



# VISION IAS

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## GENERAL STUDIES (TEST CODE : 1515)

Name of Candidate	PULKIT		
Medium Eng./Hindi		Registration Number	
Center		Date	

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:

## INSTRUCTIONS

- Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).  
उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न-पत्र कोड, विद्यार्थी क्रमांक आदि)।
- There are **TWENTY** questions printed in **ENGLISH & HINDI** इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
- All questions are compulsory.**  
सभी प्रश्न अनिवार्य हैं।
- The number of marks carried by a question/part is indicated against it.  
प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
- 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.  
प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
- Word limit in questions, if specified, should be adhered to.  
प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
- Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.  
उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

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

Plot No. 857, 1st Floor, Banda Bahadur Marg (Opp Punjab & Sindh Bank), Dr. 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.

1. Explain the meaning of off-budget borrowings and its role in helping the government raise funds for various expenditures. Also, comment on its desirability. (150 words) 10

बजटेतर उधारी (ऑफ-बजट बॉरोइंग्स) का अर्थ स्पष्ट कीजिए और विभिन्न व्ययों के लिए धन जुटाने में सरकार की सहायता करने में इसकी भूमिका का उल्लेख कीजिए। साथ ही, इसकी वांछनीयता पर टिप्पणी कीजिए।

Off budget Borrowings are debt financing / deficit financing Mechanism which do not get accounted for Consolidated fund of India. They are typically done by PSUs / ordinance factory Boards.

Example → FCI's borrowing to finance its economic cost of food subsidy is an off Budget Borrowing.

### Role in financing

- ① Doesn't get accounted for in Fiscal Responsibility at FRBM
- ② specific Borrowing rather than general Borrowing eg PSUs

③ Infrastructure deficit in crucial areas → Mitigals eg  
NHA I off  
 Budget Borrowing

④ Doesn't compromise Budget social  
Expenditure

⑤ PSUs specific borrowing  
 ↳ increases accountability  
 ↳ fiscal health of PSU

Desirability of CFB

NO	Yes
① Doesn't get reflected in <u>Budget</u>	① Efficiency of PSUs
② No limit on borrowing eg FCI high debt	② <u>promotes</u> fast <u>finance</u>
③ Evades Fiscal Prudence	③ Alternative form of finance
④ Out of Ambit of FRBM	④ Reduces time for projects
⑤ High Debt of PSU's	

15 Finance Commission has recommended reducing EBB (off Budget Borrowing) to correctly show fiscal health

2. It is argued that genetically modified food crops are required to ensure food security of India. Examine in view of concerns regarding introduction of GM crops. (150 words) 10

यह तर्क दिया जाता है कि भारत की खाद्य सुरक्षा सुनिश्चित करने के लिए आनुवंशिक रूप से संशोधित खाद्य फसलों की आवश्यकता है। जी.एम. फसलों की शुरुआत से संबंधित चिंताओं के आलोक में परीक्षण कीजिए।

GEAC has approved only

Bt Cotton for commercial use

However, there are currently trials being held for Bt Buzjal,

HRBT - Cotton, ~~Bt~~ GM Soy, GM Mustard

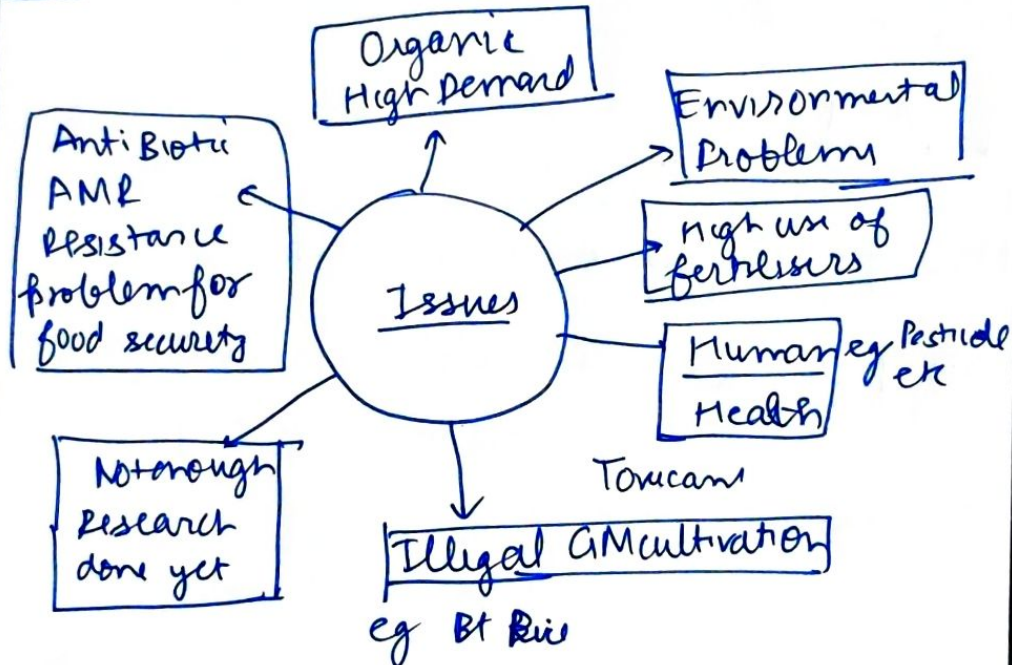
by ICAR

GM Crops ensure food security

- ① Pest Resistant → Reduces diseases  
and fall in output
- ② Monsoon / Irrigation variability  
eg Bt Cotton is drought resistant
- ③ Nutritional Capacity eg GM  
Mustard has Iron etc Nutrients
- ④ Backward / Underdeveloped regions  
↳ provides high food security

- ⑤ Already GM oil is imported  
from South east Asia →  
Thus GM crops would also  
reduce import Bill
- ⑥ Climate induced distress →  
affects food security ⇒ GM crops  
are made climate resilient

However it is not free from concerns



Recent Europe's<sup>EU</sup> accusation of GM  
rice in export has necessitated need for  
strict guidelines and regulation in GM  
Market in India

3. India's price intervention policies to support its agricultural sector not only create a broken system but also complicate matters related to international trade rules. Critically discuss. (150 words) 10

अपने कृषि क्षेत्र का समर्थन करने के लिए भारत की मूल्य हस्तक्षेप नीतियां न केवल एक अप्रभावी व्यवस्था का निर्माण करती हैं बल्कि अंतर्राष्ट्रीय व्यापार नियमों से संबंधित मामलों को भी जटिल बनाती हैं। समालोचनात्मक विवेचना कीजिए।

Price intervention policies in the agricultural sector include direct / indirect subsidies such as MSP, fertilizer subsidy, water subsidy, power subsidy etc

These price interventions have complicated matters in International Trade

Domestic Broker System

International Trade

- ① High dependence on MSP
- ② Inefficient / Inflexible Markets
- ③ High NPK ratio
- ④ Low private sector participation
- ⑤ water subsidy distorts price

- ① WTO disputes eg Agreement on Agriculture
- ② Bali Round Moratorium on 10% subsidy clause for developing
- ③ Non Tariff Barrier Market Access

⑥ High focus on  
staple crops only  
egs rice wheat

⑦ Poor efficiency  
and yield

④ US / India CSP  
withdrawal issue  
hurting trade

⑤ WTO → amber Box  
→ green Box  
→ blue Box

Thus private sector  
price intervention has been not  
free from criticism

Although ⇒ it had criticism it was  
Necessary

① IR ⇒ Developing countries need to  
protect themselves from large cheap  
exports of USA etc ⇒ wheat

② In the Interests of Global South  
Cooperation eg Africa

③ India's own food security depends on  
agricultural subsidies

④ Socio-economic development ⇒ 80% farmers  
don't have  
more than 2 ha land

Thus price intervention were a compulsion  
in past need to be carefully addressed to  
improve competitiveness of export (Agriculture)

4. India has an opportunity to become a leading global food supplier provided it has an efficient supply chain and the right marketing strategies.  
Elucidate. (150 words) 10

भारत के पास एक अग्रणी वैश्विक खाद्य आपूर्तिकर्ता बनने का अवसर है बशर्ते उसके पास एक कुशल आपूर्ति शृंखला और सही विपणन रणनीति हो। विशदीकरण कीजिए।

India's ranking in Logistics ease  
Performance index continues to  
remain poor at 44 despite ~~be~~  
having good terrain and linkages  
required for food processing industries

Opportunity for India ⇒ Global food supplier

- ① Agricultural exports ⇒ 2.5% of  
World Basket and rising
- ② Highest Exporter of High Value crops  
and largest exporter in Buffaloe Meat
- ③ Marine products / Basmati Rice constitute  
a majority of surplus
- ④ Rising demand for Organic in World
- ⑤ African Markets are unique opportunity  
for providing food supply

## Steps Required for achieving

Supply Chain

Marketing

① Cold storage Trains  
Warehouses impo-  
rtant for perishable  
export

② Port / Road / Air  
connectivity very  
important for faster  
transit

③ Inland to export  
zones linkage eg  
Mega Food Parks

④ Upstream + Downstream  
connectivity eg  
PM - Kisan Rail

① Brand India  
image for attracts

② High potential  
for GI Tag  
Products

③ Organic value chain  
high demand eg  
Sikkim Marketing of  
Organic

④ Cooperative India  
quality image eg  
Amul export  
competitiveness

Becoming a food Bowl of World  
is not a distant dream. Recent  
agricultural export policy 30bn  $\Rightarrow$  60bn  
by 2022 4 PLI scheme in food processing  
are a step in right direction

5. Land banks are increasingly gaining prominence in India to encourage land-use efficiency and enable economic growth. In this context, discuss the benefits of a land bank and state the concerns associated with it.

(150 words) 10

भूमि उपयोग दक्षता को प्रोत्साहित करने और आर्थिक वृद्धि को सक्षम बनाने के लिए भूमि बैंक भारत में तेजी से प्रमुखता प्राप्त कर रही हैं। इस संदर्भ में, भूमि बैंक के लाभों तथा इससे संबंधित चिंताओं का उल्लेख कीजिए।

## NITI strategy for New India

① 75 highlighted Land Banks

can improve the EoP

Business and improve structural

### problems

Land Banks are aggregator Banks where  
Land is pre-approved and readily  
available for sale/commercial use and  
cultivation

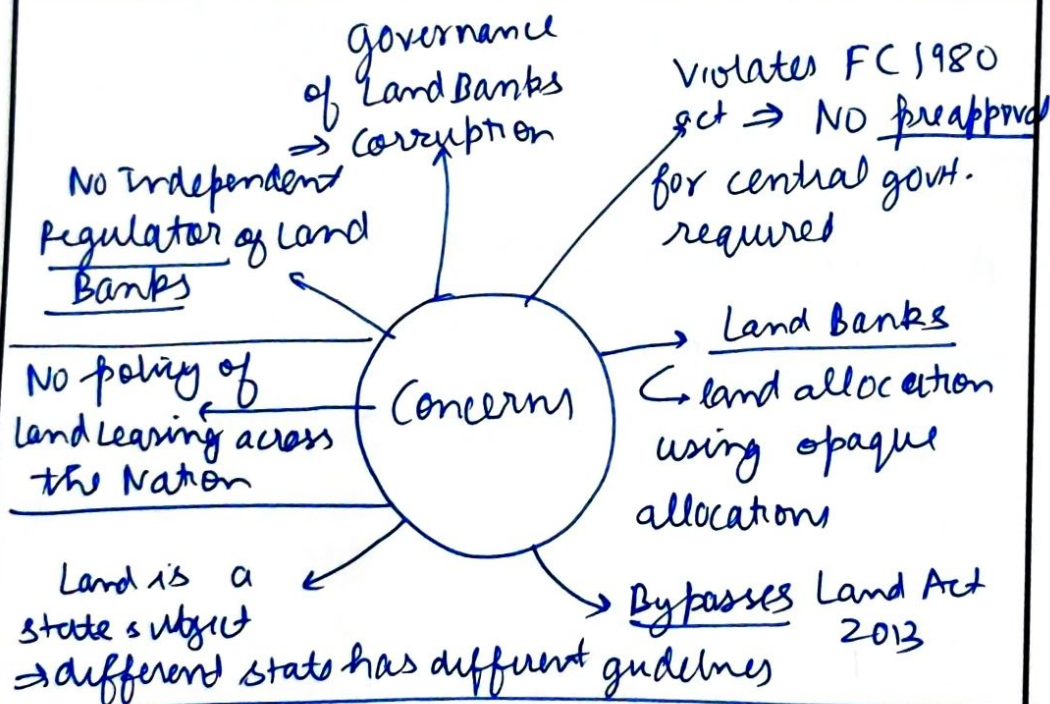
### Benefits of Land Banks

→ ① Monetize Idle Lands  
eg Defence Idle Lands

→ ② Improve EoP

↳ reduced time in  
starting Business

- ③ Reduced Land Litigation ⇒ provides transparent & clear ownership data
- ④ Agricultural fallow / unused lands can also be incorporated part of Land Banks
- ⑤ Efficient allocation → Socio economic development by providing land to tribal landless etc



Land Banks are right strategy to address the land reform problem. But there needs to be a regulatory / fair transparent mechanism in functioning

6. Desertification has been described as one of the greatest environmental challenges of our time and climate change is making it worse. Discuss.

(150 words) 10

मरुस्थलीकरण को वर्तमान समय की सबसे बड़ी पर्यावरणीय चुनौतियों में से एक के रूप में वर्णित किया गया है तथा जलवायु परिवर्तन इसे और बदतर बना रहा है। चर्चा कीजिए।

Desertification is an ongoing phenomenon with more than 40% of India's cultivable land facing the threat of desertification according to UNCCD.

what is desertification

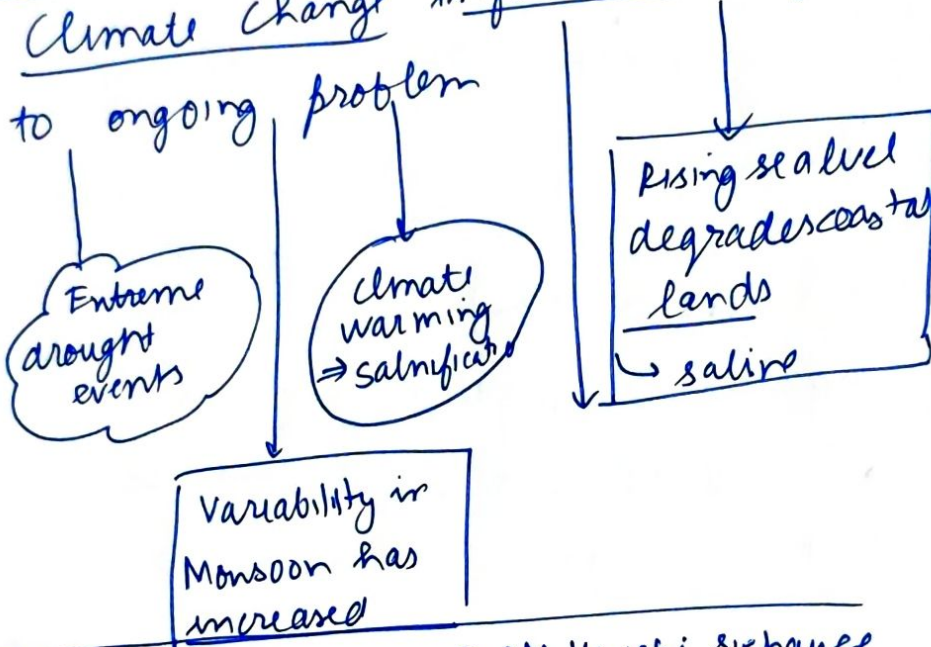
- ① Reducing productivity of Land
- ② Increasing Soil erosion and disaster
- ③ Increasing soil Salinity

Reasons for Desertification

- ① Overgrazing of Cattle has been increasing due to non-availability of fallow lands
- ② Thum Cultivation ⇒ Deforestation & Desertification

- ③ Agricultural practices → flood Irrigation
  - high leaching
  - No use of gypsum
  - water intensive crop
- ④ Geographical
  - variability in Monsoon
  - Erosion ⇒ Gullies and Chambal Ravines

Climate change is further adding to ongoing problem



- Key steps
- PM Krishi Sitchayee Yojana
  - Mero Irrigation Fund
  - UNCCD COP ⇒ Hyderabad
  - Millet Intensification

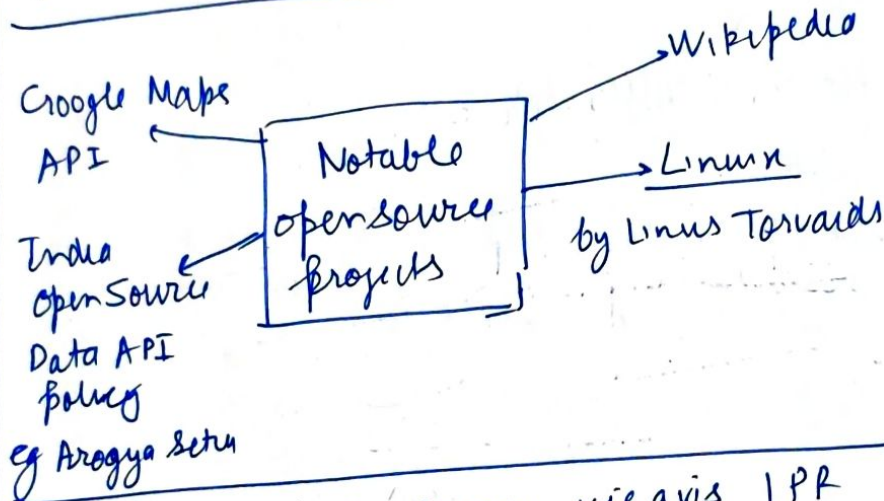
**SDG-13**

It is for this reason UNCCD has made efforts to pursue 2010-2020 ⇒ decade for degradation & mitigating threat to life on land

7. In the context of intellectual property rights, discuss the advantages and disadvantages of releasing projects under an 'Open Source' license. (150 words) 10

बौद्धिक संपदा अधिकारों के संदर्भ में, 'ओपन सोर्स' लाइसेंस के तहत परियोजनाओं को जारी करने के लाभ और हानियों पर चर्चा कीजिए।

Open source license refers to projects which are developed with complete access to community and for societal cumulative goals



Advantages of Open source vis a vis IPR

- ① Reduced Cost of Access to projects due to ~~Now~~ licensing Mechanism  
eg Linux system has reduced cost of Business by 75+ percent
- ② Promotes Innovation by providing access to all

- ③ IPR rights are bypassed to further do societal good eg: COVID Vaccine development Mechanism
- ④ Promotes knowledge / Skill development eg Wikipedia
- ⑤ E-governance ⇒ private sector collaboration  
eg India Open API Policy in Arogya setu
- ⑥ ISRO ⇒ private sector participation in use of satellite data

### Drawbacks /

- ① Lack of funding due to No licensing Mechanism
- ② No incentive to contribute eg Profits
- ③ Cybersecurity issues eg Data may be used by Terrorists etc
- ④ Reduces Innovation for long term eg Pfizer (Moderna relied on IPR)
- ⑤ Supports the TRIPS regime (WTO)

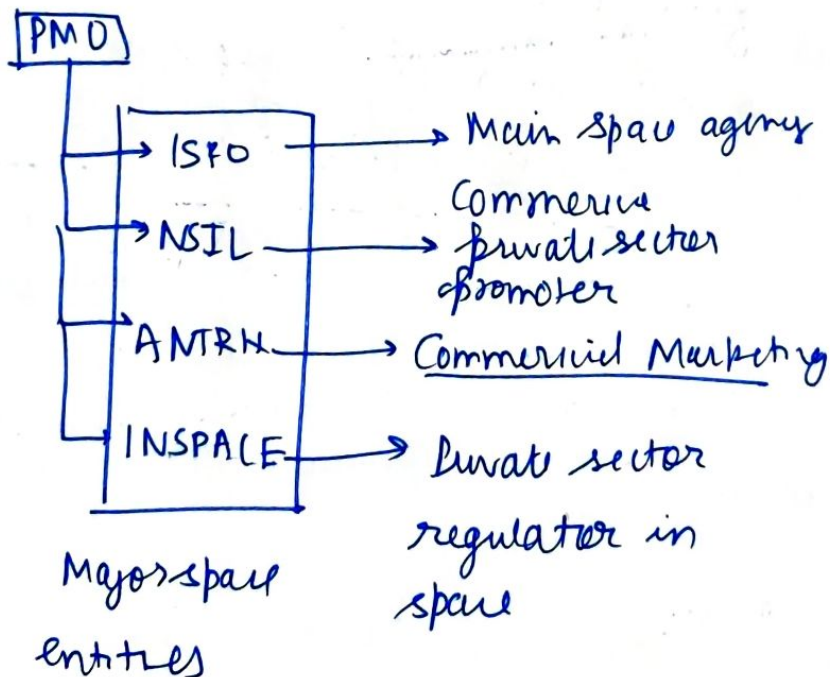
Some projects which can be beneficial for all should be open sourced. Further IPR laws must be amended to Make sure developer gets remuneration even in open source

8. "Indian space sector has been dominated by a single umbrella of government and government institutions." In light of the statement, discuss the significance of Indian Space Association in providing an impetus to space technology in India. (150 words) 10

"भारतीय अंतरिक्ष क्षेत्रक पर सरकार की एकमात्र संस्था का प्रभुत्व रहा है।" इस कथन के आलोक में, भारत में अंतरिक्ष प्रौद्योगिकी को प्रोत्साहन प्रदान करने में भारतीय अंतरिक्ष संघ के महत्व की विवेचना कीजिए।

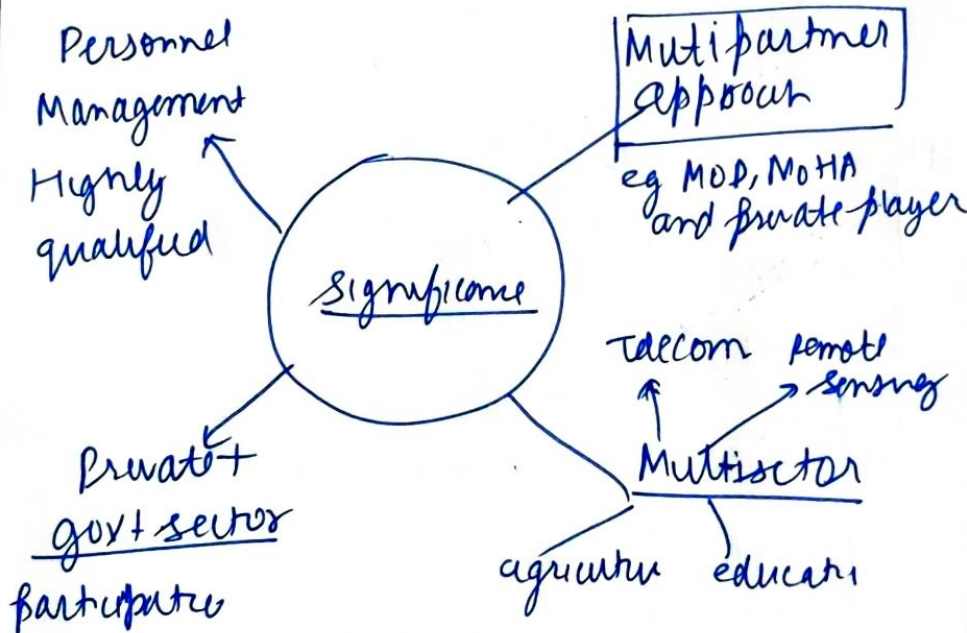
Currently ISRO, and other depart-  
ments fall under PMO to ensure  
National Security and aligned governance.

### Status of Governance



## Indian Space Association

is a consortium of ~~private~~ government players such as ISRO and private players such as Tata to streamline private sector participation and allow Multistakeholder approach in space programs



In future ISRO, can be further expanded and competed against by private sector players like SpaceX to reduce the cost + improve efficiency

9. Man and machine both have an important role in national security and making urban areas secure. In this context, discuss how technology is a major stakeholder in addressing the internal security challenges of India.

(150 words) 10

राष्ट्रीय सुरक्षा और शहरी क्षेत्रों को सुरक्षित बनाने में मानव और मशीन दोनों की महत्वपूर्ण भूमिका है। इस संदर्भ में, चर्चा कीजिए कि प्रौद्योगिकी किस प्रकार भारत की आंतरिक सुरक्षा चुनौतियों से निपटने में एक प्रमुख हितधारक है।

Recently, the use of Artificial intelligence face recognition tech in helping police shows that Technology can provide competence to National Security Infrastructure

Why Tech Major Stakeholder

- ① Recent Case of Cyber Security  
↳ Only Tech can Counter
- ② Use of Social / Media / Mobile Internet by Citizens

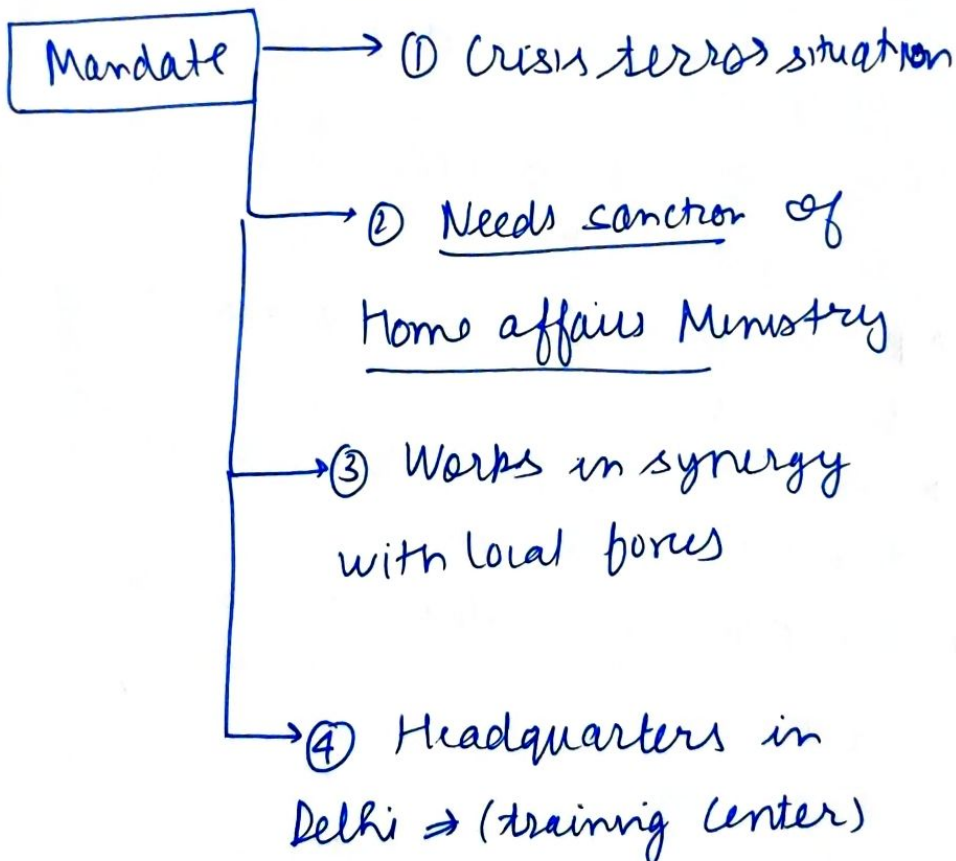
- ③ Border support eg  
Smart Fencing / Laser / Radar  
to provide intrusion surveillance
- ④ Drone policy eg Jammers  
to reduce Drones
- ⑤ Anti Missile / Antisatellite technology
- ⑥ Disaster Management Technology
- ⑦ Wildlife poaching reduction using  
technology

Thus, Technology enables the  
National & Urban security by augmenting  
Capacities and Resources

10. National Security Guard (NSG) has emerged as a formidable force equipped to handle various manifestations of terrorism. Discuss the mandate and achievements of this force. **(150 words) 10**

राष्ट्रीय सुरक्षा गार्ड (NSG) एक पराक्रमी बल के रूप में उभरा है जो आतंकवाद के विभिन्न रूपों में निपटने के लिए सुसज्जित है। इस बल के अधिदेश और उपलब्धियों की विवेचना कीजिए।

National Security Guard is a central armed force which falls under the ambit of paramilitary forces



## Achievements

- 26/11 attacks were effectively countered by NSG
- Cyber Terrorism and Drone Terrorism
- Kidnapping and Hi-jacking of planes eg Air India flight in Karachi
- Bio-terrorism → trained to deal with various Biological attacks

NSG has been able to live up to its name by remaining vigilant and proactive all the time in ensuring safety of Indian citizens

11. What do you understand by asset monetisation? Why is it needed in India? In this context, discuss the issues that need to be addressed for the National Monetisation Pipeline to succeed. (250 words) 15

परिसंपत्ति मुद्रिकरण से आप क्या समझते हैं? भारत में इसकी आवश्यकता क्यों है? इस संदर्भ में, उन मुद्दों पर चर्चा कीजिए जिन्हें राष्ट्रीय मुद्रिकरण पाइपलाइन के सफल होने के लिए समाधान करने की आवश्यकता है।

Asset Monetisation refers to leasing / Contracting / Renting or short term sale of assets which has the potential to generate revenue

India's recently unveiled National Asset Monetisation Pipeline to monetise 5.5 lakh crore of assets and financing already distressed govt. budgets

Need / Benefit Potential for India

- ① Large number of lying vacant Underground assets eg SEZ are 51% vacant [Land wise]
- ② Defence expenditure need to be financed By vacant land etc [Defence PSUs]

- ③ Potential for large scale collaboration between public & private sector
- ④ Sovereign credit Rating is already  $BBB^-$   $\Rightarrow$  thus asset Monetisation can provide much needed investments
- ⑤ Fiscal Deficit reached greater than 6% of GDP  $\Rightarrow$  Asset Monetisation would generate revenue
- ⑥ Employment  $\Rightarrow$  eg Asset Monetisation in Roads etc promotes new jobs
- ⑦ Regional Development eg Backward areas assets such as Defence lands promotes development
- ⑧ Multiplier effect  $\Rightarrow$  Higher Economic growth

### Challenges that Remain

- ① Structural  $\Rightarrow$  already distressed PSU's  $\Rightarrow$  No incentive buy such assets

- ② Lack of Transparent / Effective Auction
- ③ Swiss Model Bidding Challenges ⇒ Nexus Between Bureaucrats /
- ④ Monetising already high generating assets ⇒ Loss of Revenue eg PSU  
GAIL
- ⑤ Higher Inflation & Customer eg Toll taxes  
Expenditure
- ⑥ Private Sector Accountability  
↳ increase in disputes

### Way forward

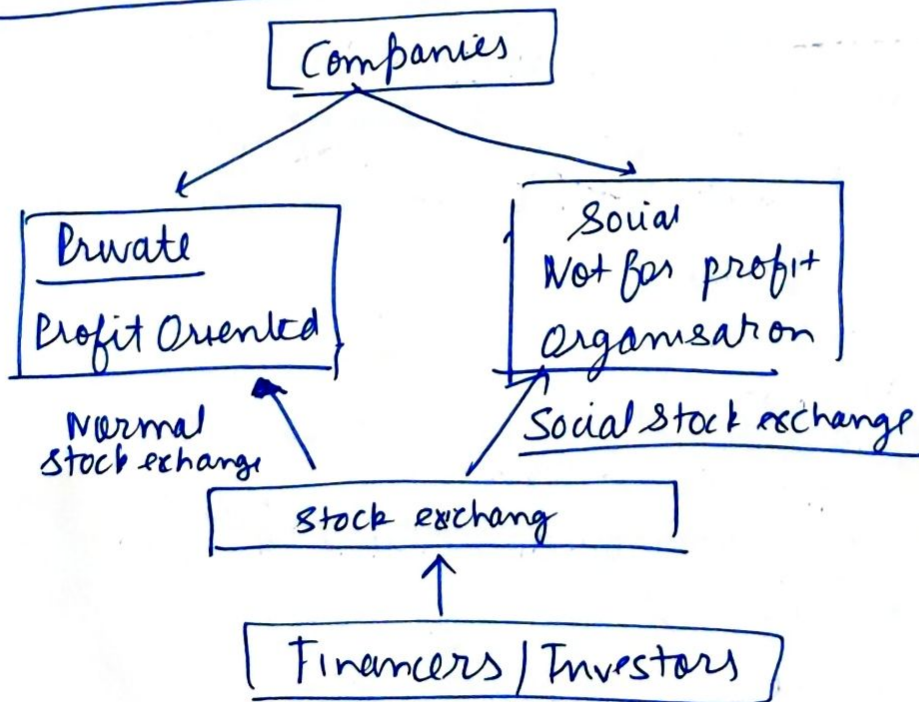
Kelkar Committee on PPP guidelines  
are highly relevant

- ↳ Revenue generation forecast should be accurate
- ↳ Smart / Integrity pacts to ensure no disputes in contracts
- ↳ Detailed and delineated responsibilities of private sector

Asset Monetisation can be a fillip to infrastructure starved industry in India.  
However, it must not be perceived as silver bullet

12. What is social stock exchange (SSE)? Discuss the need for setting up of SSEs and key challenges in their effective implementation. (250 words) 15
- सोशल स्टॉक एक्सचेंज (SSE) क्या है? SSEs की स्थापना की आवश्यकता और उनके प्रभावी कार्यान्वयन में विद्यमान प्रमुख चुनौतियों पर चर्चा कीजिए।

SEBI recently introduced social stock exchange on pilot Basis to incorporate the equity debt Markets for ventures that works on Social Entrepreneurship Models



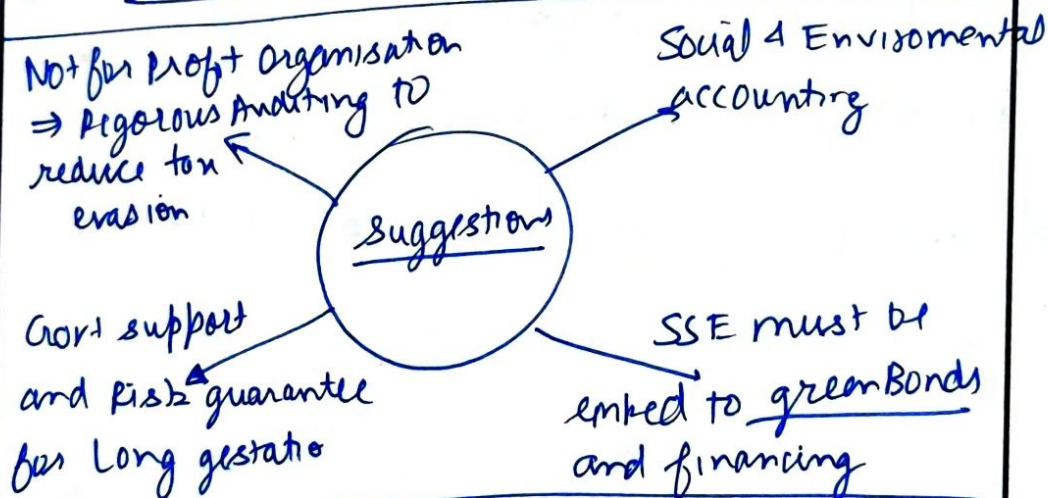
## Need for Setting up SSE

- ① Rising Not for profit organisation
- ② Financing infrastructure for Social entrepreneurship companies is lacking
- ③ Climate and Green Financing Mechanism are evolving
- ④ Investors might Need to know Social and Environmental performance ranking of companies
- ⑤ Global Markets have incorporated Social Green Markets eg London Stock exchange

## Key Challenges

- ① Low Attractive potential  
↳ Long gestation period of social companies

- ② Investor Knowledge deficit on how to measure financial health of company
- ③ Companies don't have Social Accounting thus  $\Rightarrow$  major constraint on Stock Exchange
- ④ CSR and SSE linkage is not in place
- ⑤ Risk associated with Environmental finance ventures  $\Rightarrow$  low attractiveness
- ⑥ Low Market Capitalisation @ SSE



SSE is a step in direction to fulfill the commitment to SDC holistically by providing institutional Mechanism of financing

13. In the context of India, highlight the importance of agriculture extension. What are the challenges faced in provisioning of agriculture extension services? How does the National Mission on Agricultural Extension & Technology (NMAET) address these issues? (250 words) 15

भारत के संदर्भ में, कृषि विस्तार के महत्व पर प्रकाश डालिए। कृषि विस्तार सेवाओं के प्रावधान में सामना की जाने वाली चुनौतियां कौन-सी हैं? कृषि विस्तार और प्रौद्योगिकी पर राष्ट्रीय मिशन (NMAET) इन मुद्दों का कैसे समाधान करता है?

### Importance of Agricultural extension

stems from diversified need to support livelihood in infrastructure sector. Agricultural extension refers to sets of services and technologies which cater to Needs of agricultural sector

### Need for Agricultural Extension |

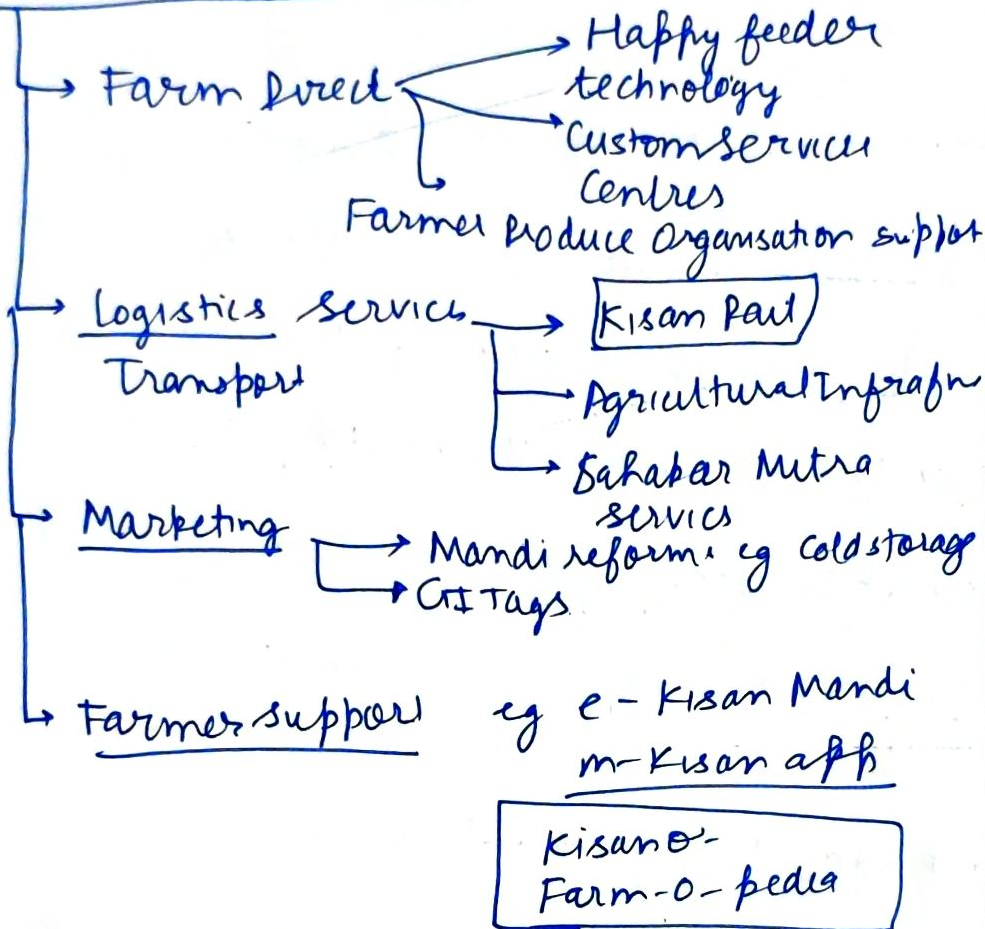
- ① Low efficiency and yield less than world average
- ② High dependence of population on agricultural sector
- ③ Technology starved Agri-sector  
(Ashok Palwadi)

- ④ No upstream and downstream linkage as off now  $\Rightarrow$  thus agricultural extension services
- ⑤ providing peripheral employment  
eg Custom Service centres  
and Krishi Vigyan Kendra KVK
- ⑥ Knowledge deficit in Farmers  
due to low penetration of agri-technology

### Challenges )

- ① Regional Divide eg BIMA & V states
- ② Farmer to Scientist service linkage  
due to illiteracy  $\Rightarrow$  constraint on extension
- ③ Infrastructure deficit  $\Rightarrow$  eg Many villages don't have Custom Hiring Centres
- ④ Centre-state and ICAR - SAU  
convergence with ULBs and PRIs is lacking in providing such services

## National Mission on Agricultural Extension and Technology



Thus, NMAET provides a support much needed to peripheral Agricultural Services. Further there is a push for climate/smart and IOT in agriculture.

14. Clearly delineate the 'employment problem' that India currently faces. Also, explain the fundamental reasons behind existence of this problem. (250 words) 15

भारत वर्तमान समय में जिस 'रोजगार समस्या' का सामना कर रहा है, उसे स्पष्ट रूप से निरूपित कीजिए। साथ ही, इस समस्या के अस्तित्व के मूल कारणों की व्याख्या कीजिए।

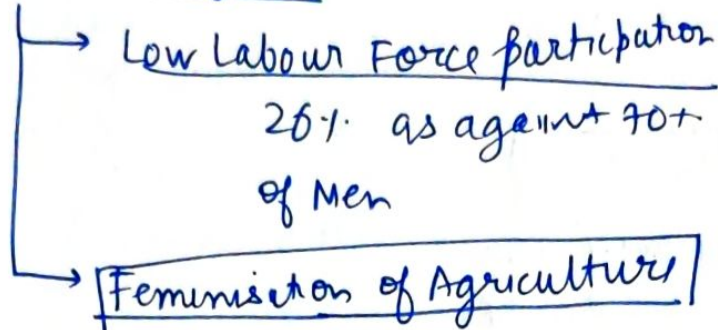
According to MOSPI periodic labour force survey, nature of employment was heavily towards agriculture Agriculture = 44%. Further, there has been seen increasing Casualisation in labour employment

### Employment problem of India

① Agriculture dependent Employment  
44% .. services ⇒ Jobless growth

② Low Organised sector  
MOSPI NSO ⇒ 94% of workers work in informal sector

③ Women Employment (PLFS)



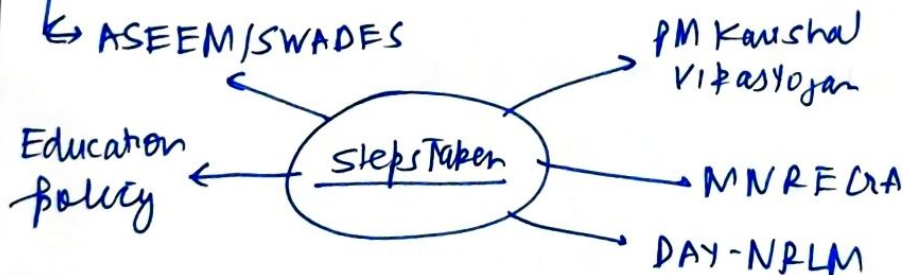
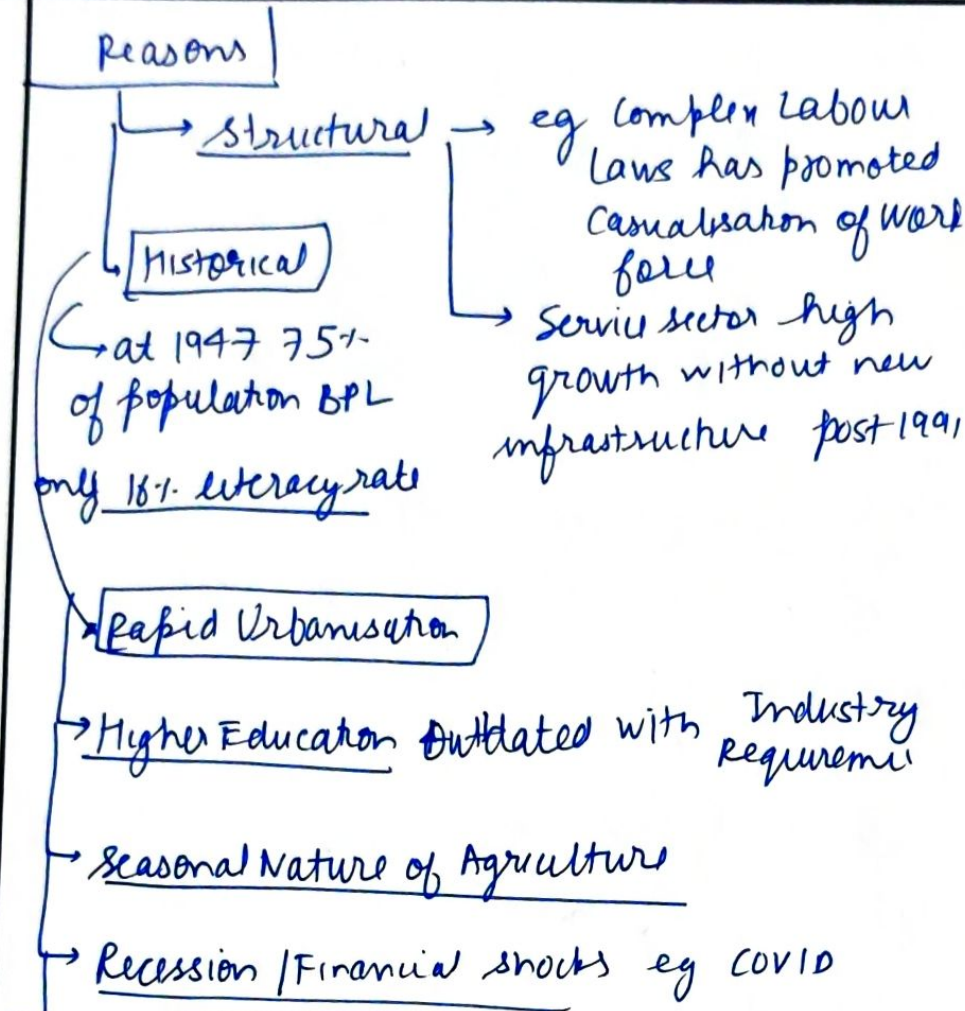
④ High Unemployment rates ⇒ eg  
2020-2021 ⇒ all time high rates  
more than 15%

⑤ Low Skill Jobs and high unskilled  
labour : eg only 20% of labour  
skilled

⑥ Less focus on Employment that is  
towards high Remuneration  
eg WEF ⇒ 2030 jobs markets  
will create new 90%  
of jobs today

⑦ Manufacturing Sector ⇒ unable to  
generate new jobs to accomodate

⑧ Urban Unemployment ⇒ over Migration



\* We require Urban MNRECA Today

India has 20 years window of demographic dividend to utilise its employment potential to reach 5 trillion \$ economy goal

15. Although steps have been taken for integrating the dispersed logistics activities of maritime trade, much more needs to be done to make India a maritime powerhouse. Discuss. (250 words) 15

हालांकि समुद्री व्यापार की बिखंडित लॉजिस्टिक गतिविधियों को एकीकृत करने के लिए विभिन्न कदम उठाए गए हैं, फिर भी भारत को एक समुद्री पावरहाउस बनाने के लिए और भी बहुत कुछ किए जाने की आवश्यकता है। चर्चा कीजिए।

India's shipping industry accounts for 97% of international trade and 70% of trade by value according to Economic survey.

### Status of Maritime Logistics

- ① 12 Major Ports along with more than 500 minor ports
- ② Sagar Mala project promotes

### Multi-Modal linkages

eg Bharat Malu + Sagar Mala Convergence

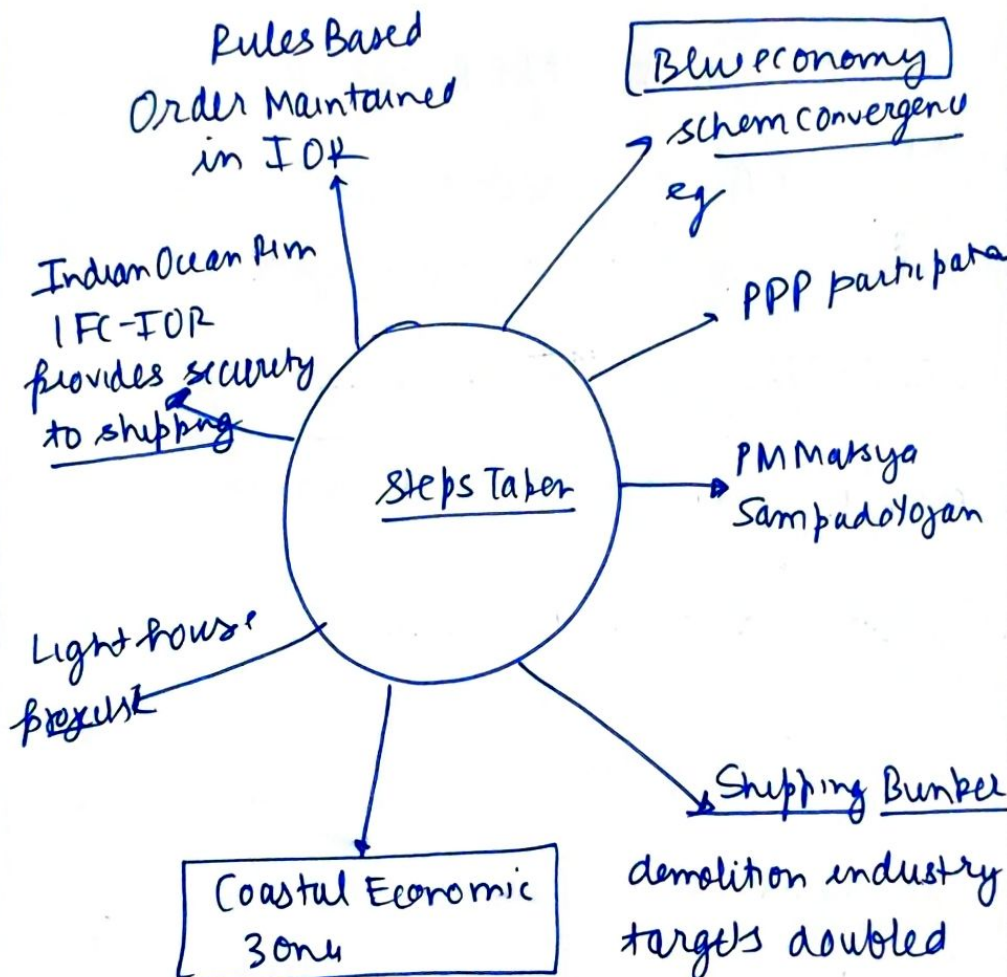
- ③ Major Ports Authorities Bill to provide autonomy to port handling
- ④ Reduced Turnaround time by providing container ports and promoting
- ⑤ SWIFT / Customs initiative for efficient Maritime port handling

### Challenges that still remain

- ① Waterways transport still only 0%.
- ② Siltation and Embankment difficulties in major ports
- ③ No, focused plan to converge Coastal development schemes and Maritime development
- ④ Fisheries / Shipping industry still function in silos

⑤ Institutional credit support difficulties  
in setting up new ports

However, there has been steps taken



Thus India can hope to become  
next Maritime power house in an  
increasingly trade dominated world

16. Accounting for natural capital and ecosystem services is crucial to understand the link between the economy and environment. Discuss with specific references to India's initiatives in this regard. (250 words) 15

अर्थव्यवस्था और पर्यावरण के मध्य संबंध को समझने के लिए प्राकृतिक पूंजी और पारिस्थितिकी तंत्र सेवाओं के लिए लेखांकन महत्वपूर्ण है। इस संबंध में भारत द्वारा की गयी पहलों के विशिष्ट संदर्भ के साथ चर्चा कीजिए।

MOSPI recently collaborated with EU and UNEP for NCAVES Project. NCAVES stands for nation capital accounting and ecosystem services to understand the importance of ecological and Biodiversity services.

### Why Accounting Needs Changes?

#### ① Environment Externalities

- eg Coal effect on air pollution
- Climate Change induced desertification
- Ecological services reduced due to deforestation

② Supports local livelihoods

↳ Capital Accounting for highly dense forest areas ⇒ high asset value

③ Legislation Requirements

eg FCA 1980 requires compensation of Net present value of forest. Thus Capital accounting

④ Incorporate → Detailed effect on human induced change eg Planetary Pressures HDE by UNDP

⑤ International Negotiations and Climate funding eg UNREDD+ depends on funding for capital

### India's specific Initiative

① Circular and Zero waste economy

↳ incorporates Natural Capital Accounting to ensure no effect on environment

- ② MOSPI  $\Rightarrow$  NCAVES project  $\Rightarrow$   
to introduce GDP changes reflecting  
Ecological services
- ③ Indian State of forest report provides  
stock of Indian forests
- ④ India's INDC  $\rightarrow$  2.5 bn ton of  
CO<sub>2</sub> sink is a capital
- ⑤ TKDL  $\Rightarrow$  ecosystem services by  
biological genetic resources in providing  
Medicines
- ⑥ Cartagena / Nagoya Protocol  $\rightarrow$  Access  
sharing of Ecosystem services

Thus, our accounting standards needs  
to ensure environmental / ecosystem  
accounting to holistically reflect  
the assets of a country. This will  
fulfill Article 48A of DPSP w.r.t to forest  
and Wildlife

17. Rapid and unplanned urbanisation accompanied by population growth have increased both the risk and impact of natural disasters. Discuss the statement along with adequate measures to address the relevant concerns in India.

(250 words) 15

जनसंख्या वृद्धि के साथ-साथ तीव्र और अनियोजित शहरीकरण ने प्राकृतिक आपदाओं के जोखिम और प्रभाव दोनों को बढ़ा दिया है। भारत में विद्यमान प्रासंगिक चिंताओं के निवारण हेतु यथोचित उपायों के साथ इस कथन की व्याख्या कीजिए।

Urbanisation is rising population  
demography from rural to urban  
areas. It is expected that by  
2050 <sup>65%</sup> ~~55%~~ of the world would  
be living in cities according to  
UN Population Division.

### Rising Impact & Risk of Natural Disasters

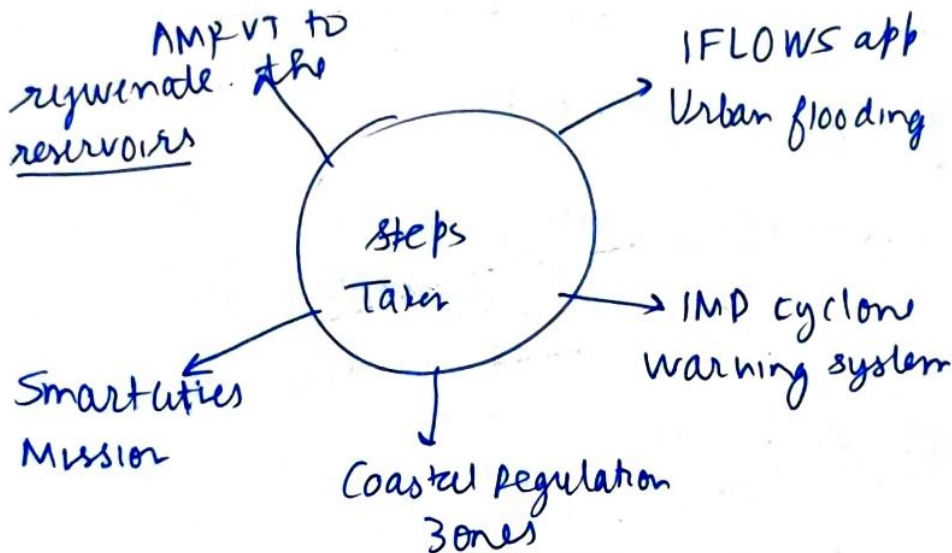
- ④ Unplanned Urbanisation / Rapid
- ① Urban floods ⇒ due to blocking of  
reservoirs / encroachment on wetlands
  - ② Hilly Terrain ⇒ low lying ~~and~~ areas  
⇒ eg. Bharavi Slum Disaster in  
Mumbai Rains

- ③ Risk and Structurally Unsound Buildings ⇒ eg Earthquake in Bhuj
- ④ Coastal development has increased risk against Cyclones
- ⑤ Landslides induced in Kerala etc show Urbanisation has been fatal
- ⑥ ManMade disaster ⇒ disease outbreak due to high population density
- ⑦ Infrastructure gets impacted in cyclones/ tsunamis/ ~~retways~~ etc

### Adequate Measures Required

- ① Urban planning eg slum and Poor population areas should be reduced
- ② Proper Reservoirs and sewage Mechanisms  
↳ Reduce Urban Flooding

- ③ adherence to building code ⇒  
Regulatory requirements
- ④ Coastal Environmental Zone (CEZs)  
guidelines must be implemented in  
spirit
- ⑤ Forecasting → cyclones to reduce  
the risk and impact



India's own Initiative of CDRI should  
be the center point of developing urban  
infrastructure to tackle future risks

18. National Hydrogen Mission can be a game changer for India's rising energy demands. Comment. (250 words) 15

भारत की बढ़ती ऊर्जा मांगों के लिए राष्ट्रीय हाइड्रोजन मिशन एक गेम चेंजर हो सकता है। टिप्पणी कीजिए।

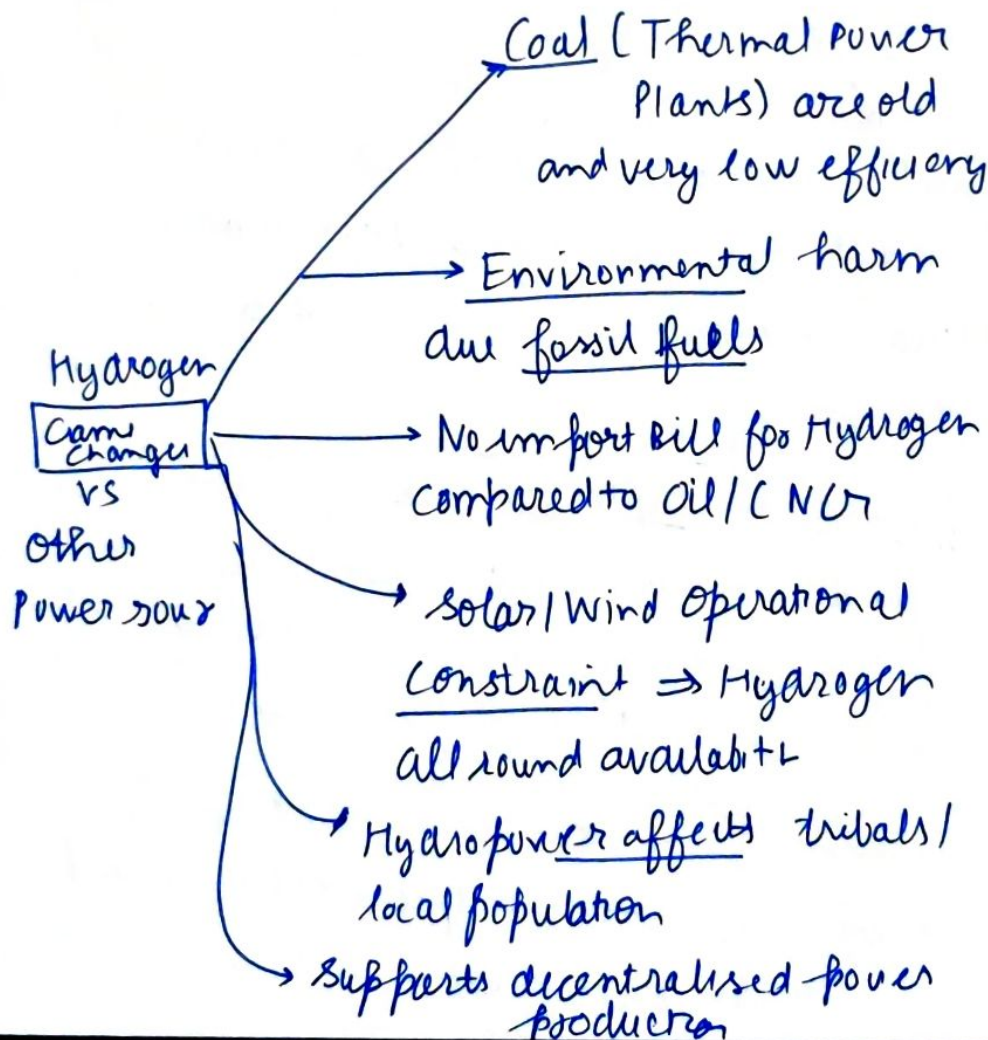
Budget 2021, Nirmala Sitharaman  
unveiled gort. plans for National  
Hydrogen Mission to make India  
the focal point for Hydrogen  
transformation

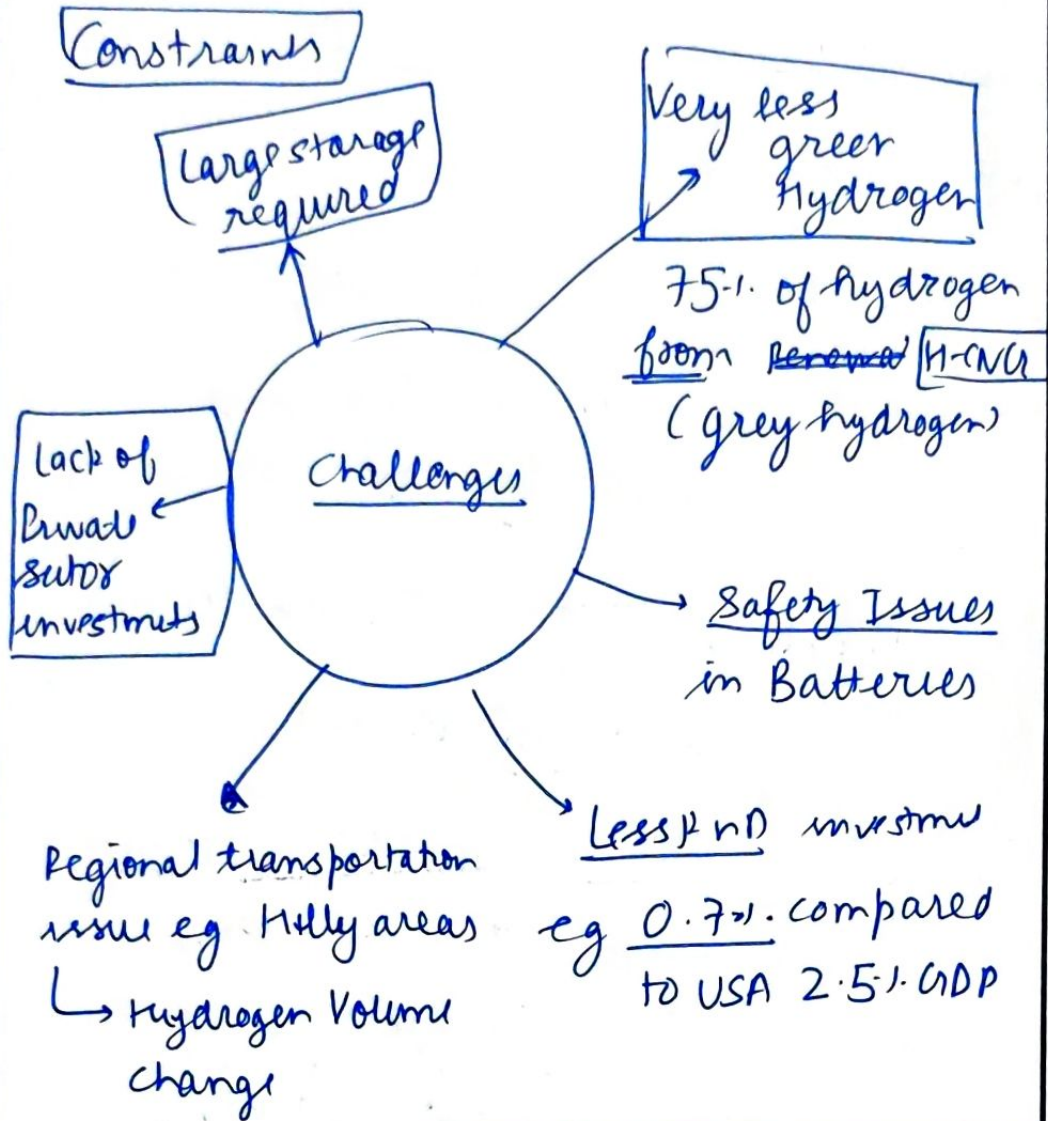
### Benefits of Hydrogen

- ① High calorific value  $\Rightarrow$  10x than conventional fuel
- ② Abundance of Hydrogen from water  
water = 70% of earth surface
- ③ Very Low pollution  $\rightarrow$  only bio product are heat and water
- ④ Retrofittable in engines eg  
Delhi HCNG Mixture

- ⑤ Electric Vehicle and public fleet  
reliable source of energy
- ⑥ 24 hour round the clock availability
- ⑦ Can supplement Nuclear fusion at  
fusion with Hydrogen reactors also

Game changer for India's energy demand





Way forward ⇒ hydrogen along with Biogas can shift the energy needs from importer of fuel to exporter of energy. That will depend on current level of investment

We can learn from China's example where they have implemented fuel cell hydrogen Model in Urban Bus fleets

19. Despite geo-strategic instability of its region and a keen awareness of the cyber threat it faces, India has made only 'modest progress' in developing its policy and doctrine for cyberspace security. Critically examine.

(250 words) 15

अपने क्षेत्र की भू-रणनीतिक अस्थिरता और इसके समक्ष विद्यमान साइबर खतरों के संबंध में व्यापक जागरूकता के बावजूद, भारत ने साइबरस्पेस सुरक्षा के लिए अपनी नीति और सिद्धांत विकसित करने में केवल 'साधारण प्रगति' की है। समालोचनात्मक परीक्षण कीजिए।

Recent, attacks by China Based  
Cyber-Organisation on Bombay  
Power infrastructure point out to  
existing gaps that are present in  
Cyber infrastructure.

### Drivers for Cyber policy



been awareness of Cyber threats

26/11 was partly as a result of intelligence failure

Recent PMO's twitter hacking

Cyber terrorism in Naxal areas and LOC

Unmanned Aerial Vehicles New forms of Cyber Warfare

### India's policy Response

#### ① National Cybersecurity policy 2013

- Investing in RnD in Cybersec
- secure-e-governance
- setting up dedicated cyber Swachhta Kendra

#### ② CERT-in ⇒ IT Amendment act 2008

after ⇒ 26/11 attacks ⇒ dedicated Cyber threats body

- ③ Training of Police personnel and on Cyber issues
- ④ NIA Amendment Act → provides mandate for dealing with cyber threats

However, there exist gaps yet!

- ① No Comprehensive personal data Bill. → Bill is yet to be passed
- ② Low investment in Cyber warfare capability
- ③ Court. offices ⇒ still are prone to threats eg 70-1. offices are vulnerable
- ④ No elaborate IPC Mechanism for cyber threats IT Act Section 43 and Section 69 are used
- ⑤ Frequent Internet Lockdowns ⇒ show inability to deal with cyber threats

India can contribute to cyber security by floating Comprehensive Cyber security Convention at UN to make world cyber safe

20. Developmental interventions alone cannot play a defining role in the resolution of existing and protracted internal conflicts in various parts of India within a reasonable time frame. Discuss. (250 words) 15

भारत के विभिन्न हिस्सों में व्याप्त और दीर्घकाल से जारी आंतरिक संघर्षों को उचित समय सीमा के भीतर हल करने में केवल विकासात्मक हस्तक्षेप एक निर्णायक भूमिका नहीं निभा सकते हैं। चर्चा कीजिए।

The current ongoing internal conflicts in Northeast ~~and~~, Naxal areas and Jammu and Kashmir, even after policies of development of grassroots show that they alone solely cannot play a defining role in resolution

India's Article 51 DRSP ⇒ provides for resolution of disputes peacefully and amicably

Various parts of India ⇒ Analysis?

① Maolist / Naxal Red Belt

⇒ Naxal Tribal development plan

such as Aspirational District Programms

has not reduced the Naxal violence

Instead, the need to Counter Nonal  
has only been possible by SAMADHAN  
strategy → ~~is~~

SAMADHAN strategy includes overall  
development + use of smart policing +  
effective counter threats

② North east Insurgency →

Only Countering using Border Area  
development programme → has not  
been effective. Groups such as UFA,  
continue to gain benefits in financing from  
such developmental policies

Thus Countering North east threat  
⇒ Development + AFSPA + Border  
Surveillance

- ③ Jammu and Kashmir ⇒ Insurgency  
even after democratic decentralisation  
↳ Need Development policy +  
effective Neutralisation of  
Radical Militant

Why Alone Development interventions  
do not work

- ① They take long time
- ② Prone to exclusion ⇒ fuel Militants
- ③ No agreement between local population  
and govt. on nature of development
- ④ No guarantee to ensure Neutralisation

Instead Development interventions can  
at best aid the the effort / progress  
made by other Countering techniques.

We can learn from examples of Mizoram  
where AFSPA has removed militants and at  
same time Border Development ensures neutralisation