken in this regard? (250 Words) 15

Textile and Apparels industry has been at the centre of Economic Survey and Budget discussion due to the various potential it holds.

### \* Economic potential

- ① Labour intensive industry; largest share of employment offered outside agriculture and construction.
- ② Export potential: Already consists around 15% of the exports; meets the apparel demands & fashion of western world
- ③ GDP growth: contributes roughly 5% of GDP

### \* Social potential

- ① Inclusive growth: as women labour force is high in such sector
- ② Cottage industry: possible in handspun textiles, such as khadi industry
- ③ Reduction in unemployment and social unrest: as the sector has very high

employment elasticity.

- \* Other factors:
- ① environment friendly sector
  - ② high market and consumer demand
  - ③ Raw materials are available - thus strong forward and backward linkage  
eg: cotton → processing → product
  - ④ can meet the fashion needs of the world

# Challenges that lies in achieving potential:

- \* Structural challenges
- ① handloom industries are not productive
  - ② Economic survey has highlighted about their obsolete machinery dependence
  - ③ credit financing of textile MSMEs are also low - tripple bind problem as highlighted by Sebastian Morris

- \* External issues
- ① stiff competition from Bangladesh and Vietnam in capturing market offered by China's withdrawal
  - ② Quality and cost comparison with other nations

\* Infra Issues ① logistics and connectivity  
for trade - highlighted in poor Ease of Doing  
Business report

② Stringent labour laws in power sector,  
i.e. capital intensive mills.

### # Steps taken:

- ① ATUF Scheme (Amended Technology  
Utilisation <sup>Fund</sup> Scheme) → provides financing  
capital in Textile sector
- ② Ministry of Textiles launched PowerTEX  
for capital intensive sector
- ③ Increased funding to Textile MSMEs  
in last 2 budget → Warehouse receipts  
→ MUDRA financing
- ④ Promotion of Khadi through KVIC

India holds comparative advantage in  
textiles as per Standard Trade Model.

It must capitalise on the opportunity  
and tap the potential.

16. <sup>1</sup>How do transportation corridors in biodiversity rich areas impact the wildlife? <sup>2</sup>Examine the current policy framework in this regard. Also, suggest <sup>3</sup>measures to minimise the negative effects while balancing the need for development. (250 Words) 15

Transportation corridors in biodiversity rich areas refer to the networks of highways and railway lines transverseing through them.

eg: Rail lines and highways through Jim Corbett region.

# How do transportation corridors impact?

\* man-animal conflict : poses a threat to both man and wildlife

\* destroys habitat : through deforestation and encroachment for corridor

\* increases vulnerability : through noise and air pollution

\* increases mortality : incidents of train hitting elephants, animals getting trapped in electricity line.

\* movement of animals into human settlements

# Current Policy framework :

\* Environment Protection Impact Assessment  
to assess the environmental impact of such corridors.

\* National Wildlife Action Plan (2017-30) :  
: sets guideline on construction activities in wildlife area

\* Policy guidelines by Ministry of Environment  
: to minimise man-animal conflict;  
promotion of non-lethal measures and  
transport corridors construction

Frame  
work

→ lethal measures → caging, tranquilisers  
→ trapping

→ non-lethal measures → transport corridors,  
sensitising & awareness

# Measures to minimise the negative impact :

- \* Impact assessments - to initiate developmental projects in regions of least vulnerability
- \* Transport corridors - for wild animals  
eg: Elephant corridors connecting NIKES,  
Tadoba - Andheri corridor
- \* Sound-barriers along transportation routes
- \* fencing of train routes
- \* Sensitisation and participation of local communities
- \* compensatory afforestation, CSR funds to Corporate Environment Responsibility.

As the world moves towards sixth major  
man extinction, it is imperative to  
build on the requisite capability to  
meet the goals of sustainable development.

17. The potential of technology to aid farmers in increasing productivity as well reducing susceptibility to climate change <sup>① proof</sup> remains underutilized. Identify the reasons for the same and suggest measures to improve technological penetration in agriculture. (250 Words) 15

The potential of technology to aid farmers lies in:

- \* Optimising inputs - precision farming - <sup>through satellites & sensors</sup>
- \* Insurance coverage - drone & satellite <sup>assessment</sup> → PM Fasal Bima Yojana
- \* Optimal data - from IMD & ISRO → Dhruvan app
- \* Quality of inputs - through research → Soil Health Card
- \* Green farming - solar & wind energy → CRISATI & KUSUM

However,

# Technology potential remains underutilized?

\* Social factors { ① farmer illiteracy and lack of awareness

② non-inclusion of farmers all across the nation

\* Infra issues { ① electricity and data connectivity not available.

eg: Only 40% internet penetration in India as per WB WDR 2016.

② Time lag in information delivery through Common Service Centres, weather related

info.

- \* Social Inertia ① lack of technology acceptance
- ② lack of funds to implement it on large scale

### # Identifying the reasons?

- ③ time lag in adjustment to smart technologies such as internet based data dissemination.
- ④ land fragmentation & intensive agriculture
- # Such reasons have led to technology potential remaining unutilised as:
  - \* around 20,000 farmers' deaths were reported in previous years
  - \* Farm productivity has been falling
  - \* Economic survey has pointed to loss of around \$20 billion annually due to climate change in agri sector.
  - \* farm distress due to sub-optimal production
  - \* Krishi Vigyan Kendras and other initiatives such as NICRA have not materialised

on ground.

CASE: Ashok Dalwai committee recommended heavy use of technology in arable farm sector.

# Measures to improve tech. penetration:

\* Economic measures [ ① increase in funding to technology related schemes such as Bhuvan app, e-NAM.

② Incentive to farmers in shifting to technology friendly initiatives

\* Infrastructural measures: [ ① National Optical Fiber network

② Digital India linkage with agri sector  
③ Provision of electricity under SDV Gram Jyoti Yojana, saubhagya scheme

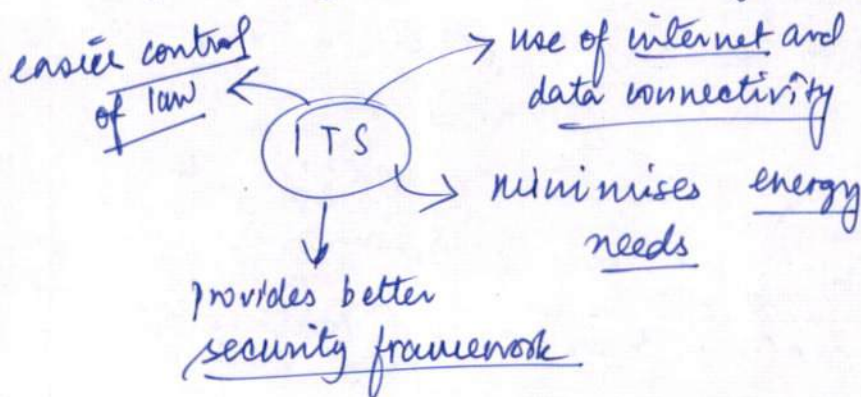
\* Social measures: [ ① Digital literacy through Digital Sakshanta Abhyaan

② Active involvement of scientists, celebrities and local politicians to encourage technology use.

Technology holds the potential to transform agri sector and double farmers income.

18. What is Intelligent Transportation System (ITS)? Explaining the need of ITS in India, identify the challenges in deploying it. (250 Words) 15

Intelligent Transportation System refers to integration of ICT into transportation network. It has following features and objectives:



eg: using satellite based operation of rapid metro, connecting and linking vehicles to traffic lights using IoT technology.

### # Need for ITS in India

\* Heavy vehicle encroachment - on roads - heavy traffic, opportunity cost of delays

\* Pollution & Standard of living - has deteriorated due to behaviour of private vehicles

eg: Delhi equated to Gas Chamber by SC.

- \* Growing economy : requires smarter and intelligent mobility for work and trade
- \* Existing infrastructure : have failed to provide the needs and demands.

CASE: Hyperloop technology is being currently tested in India by SpaceX.

### # Challenges in deploying :

- \* Financial
  - ① requires heavy investment and technology which Indian private enterprises as well as government lacks.
  - ② Has higher risk due to possibility of failure

- \* Economical
  - ① argument of using limited funds and resources in upgrading current infrastructure rather moving into new realm of ITS.
  - ② Private Participation through PPP is the challenge.

- \* Structural
- ① Requires internet penetration; digital literacy and people participation - still at nascent stage in India.
  - ② have and have nots : as rural region will be deprived of such modes in recent times.

### # Solution lies in:

- \* developing smart cities and counter-magnets with smart transportation corridors
- \* leveraging IoT, AI and Big Data through harnessing 5G technology
- \* Streamlining Existing Business.

Transportation is the bloodline of the economy. Intelligent transportation for intelligent economy is mandatory.

19. Explain the concept and significance of Data Localisation. Also discuss its limitations in strengthening law enforcement efforts in the context of Srikrishna Committee report and the draft Personal Data Protection Bill, 2018. (250 Words) 15

BN Srikrishna Committee has recently recommended the Data Protection Framework

which has provisions and features:

\* Basis data principles → data minimisation  
→ consent  
→ data security

\* data localisation

\* penalties ; time frame for reporting data breach

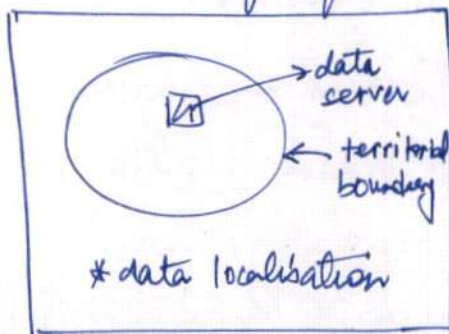
### # Data localisation

Data localisation refers to storing the data of businesses and transactions within the territorial boundary of the nation in a server.

\* Its significance lies in:

① Protecting the data - both online as well as offline

② Preventing data colonisation by MNCs



- ③ Preventing misuse of data by private entities - bringing accountability
- ④ maintaining & ensuring privacy of the data subjects.
- ⑤ Access to data in case of locus of grave emergency such as national security threat.

# Its limitations: in strengthening law enforcement efforts:

- ① cloning of data to other servers is possible
- ② Globalised and interconnected world - thus difficult to put a check on data breach & leak
- ③ cyberattacks
- ④ issues of surveillance by state and misuse of data on privacy related laws - thus localisation does not ensure unhindered accessibility.

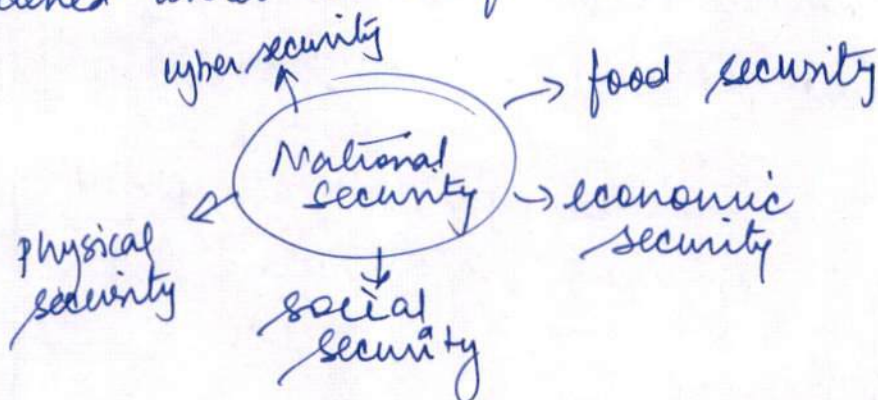
# Solution lies in

- ① robust cyber-security infrastructure
- ② cooperation with private sector enterprises in cyber-security
- ③ seven principles of data security.

Data is the new oil in 21st century and requires adequate safeguards.

20. What is the link between illegal immigration and national security? In this context, critically discuss the exercise of creating a National Register of Citizens in Assam. (250 Words) 15

The dimensions of national security have been widened under the UN framework to



Illegal immigration poses a threat to national security and its dimensions in many ways:

### # Link between illegal Immigration & ~~Social~~ National Security

\* Physical security (1) As the illegal immigrant may belong to terrorist org, radicalised youth.

eg: NIA's claim on Rohingya refugees.

(2) Involvement in criminal activities (drug trafficking) etc to earn living

\* Economic (1) pressure on limited resources

(2) Informal jobs being hijacked

\* Political (1) vote bank politics may lead to regional tensions. eg: Assam riots

# Food Security → ① pressure on limited food resources  
→ ② encroachment of land

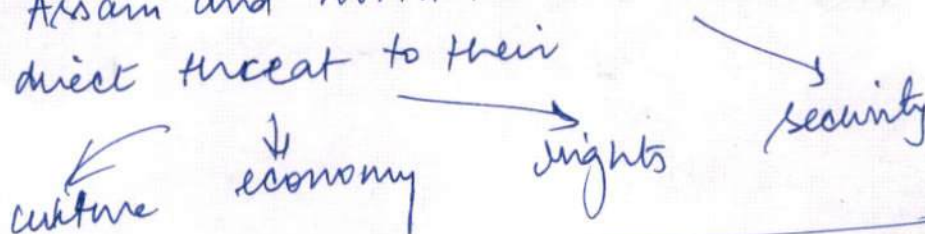
## # NRC and National Security

NRC refers to a register of bonafide citizens of Assam. The recent NRC updation is to take into account;

- \* NRC of 1951
- \* names included in electoral list prior to 1971

## # NRC - a step to tackle National Security

\* Influx of Bangladeshi immigrants in Assam and north-eastern states pose direct threat to their



CASE: Various riots have broken out in the past including recent Assam Riots in 2014

\* linkages of such illegal migrants with

criminal activities & terrorism has been established by NIA.

\* Insurgents in North East also use this situation to their advantage.

# However, NRC also raises concerns:

\* on humanitarian ground

\* cut off date as per Assam Record is too far off - various generations have lived here as Indians

\* not all refugees can be termed as threat; distress migration needs to be factored in.

eg: Global Compact on Migration and Refugees have been signed by India.

# Solution lie in:

\* Article 21 - Right to life includes life of Refugees too (SC in Bong Lian Kahm judgement)

\* Thus, a balanced approach such as voting rights suspension, stronger border management needs to be considered.