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GENERAL STUDIES (TEST CODE : 1515)

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Medium Eng./Hindi	ENGLISH	Registration Number	1017427
Center	ONLINE	Date	29 th Dec '21

INDEX TABLE			INSTRUCTIONS
Q. No.	Maximum Marks	Marks Obtained	
1	10		1. 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)। 2. There are TWENTY questions printed in ENGLISH & HINDI इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं। 3. All questions are compulsory. सभी प्रश्न अनिवार्य हैं। 4. The number of marks carried by a question/part is indicated against it. प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं। 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. 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। 6. Word limit in questions, if specified, should be adhered to. प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए। 7. 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।
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Total Marks Obtained:			
Remarks:			

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

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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.

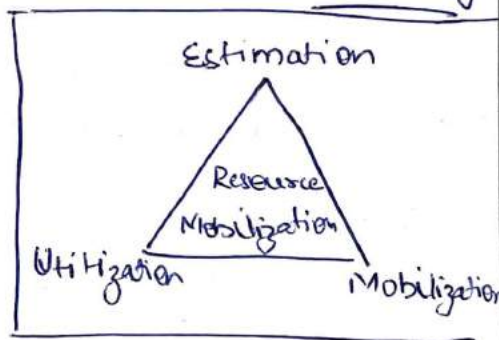
6.

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

वजेटेतर 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 borrowing is a tool for resource mobilization of government, where the borrowings are not reflected in government's Annual Financial Statement (Art 112) presented to Parliament every year. Eg: FCI borrows money for food subsidy.

Role of Off-Budget Borrowings



- Helps govt. mobilize funds not originally estimated
→ to meet unforeseen expenditure
- Govt. able to meet fiscal deficit targets under FRBM Act 2003

3. More popular method of mobilizing funds than taxation

→ no additional taxation burden on citizens.

Desirability of Off-Budget Borrowing

1. 15th Finance Commission has recommended eliminating off-budget borrowing

2. Leads to lack of transparency and accountability in governance

→ inaccurate reflection of fiscal health

3. Adversely affects accounts of borrowing entity

→ eg: Food Corporation of India accounts reflect heavy borrowings

Hence, a transparent budgeting process requires replacing off-budget borrowings with accurate budget estimates

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

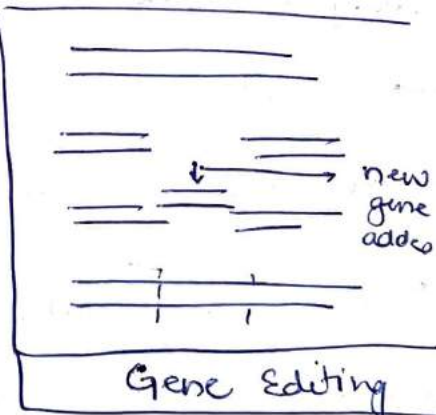
यह तर्क दिया जाता है कि भारत की खाद्य सुरक्षा सुनिश्चित करने के लिए आनुवंशिक रूप से संशोधित खाद्य फसलों की आवश्यकता है। जी.एम. फसलों की शुरुआत से संबंधित चिंताओं के आलोक में परीक्षण कीजिए।

Genetically Modified (GM) crops refer to those crops whose genes have been edited to alter or add desirable genes or traits of other crops or living organisms
eg: Bt. Cotton, Bt Brinjal etc.

Need for GM crops

1. Resilience to pests and diseases

→ Bt. cotton resistant to bollworms



2. Resistance to chemical fertilizers & pesticides

→ eg: Hb Mustard is herbicide tolerant

3. Unaffected by vagaries of climate change

4. Higher yields & productivity

→ eg: area under Bt cotton: 11. → 94%
(2000) (2020)

→ India largest producer

Concerns About GM Crops

1. Resistance from environmentalists
→ fear of loss of genetic biodiversity
2. Lack of credible research on long-term effects
→ could lead to health effects (hypertoxiology)
3. Pests could acquire anti-microbial resistance
→ AMR as emerging challenge (AMR)
4. Threat to traditional methods of cultivation
5. Fear of centralization by big corporates
→ eg: Monsanto

Introduction of GM crops should involve consensus-based approach including all stakeholders → farmers, environmentalists, etc.

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।

India's agricultural policies include a critical component of price intervention through Minimum Support Price (MSP) to farmers and open procurement for certain crops. While aimed at providing remunerative prices to farmers & ensuring food security through buffer stocks, it also has certain adverse effects.

Price Intervention — Domestic Impact

1. High fiscal burden on government
→ more than ₹ 1 lakh crore (2020-21)
2. Open procurement : overprocurement and wastage of food grains
→ 214 tonne (buffer norms) → 70 bn tonne (existing stock)
(Shantha Kumar Committee)

3. Rice - wheat monoculture

→ prevents crop diversification to millets, pulses, etc.

4. Overutilisation of groundwater, pesticides,

→ Agriculture use 80% of groundwater

Impact on International Trade1. Defies WTO norms on subsidy support

→ India invoked Peace clause in 2020 since it breached 10% limit

2. Marginalisation in global value chains for horticulture, allied sectors, etc.Need for Reforms1. Consider revising MSP regime

→ Direct Benefit Transfer of subsidy
→ FCI reforms (Shantla Kumar)

→ Revise public distribution: 60% & 40%
rural urban
(Eco Survey 2021)

Reforms such as Price Deficiency Scheme are necessary to ensure Doubling Farmer Income
(Ashok Dalwai Committee)

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।

Agricultural marketing includes all commercial activities involved in delivery crop produced by producer to the product consumed by consumer. India's ambition of becoming Vishwaguru in agricultural sector requires marketing and supply chain reforms.

Need for Marketing Reforms

1. Inefficient traditional APMC mandis
 - ↳ high mandi fee, arbitrary commission, etc.
 - ↳ lack of infra for grading, sorting, etc.
2. Lack of adequate storage facilities
 - ↳ not enough warehouse
 - ↳ Essential Commodities Act stockholding restrictions as roadblock.

3. Lack of private sector participation

→ 60% public investment in warehousing

4. High food wastage

→ 40-50 tonnes grain wasted in FCI godowns every month (Sbranta Kumar Committee)

Potential Marketing Solutions

1. Integrated national markets

→ eg: expanding e-NAM portal to integrate more mandis.

2. Encouraging private investment through PPP, etc. (Vijay Kelkar Committee)

3. Food Corporation of India Reforms

→ decentralizing procurement
→ proactive liquidation of buffer (Sbranta Kumar)

4. Legislative change

→ ECA should be modified
→ Model Contract Farming Bill

Marketing reforms can usher a Green Revolution 2.0 in Agriculture

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।

Land banks have been suggested as the latest solution to the long pending land reforms in India, ensuring vacant lands are put to efficient use

Benefits of Land Banks

1. Productive use of idle assets
→ large parcels of land lying vacant
eg: Defence lands can be monetized
2. Efficient collection of data on land
3. Empowering tenants and small and marginal farmers
→ 86% farmers have average land holding of less than 2 hectares

4. Reducing litigation on land
→ long-pending and large no. of land disputes.
5. Creating an efficient market in land

Concerns With Land Bank

1. Lack of adequate digitised data with respect to land
2. Resistancy among people with respect to land
→ land considered family legacy and self-secured
3. 'Land' a State Subject under Schedule VII of Constitution
→ lack of consensus among states
4. Model Land Leasing Act not adopted and Land Acquisition Act 2015 not revised

Land banks can revolutionize land markets. if schemes like SVAMITVA are implemented, Recommendations of T. Haque Committee and use of AI, drones, etc. can ensure effective implementation.

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 of land refers to loss of productive capacity of the land, and is generally the culmination of process of land degradation. Degraded land in India has decreased in the last 20 years (ISRO's Land Degradation Atlas).

Desertification — A Challenge

1. Impact food and livelihood security
→ farmers depend on land for crop production
2. Adverse effects on environmental stability
→ decreasing soil health, increase in soil erosion, etc.
3. Loss of ecosystem services provided by forests
4. Impact flora and fauna, including human
→ fragmentation of habitats, etc.

Climate Change Accentuating Desertification

1. Increasing Instances of intense droughts (IPCC 6th Assessment Reports)
2. Deforestation lead to loss of forest cover — causing degradation & desertification
3. New pests & disease affecting crop production, plant cover, etc.
eg: Locust attack in West Africa & Asia

Combating Land Desertification

1. UN Convention on Combating Desertification
→ Land Degradation Neutrality (LDN) by 2030
 2. Bonn Challenge :
→ restoring 300 bn hectare forests by 2030
 3. India has afforestation programmes such as Green India Mission, etc.
- A 'whole-of-society' approach through capacity building and public awareness is needed to combat desertification

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।

Indian government under E-Commerce Rules 2020 has mandated an 'open source digital platform' for all digital ee-commerce companies. This has led to a debate on the measure with respect to Intellectual Property (IP) Rights

Advantages of Open Source Licenses

1. Ensures a good customer experience with no discrimination in terms of access
2. Uniformity of service delivery
 - eg: all e-commerce companies to focus on service delivery as area for market dominance
3. Ensures transparency and accountability of businesses
 - no unfair means to gain advantage

Disadvantages of Open Source License

1. Undermines Indian commitment to uphold IP rights under TRIPS
2. Disincentivises innovation and investment since innovator does not stand to gain
3. Invites wrath of trade partners
 - ↳ US has put India in tentative list of IP rights violators
4. Shifting of companies to countries with more liberal business environment
 - ↳ marginalisation in global value chains

Therefore, public interest must be balanced with a good business environment to benefit from global & domestic economic innovations. This can be done by balancing Ease of Living and Ease of Doing Business (Eco Survey 2021)

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 क्षेत्र 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।

in 2020

Indian Government established In-SPACE as a separate body to provide interface between ISRO and private players in order to encourage private participation in space sector in India

Need for In-SPACE - Government Domination

1. ISRO as the sole agency engaged in space based activities
 - overburdened with both commercial venture and research activities
2. Limited government resources
 - private sector investment can supplement space efforts
3. Private entrepreneurship can open new frontiers in space

eg: - Elon Musk's Space X has promised a 'constellation' of satellites for satellite based connectivity

Significance of In-SPACE

1. Can encourage private sector to enter space domain
 ↳ eg: Private players allowed to use ISRO's space assets
2. ISRO can focus on research activities like planetary missions
 ↳ Private sector can focus on satellite launches, etc.
3. Encourage greater public interest in space sciences
 ↳ eg: ISRO's Yuvika Programme
4. Encouraging innovation in space technology
 eg: Reusable launch vehicle (RLV) etc.

IN-SPACE has, ironically, provided more 'space' to expand frontiers of India's space-based activities

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।

Advent of technology in 21st century has led to novel types of security challenges — drone attacks, anti-radar missiles, etc. But simultaneously, technology is as important in supplementing internal security setup in India

Man & Technology : Complementary Role

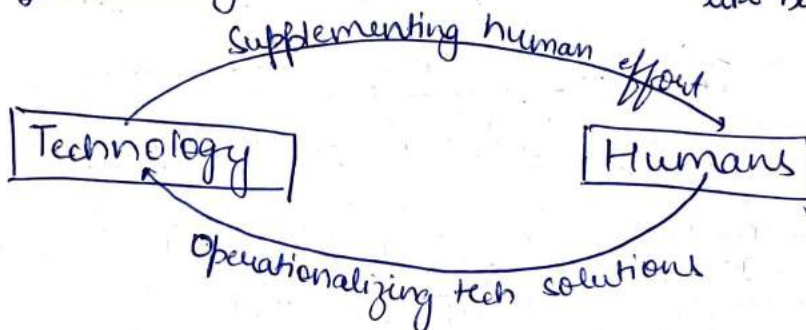
1. Technology can ensure more efficiency and accuracy in security operations
eg: + night vision goggles for better sight at night
- thermal imaging to detect intruders
2. Technology replacing humans in dangerous areas
eg: Drones for search and rescue, hostage situations, etc.

3. Tech-enabled solutions to supplement human surveillance

eg - Alarms to detect breach of security in defence buildings.

- Smart fencing along borders.

4. Cyber security - to protect data, critical assets like banks, etc.



Existing Tech-Based Solutions

1. BOLD-QIT : BSF initiative for surveillance along Indo - Bangladesh border

2. Special toughened cars for VIPs such as PM to protect from attacks, etc.

3. Comprehensive Integrated Border Management system, etc (CIBMS)

Madhukar Gupta Committee report can be revisited to further integrate technology in internal security

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 से निपटने के लिए सुसज्जित है। इस बल के अधिदेश और उपलब्धियों की विवेचना कीजिए।

National Security Guard (NSG)

Commandos are considered among the best, most trained and best equipped among the country, earning a reputation as the most elite counter-terror and protection force in the country.

Mandate of NSG

1. Specialize in anti-terror operations
→ special expertise in dealing with specific terror events such as hostage situations, etc.
2. Tasked with protection of VIPs in India
- number of NSG commandos

assigned to a VIP varies according
to level of threat perception

eg: PM has Z+ security

3. Can also be summoned for special operations that are one of a kind requiring assistance

4. Operate directly under National Security Council

NSG — A Glorious Past ^{headed by NSA}

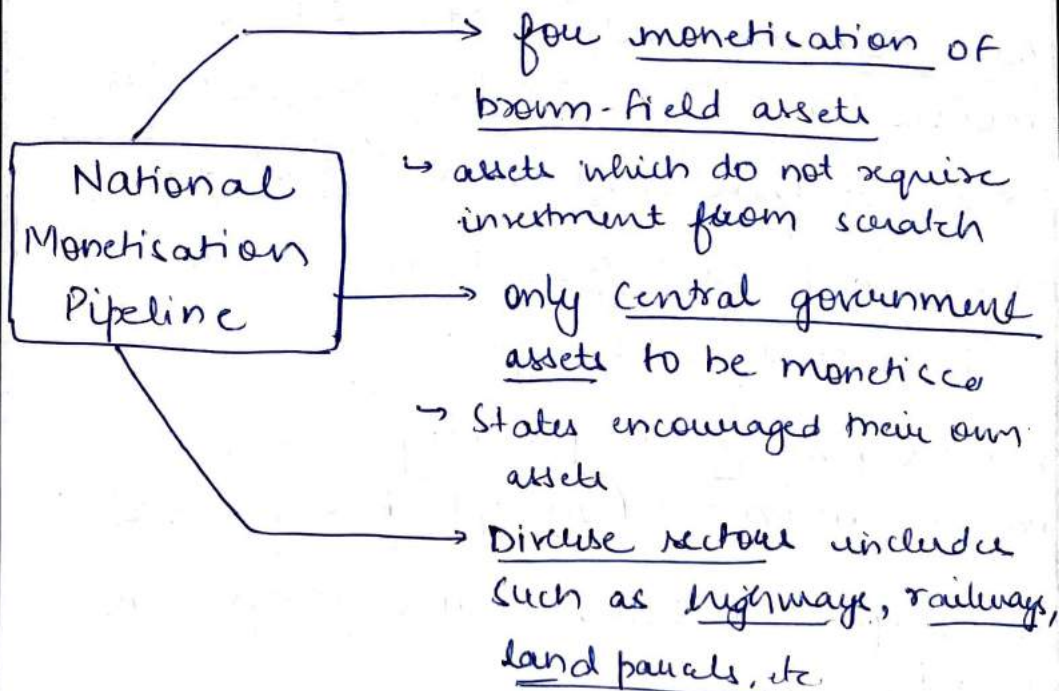
1. NSG played a prominent role in flushing out terrorists in Hotel Taj during 26/11 Attacks in Mumbai in 2008
2. Active in protecting Parliament members during Parliament Attack of 2001
3. Have protected various high profile public figures in the past

NSG commandos have been crucial in safeguarding Indian security in face of Pakistan's State-sponsored terrorism.

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 is a tool for resource mobilization and utilization whereby the government transfer control of an asset to another entity for a fixed period of time for productive use, while retaining ownership.



Need for Asset Monetisation

1. Need for large fiscal spending for infrastructure creation
 - National Implementation Pipeline (NIP)
 - 102 lakh crore on capital creation in next 5 years
 - 31 lakh crore needed to be spent in next five years (RBI)
2. Productive use of idle assets
 - eg: land parcels owned by BSNL, MTNL, etc. can be monetised
3. More popular method of resource mobilization than taxation or privatization
 - no tax burden on selling 'family silver'
 - can help ease fiscal deficit in a post-COVID economy
4. Encouraging private participation in governance (Vijay Kelkar Committee)
5. Can help push schemes like AtmaNisbhan Bhavut, etc.

Issues to be Addressed For Monetisation

1. COVID-affected economy to lack of disposable money and animal spirits among corporates
 - realistic valuation of assets
 - ensuring easy and business friendly concession agreements
2. Heisitancy with respect to assets like highways
 - short-term spending but scurvy of investment takes a long time.
3. Ensuring commercial interests are balanced with public welfare
 - focus on assets with multiplier effect on economy
4. Preventing political interference, corruption, etc.

NMP if implemented can not only augment govt. resources, but also lay foundations for \$5 trillion economy by 2024

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।

While existing stock exchanges such as BSE and NSE have only focused on business entities that are profit-oriented, a novel idea is of Social Stock Exchanges (SSE) involving listing of entities working in the area of social welfare.

Need for Social Stock Exchanges

1. Helps provide much needed capital and visibility to social sector entities like NGOs, etc.
2. Corporates have a ready-made list and profile of potential entities to give them fund social welfare activities

→ can help meet Corporate Social Responsibility (CSR) obligations

3. Ensuring regulation of social sector through formalisation and listing
→ supplementing efforts under FCRA, FEMA, etc.

4. Push to social sector in general
→ spending on education, health, environment, etc.

Challenges Associated with SSEs

1. International experience

→ lukewarm response in countries like Singapore, UK, etc.

2. Will require a thorough filtration and profiling of potential listed entities

→ lack of adequate aggregated
database

3. Need for enforcement and monitoring
mechanism

→ to ensure funds are spent
on productive activities

4. Lack of viable business model

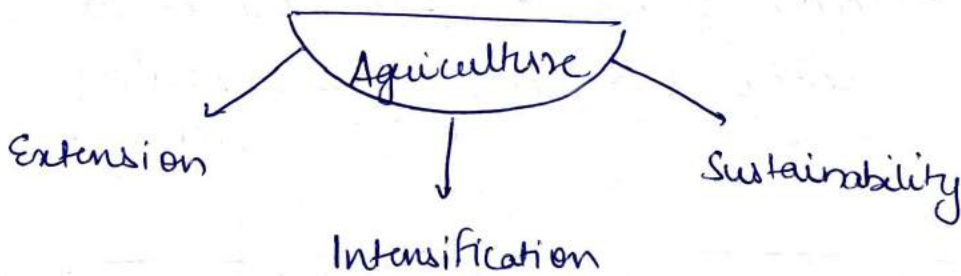
→ since social welfare is primary
objective, illogical for investors
to invest in entities not ensuring
return on investment.

Social Stock Exchanges (SSE) can
revolutionize India's social sector. But
only a multi-sectoral, multi-stakeholder
approach based on consultation with
corporates, NGOs, etc can yield outcomes.

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?

Agriculture Extension refers to the extension of agricultural activities to hitherto uncultivated lands and productive use of land to supplement agricultural activities.



Pillars of Agri Policy

Importance of Agriculture Extension

1. Empowering the small and marginal farmers

- 86.1. farmers have land holdings of less than 2 hectares
- 2. Ensuring economies-of scale
 - large fields allowed greater intensification of agriculture by mechanization using tractors, harvesters, etc.
- 3. Helps meet land degradation earth neutrality targets
 - India committed LDN by 2030 under UN Convention on Combating Desertification

Challenges in Agriculture Extension

- 1. Balancing extension efforts with sustainability
 - extension must not lead to deforestation, loss of green cover, etc.

2. Status Quoist nature of farmers

→ use of traditional methods and
resistance to modern machines, etc.

3. Extension must be supplemented
by efforts to increase yield &
productivity

→ China produces about 3 times
from similar plot of land (Ashok
Dalwai Committee)

National Mission on Agric Extension & Technology

1. Greater credit disbursement to farmers
to pursue extension activities & cultivate
wastelands uncultivated lands

2. Providing access to subsidised machines
such as Happy Seeders, etc. to incentivize
mechanization

3. Provide latest information and expertise
from ICAR

Thus Agric extension can increase the
productivity of India's farm sector

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।

NSO's Periodic Labour Force Survey (PLFS) for 2019-20 showed unemployment in India rose to about 7.1%, which is highest in the last 35 years. This unemployment problem is estimated to have gotten worse after COVID-19 pandemic.

Existing Employment Problem

1. Lack of formal productive jobs
 - increasing unemployment
 - 85.1 of Indian workforce in informal sector
2. Lopsided pattern of employment

- 45% of workforce concentrated in agriculture which contributes 16% to GDP
- services led growth : job-less growth

3. Poor quality of employment

- increasing casualization of workforce

27% (1970) → 35% (2020)

- underemployment & disguised unemployment. eg: 10 people working in one field

4. Gender disparity

- Female labour force participation rate less than 25%.

Reasons for Employment Problem

1. Lack of adequate formal training

(59%)

India

(52%)

USA

2. Lack of database on informal workers, migrant population

- e-Shram portal to collect data

3. Advent of gig and platform economy
→ ~~no~~ job security, unionization, etc.
4. Patriarchal mindset
→ Women associated with households,
care jobs such as nursing, etc.
5. Poor implementation of schemes like
Make in India, Skill India, etc.

Potential Solutions

1. Recommendations of Shahada Prasad
Committee can be revisited to ensure
Skill Development
 2. Adequate social security benefits &
formalization of informal workforce,
gig & platform workers, etc.
 3. Women empowerment schemes like
KIRAN, etc.
- Unemployment must be addressed to
realize India's Demographic Dividend

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 विखंडित 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 National Policy on Blue Revolution was released in 2020, aiming to revolutionize shipping sector and make India global hub of maritime trade. This is important since 90% of Indian trade by volume occurs via sea.

Steps Taken for Developing Maritime Trade

1. Sagarmala Project

→ port-led development through connecting ports with hinterland, etc.

2. Gati-Shakti Scheme

→ improving logistics in India through inter-ministerial coordination

→ Cost of Logistics : India (141) Developed countries (81)

3. Major Port Authorities Act

- landlord model for port development
- Port authority as owner with contract with private player

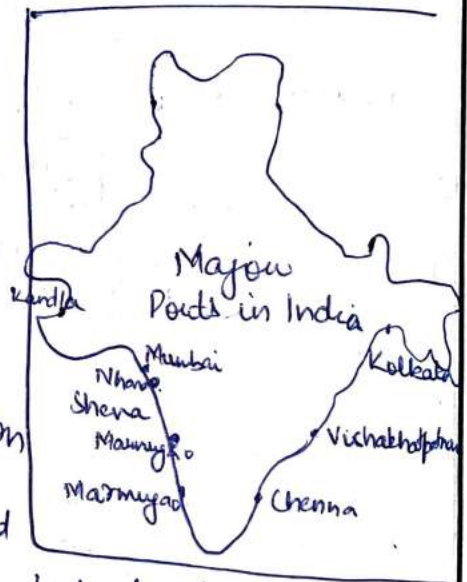
4. White Shipping Agreements with more than 20 countries

5.

Existing Challenges

1. Minor Ports in State List under Schedule VII of Constitution

- Lack of coordinated approach to port-led development



2. Long turn-around time for ships

- India: 2.6 days
- Singapore: 1 days

3. Different rules for domestic & international ships

- higher cabotage charges for domestic ships

4. Shift in modal share to railways and roads

→ Waterways as only 7% of transport sector

Steps to Empower Marine Trade

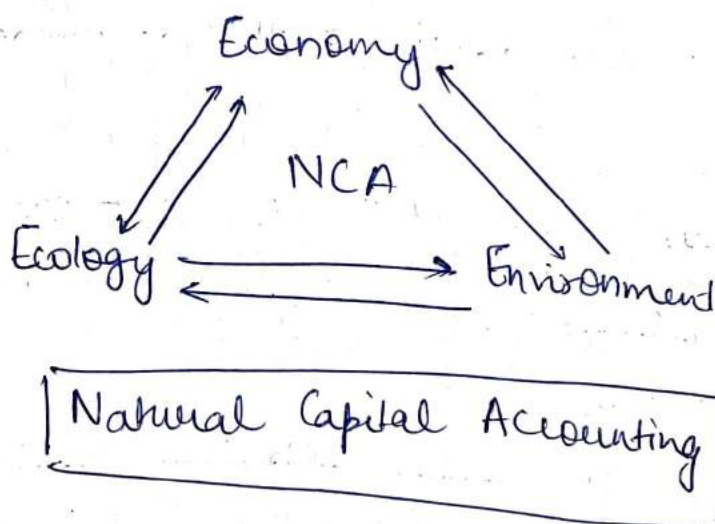
1. Infrastructure - building at ports
→ for storage, anchorage, etc.
2. Encouraging private participation
→ PPPs, model concession agreements
(Vijay Kelkar committee)
3. Streamlining rules for parity among domestic & international operators
4. Incentives to empower such as Advance Authorization Scheme, RODTEP, etc

Marine Trade is central to India's ambitions of integrating with post-COVID global value chains.

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।

Natural Capital Accounting (NCA) is an accounting framework which includes environmental assets in its assessment of a region's total capital. It forms the necessary link between economy, ecology and environment.



Benefit of Natural Capital Accounting

1. Estimation of condition of environment in a region
→ eg: forest cover of State included in its GDP
2. Ensures sustainability in development activities
→ prevents development at the cost of environment through deforestation, pollution, etc.
3. Increases public awareness regarding need to conserve environmental resource
4. 'Whole-of-society' approach to governance
→ including natural organisms like flora, fauna
5. Help meet environmental obligations such as under Paris Agreement, NAPCC, etc.

Indian Initiatives in NCA

1. India recently signed the SEEA Natural Capital Accounting Framework
 - helmed by UNEP, UNDP, etc.
 - focus on 3 things
 - i. existing environment condition
 - ii. effect of economy on environment
 - iii. effect of env. conservation on economy
2. Uttarakhand shifted to Gross Environment Product (GEP) from GDP

As Gadgil Panel on Western Ghats said, we must move from 'Develop Recklessly, Conserve Thoughtlessly' to 'Develop Mindfully, Conserve Thoughtfully'

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।

Recent floods in Kerala after floods in Chennai last year have led to environmentalist pointing at urbanisation and population growth as reasons for increasing frequency of disasters — Vandana Shiva has called them man-made disasters and not natural disasters.

Urbanisation and Population as Cause

1. Urbanisation and development activities in sensitive ecology disturb delicate environmental stability
eg: Tourist activities in Himalayas blamed for Uttarakhand floods

2. Adverse impact on habitat for fauna and flora
 → eg: trees being cleared to ^{intense} ~~feed~~ agriculture & feed rising population
3. Urbanisation has led to urban heat island effect due to increasing concretisation of landscape
 → wetlands as natural drainage eliminated
 → lack of green cover accentuating climate change

Measures to Deal With Urban Disasters

1. Both Gadgil Panel and Kasturbaangan Panel emphasized balancing development with environmental stability
2. Need for 'Greening' & 'Bluing' urban landscapes
 → afforestation programmes such as

Nagari Van Scheme, etc.

→ conservation of wetlands such as Kabaul lake in Uttar Pradesh, etc.

3. Risk assessment and vulnerability mapping in disaster prone areas

→ using GIS, remote sensing, etc.

3. Early Warning systems

→ eg: IFLOWS system in Chennai

4. Structural and non-structural measures such as shelter belts, safe houses, etc.

5. Legislative initiatives

→ no land use change unless permitted

→ monitoring construction in sensitive areas

→ enforcing BIS codes for building design

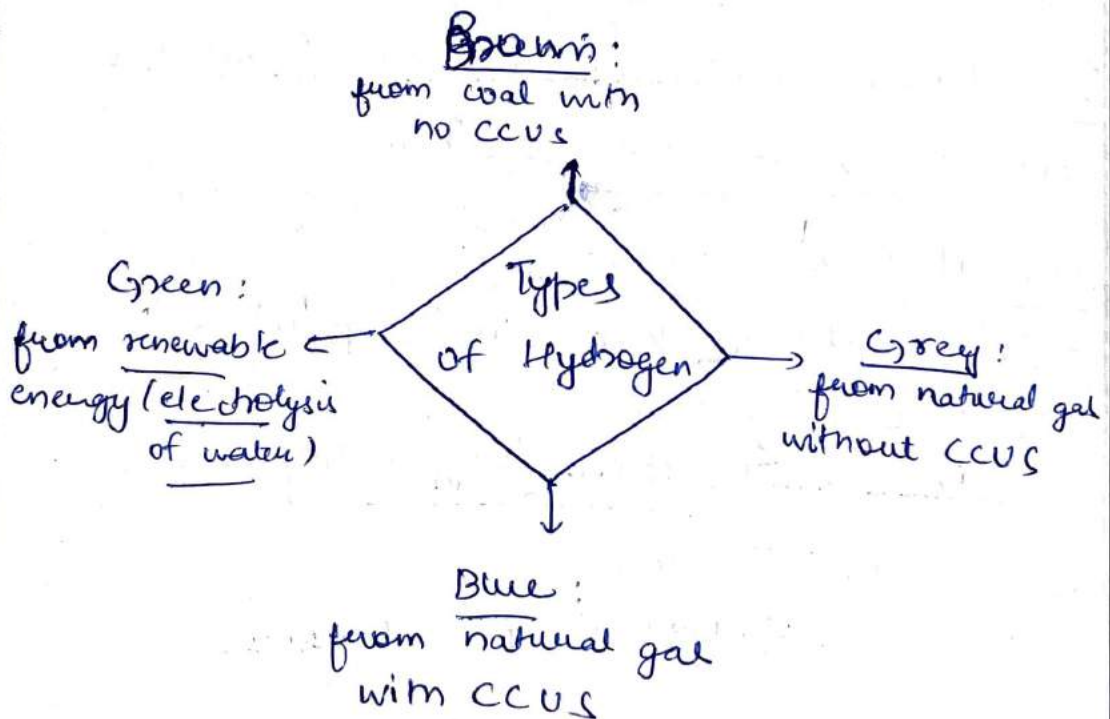
6. Capacity building through empowering local bodies, civil society, NGOs.

'Development v/s Environment' must change to 'Development and Environment' to prevent hazards from turning into disasters

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

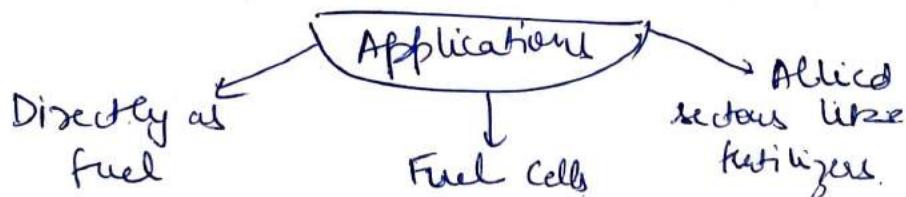
भारत की बढ़ती ऊर्जा मांगों के लिए राष्ट्रीय हाइड्रोजन मिशन एक गेम चेंजर हो सकता है। टिप्पणी कीजिए।

The National Hydrogen Mission was announced in Budget 2021-22 to harness the potential of Green Hydrogen in order to ensure energy security in India.



Hydrogen - Gamechanger in Energy Sector

1. Greener fuel $\rightarrow$ reduces emissions
2. Has 3-4 times more energy density than existing fossil fuels like oil
3. Can be produced from locally available material
4. Helps in diversification of energy sector
 $\rightarrow$ India imports 70% oil from unstable West Asia
5. Help in decreasing oil import bill
6. Encourages investment in technologies such as hydrogen fuel cells, etc.



Challenges to National Hydrogen Mission

1. Hydrogen as inflammable gas
→ security risk
2. Lack of scalability of technology
→ eg: fuel from water is can not
yet scalable
3. Emissions during production process
4. Storage as a challenge

India has taken significant steps such as National Hydrogen Energy Roadmap, and Delhi became first city in 2020 to run H-CNG buses. This must be supplemented by more research & investment to realize potential of hydrogen

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।

China-based 'Red Echo' malware was alleged to have attacked India's power sector in 2020, leading to power loss in Mumbai for a few hours. This highlighted India's vulnerability to cyber attacks, and need for a cogent cyber security framework.

Need for Cyber Security Policy

1. Cyber-armed adversaries.
 - cyberwarfare as a new frontier for asymmetrical warfare
 - China accused of employing cyber attacks against adversaries
2. Need to protect Critical Infrastructure such as banks, government offices, etc.

3. Threat of cyber-terrorism

→ harm to critical assets by
terrorists through malware,
phishing, etc.

4. Awareness of Challenge

→ NSA Ajit Doval pointed to need
for cyber security robustness.

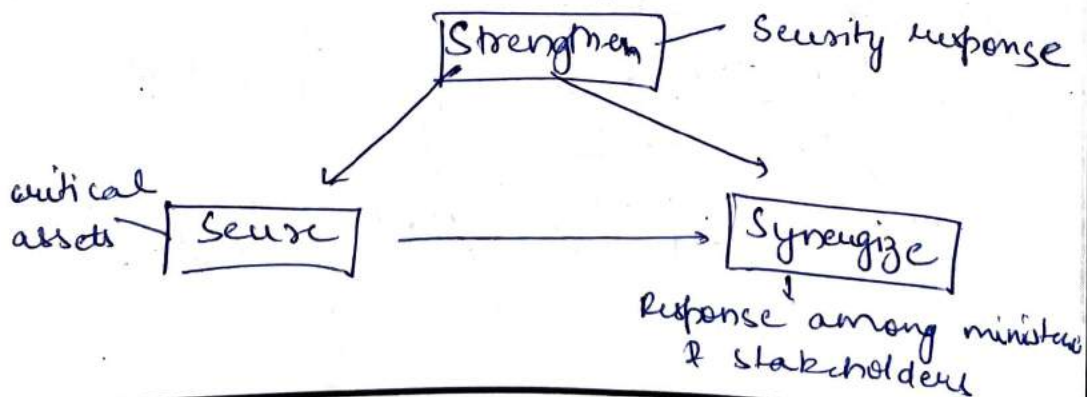
Existing Security Mechanisms

1. Institutional Framework

→ NSA as apex coordinator

→ CERT-In and National Cyber Crime
Coordination Centre as bodies for
intelligence & surveillance

2. National Cyber Security Framework



3. Cyber Awareness Programmes such as
Cyber Swachhta Kendras, etc.

Modest Progress

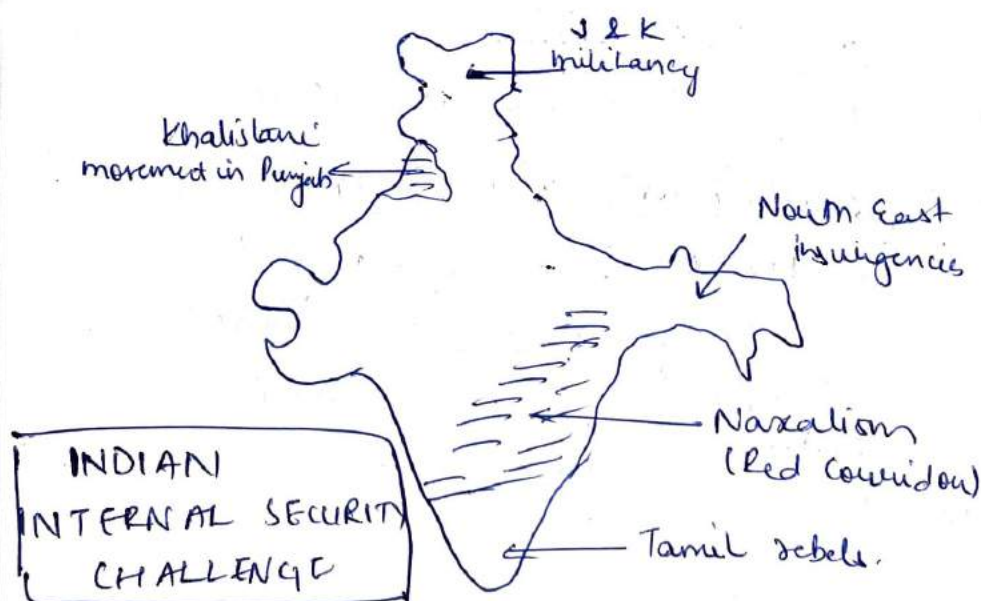
1. Lack of an integrated policy for
cyber security
 - multiple bodies with overlapping
jurisdictions
 - no clear cut command mechanism in
case of attack
2. Lack of adequate infrastructure to secure
assets
 - vulnerable to attacks: eg: Shaubhand govt.
website hacked
3. Lack of public awareness
eg: Journalist Nidhi Razdan victim of Phishing
4. Not signed Budapest Convention on Cyber
Security

India must evolve an integrated, holistic,
multi-stakeholder based Cyber Security Policy.
Tallinn Manual of US can be a model
for such a policy.

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।

India faces internal security challenges on numerous fronts - J & K, Nagaland, Tamil Nadu, etc. These secessionist movements and movements for autonomy are often a reflection of dissatisfaction with development process and administrative framework. However, govt. response must involve both developmental & security dimension.



Need for Two Pronged Approach

1. Dealing with security threats while simultaneously integrating with development framework
→ eg: Aspirational Districts Programme in tribal areas but Anti-Naxal operations in Red Corridor
2. Ensuring no parallel administrative frameworks evolved
eg → no parallel administration by tribal groups in North-East
3. Development as long-term solution
but need for security in short term
4. Safeguarding lives of civilians & armed personnel as important as empowering citizens through development

Potential Approach

1. No talk with terrorist doctrine
↳ insist on keeping down arms before any positive talks
2. Surrender - cum - Rehabilitation Policy
↳ for those willing to give up arms
3. Development Flexibility in negotiation
but within constitutional framework
↳ eg: no separate flag for Nagaland
4. Counter-insurgency operations & focus. eg: Greyhounds & Cobra against Naxalites
5. Development initiative: connectivity, schools (Ekklanya Schools), health, etc.

Development & security Operations must be balanced to secure national interest.