

VISIONIAS
INSPIRING INNOVATION
ABHYAAS MAINS

सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2930)

निर्धारित समय: तीन घंटे
Time Allowed: **Three Hours**

अधिकतम अंक: 250
Maximum Marks: 250

सामान्य अनुदेश

इस प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका में 55+1 पृष्ठ हैं। प्रश्न-पत्र, क्यू.सी.ए. पुस्तिका के अंत में संलग्न है, जो अलग (वियोज्य) किया जा सकता है और उम्मीदवार परीक्षा के उपरांत अपने साथ ले जा सकते हैं।

रफ कार्य के लिए, इस पुस्तिका के अंत में खाली पृष्ठ दिया गया है।

पुस्तिका प्राप्त होने पर, कृपया यह जांच कर लें कि इस क्यू.सी.ए. पुस्तिका में कोई कमी न हो, फटा हुआ पृष्ठ न हो अथवा कोई पृष्ठ गायब न हो इत्यादि। यदि ऐसा हो, तो इसके बदले नई क्यू.सी.ए. पुस्तिका प्राप्त कर लें।

General Instructions

This Question-Cum-Answer (QCA) Booklet contains 55+1 pages. Question Paper in detachable form is available at the end of the QCA Booklet which can be taken away by the candidate after examination.

For rough work, blank page has been provided at the end of this Booklet.

On receipt of the Booklet, please check that this QCA Booklet does not have any shortcomings, torn or missing pages etc. If, so, get it replaced with a fresh QCA Booklet.

(उम्मीदवार द्वारा भरा जाएगा/To be filled by the Candidate)

पंजीकरण सं./Registration No. : 01297803

अभ्यर्थी का नाम/Name of Student : ANUPRIYA

माध्यम: हिंदी/अंग्रेजी
Medium: ~~Hindi~~/English

English

तारीख
Date

**सामान्य अध्ययन (प्रश्न पत्र-III)
GENERAL STUDIES (Paper III)**

केंद्र
Centre

Bangalore

निरीक्षक के हस्ताक्षर
Invigilator's Signature

[Signature]

	<p style="text-align: center;">महत्वपूर्ण अनुदेश</p> <p>उम्मीदवारों को नीचे उल्लिखित निर्देश सावधानी से पढ़ लेने चाहिए। किसी भी निर्देश का उल्लंघन करने पर उम्मीदवारों को मिलने वाले अंकों में कटौती, उम्मीदवारी रद्द या आयोग के परवर्ती परीक्षाओं के लिए वर्जित करने इत्यादि के रूप में दण्डित किया जा सकता है।</p>	<p style="text-align: center;">Important Instructions</p> <p>Candidates should read the undermentioned instructions carefully. Violation of any of the following instructions may entail penalty in the form of deduction of marks, cancellation of candidature, debarment from further Examination of the Commission etc.</p>
1	<p>(क) अपना पंजीकरण सं. एवं अन्य विवरण केवल प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) में उम्मीदवार के लिए निर्धारित स्थान पर ही लिखें।</p> <p>(ख) इस पुस्तिका में अन्यत्र कहीं भी अपना नाम, पंजीकरण सं., मोबाइल नं., पता अथवा प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) संख्या न लिखें जिससे आपकी पहचान का खुलासा हो।</p>	<p>(a) Write your Registration Number and other details only in the space provided in the Question-Cum-Answer (QCA) Booklet for candidates.</p> <p>(b) Do not disclose your identity in any manner such as, by writing your Name, Registration number, Mobile number, Address, Question-Cum-Answer (QCA) Booklet No. etc. elsewhere in the Booklet</p>
2	<p>अपनी प्रश्न-सह-उत्तर पुस्तिका में कहीं भी प्रश्नों के वास्तविक उत्तर के अतिरिक्त कुछ न लिखें जैसे कि कोई कविता/दोहा, अभद्र या अपमानजनक अभिव्यक्ति इत्यादि और न ही कोई ऐसा चिन्ह/निशान बनाएं जिसका उत्तर से सम्बन्ध न हो।</p>	<p>Do not write in the QCA Booklet anything other than the actual answer such as couplet, obscene, abusive expression etc., nor put any sign/mark having no relevance to the answer.</p>
3	<p>परीक्षक को प्रत्यक्ष/अप्रत्यक्ष रूप से कोई भी प्रार्थना/धमकी भरी बातें न लिखें।</p>	<p>Do not make any direct/indirect appeal/threat to the examiner.</p>
4	<p>उत्तर अस्पष्ट अथवा गंदी लिखावट में न लिखें। इस प्रकार के उत्तर का मूल्यांकन नहीं किया जा सकता है।</p>	<p>Do not write answers in bad/illegible handwriting. Such answers may not be evaluated.</p>
5	<p>उत्तर स्याही में ही लिखें। उत्तर लिखने के लिए पेंसिल का उपयोग न करें, हालांकि आरेख, चित्र इत्यादि बनाने के लिए पेंसिल का उपयोग किया जा सकता है।</p>	<p>Write answers in ink only. Do not use pencil for writing the answers. However, pencil may be used for drawing diagrams, sketches, etc.</p>
6	<p>प्रवेश पत्र में उल्लेख किए गए माध्यम के अलावा अन्य किसी माध्यम में उत्तर न लिखें। अधिकृत और अनधिकृत की मिली जुली भाषा का भी उपयोग न करें।</p>	<p>Do not write answers in medium other than the authorized medium in the Admission Certificate. Do not use mixed language either i.e. authorize and unauthorized media together for writing answers.</p>
7	<p>प्रश्नों के उत्तर ठीक उसके नीचे दिए गए निर्धारित स्थान पर ही लिखें। निर्धारित स्थान के अलावा किसी अन्य स्थान पर लिखे गए उत्तर का मूल्यांकन नहीं किया जाएगा।</p>	<p>Write answer at the specific space (right below the question) only. Answers written elsewhere at unspecified places in the booklet shall not be evaluated.</p>
8	<p>यदि आप अपने किसी उत्तर को रद्द करना चाहते हैं तो उसे पेन से काट दें तथा उस पर "रद्द" लिख दें, अन्यथा उसका मूल्यांकन किया जा सकता है।</p>	<p>If you wish to cancel any work, draw your pen through it and write "Cancelled" across it, otherwise it may be valued.</p>

कार्यालय के प्रयोग हेतु For Official Use	कार्यालय के प्रयोग हेतु For Official Use
परीक्षक के हस्ताक्षर Signature of Examiner(s)	

प्राप्तांक के विवरण (परीक्षक द्वारा भरा जाए)/ Marks Details (To be filled by the Examiner(s))

प्रश्न सं. Q. No.	अंक Marks		प्रश्न सं. Q. No.	अंक Marks	
1			11		
2			12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		
उप-योग (A) Subtotal (A)			उप-योग (B) Subtotal (B)		
सकल योग (A+B) / GRAND TOTAL (A+B)					



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प्रश्न-पत्र संबंधी विशेष अनुदेश

कृपया प्रश्नों के उत्तर देने से पूर्व निम्नलिखित प्रत्येक अनुदेश को ध्यानपूर्वक पढ़ें:

कुल बीस प्रश्न दिए गए हैं जो हिंदी और अंग्रेजी दोनों में छपे हैं।

सभी प्रश्न अनिवार्य हैं।

प्रत्येक प्रश्न/भाग के लिए नियत अंक उसके सामने दिए गए हैं।

प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए, जिसका उल्लेख आपके प्रवेश-पत्र में किया गया है, और इस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका के मुख-पृष्ठ पर निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिखे गए उत्तर पर कोई अंक नहीं मिलेंगे।

प्रश्न संख्या 1 से 10 तक का उत्तर 150 शब्दों में तथा प्रश्न संख्या 11 से 20 तक का उत्तर 250 शब्दों में दीजिए।

प्रश्नों में इंगित शब्द सीमा को ध्यान में रखिए।

प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गए कोई पृष्ठ अथवा पृष्ठ भाग को पूर्णतः काट दीजिए।

QUESTION PAPER SPECIFIC INSTRUCTIONS

Please read each of the following instructions carefully before attempting questions.

There are TWENTY questions printed both in HINDI and in ENGLISH.

All questions are compulsory.

The number of marks carried by a question/part is indicated against it.

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 a medium other than the authorized one.

Answers to Questions No. 1 to 10 should be in 150 words, whereas answers to Questions No. 11 to 20 should be in 250 words.

Keep the word limit indicated in the questions in mind.

Any page or portion of the page left blank in the Questions-cum-Answer Booklet must be clearly struck off.

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

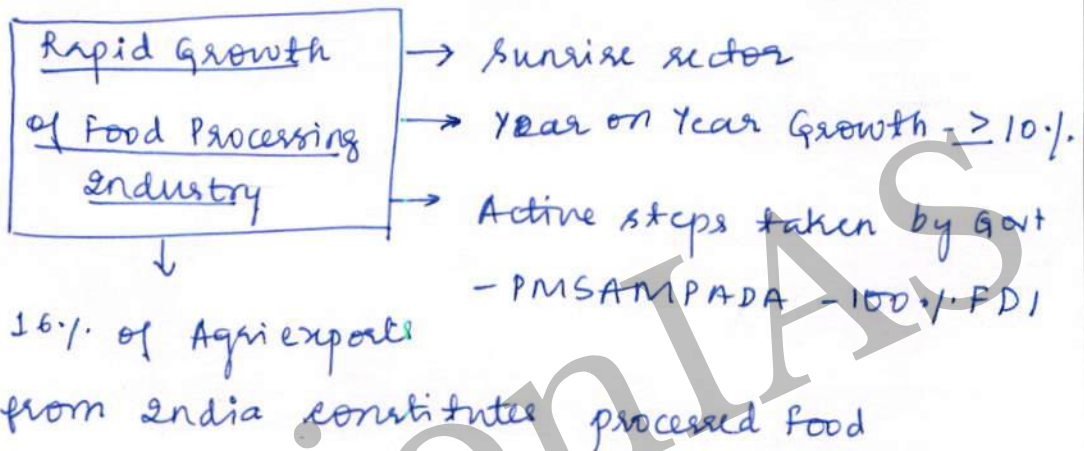
1.

खाद्य प्रसंस्करण उद्योग का तीव्र विकास किस प्रकार भारत में खाद्य सुरक्षा संबंधी चुनौतियां उत्पन्न कर रहा है? (उत्तर 150 शब्दों में दीजिए)
How is the rapid growth of the food processing industry leading to food safety challenges in India? (Answer in 150 words)

उम्मीदवारों को इस दृष्टि में नहीं लिखना चाहिए
Candidates must not write on this margin

10

Food Processing Industry - caters to the value addition to the agri produce as well as increases the shelf life of the product



The rapid growth - is leading to food safety challenges in the following ways :-

1. Decreased Quality checks - leading to subpar food (processed) articles in the market

↳ European market → MDH masala alleged to contain harmful chemicals

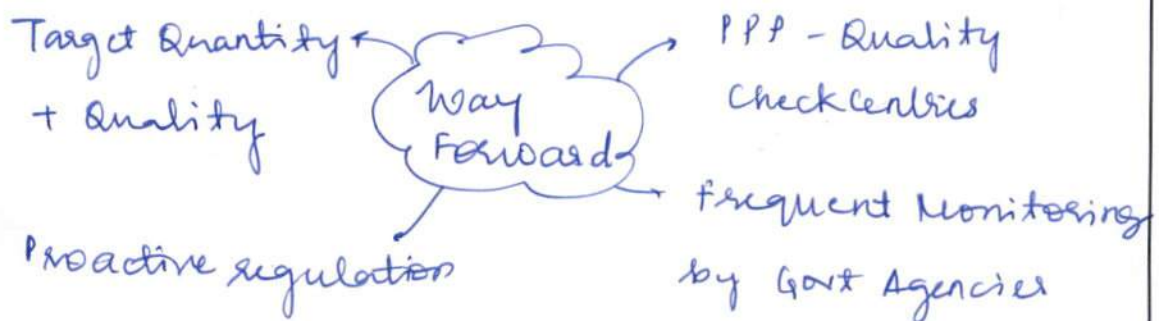
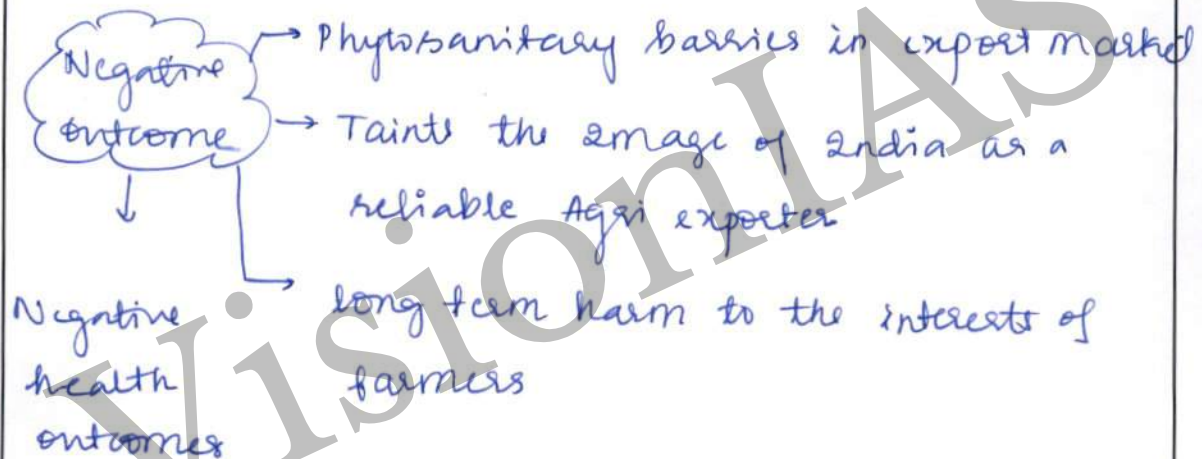
2. Legal food processing sectors operating

without permission

↳ Recent raids in Punjab-Haryana on food processing companies

3. Lax Implementation of law

4. Insufficient Quality check institutions to cater to the rising demand in food processing industry



Food processing industry needs to balance the food safety parameters for long term gain and doubling farmer income.

2.

भारत की सार्वजनिक वितरण प्रणाली के अंतर्गत उचित मूल्य की दुकान (FPS) का प्रारंभ एक विकासशील प्रक्रिया है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)
Under the Public Distribution System of India, the Fair Price Shop (FPS) transformation is an evolving process. Discuss. (Answer in 150 words)

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
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Public distribution system is the core aspect of 'right to food initiative' (NFSA) catering to 75% of India's population

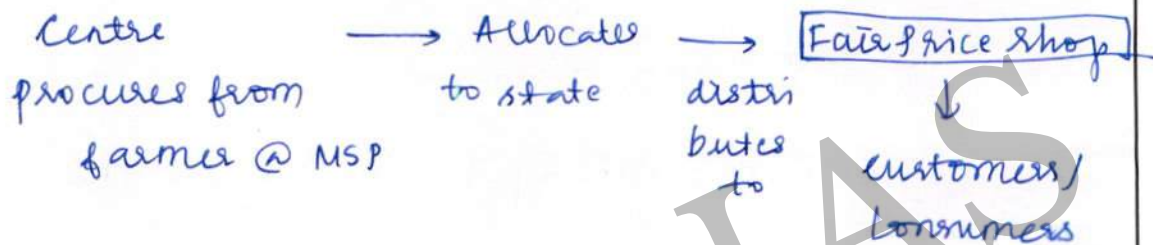


Fig: Flowchart of PDS

Fair price shop Transformation is an Evolving Process

Traditional Methodologies of FPS

- 1) Weight Measurement lacunae
↳ corruption
↳ deviation
- 2) Consumers were not informed regarding the arrival of ration
↳ leakages
↳ Non-Inclusive

- 3) Problem of rodents
↳ unhygiene!
↳ compromised food safety
↳ food loss

□ Present evolved methodologies in FRP

1. Integration of Technology
↳ Biometric ration card
↳ prevents leakages and deviation
2. Digitised Measuring Instruments
3. Mobile Number Integration to Fair Price shop (in many states) - notification on arrival of food grains
4. Consumers treated as Active Customers than Passive recipients
5. One Nation One Ration Card - Increased Inclusivity

Case Study: Chandigarh FRB Model

- Govt run FRB (No private partners)
- Grievance redressal mechanism
- Real time updates on stocks in FPS

Transforming FPS is indispensable towards achieving SDG-2-Zero Hunger
- more technology integration is advisable.

3.

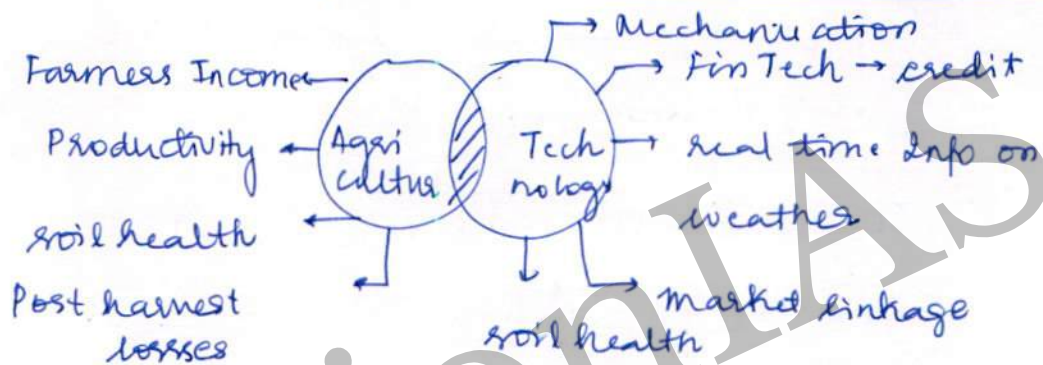
भारत में एग्रीटेक स्टार्ट-अप्स किसानों की कृषि उत्पादकता एवं बाजार पहुंच बढ़ाने में किस प्रकार मदद कर रहे हैं? (उत्तर 150 शब्दों में दीजिए)

How are agri-tech startups in India helping farmers in enhancing farm productivity and market access? (Answer in 150 words)

10

उम्मीदवारों को इस कक्ष में नहीं लिखना चाहिए
Candidates must not write on this margin

Agri-Tech startups integrates the advancements in technology towards supporting agricultural productivity - yield, soil health. agri marketing reforms networks.



Agri Tech startups - helping farmers in

① Farm Productivity :-

1. Mechanisation of Agriculture
 ↳ Happy seeder - easy harvesting in sustainable manner (stubble)

2. Real time information regarding the weather (monsoon, heat)

↳ helps farmer plan harvest & sowing

3. Advancements in microirrigation & making it available in lesser cost

↳ low cost sprinkler irrigation setup

4. Agri startups involving in R&D -

climate resilient high yielding seeds

② Market Access

1. upstream and downstream linkages

↳ TechnoServe: Integrated Araku Valley coffee farmers to Walmart retail network

2. Preventing distress sale by providing updates on value of agri produce in real time

3. Greater choices to farmers to sell their goods across the country

↳ Retail hubs → Bigbasket
→ Blinkit
→ Mother dairy

Steps that need to be taken

→ greater allocation under greater incentives to Priority Sector Lending

agri startups

Agri Tech startups will enable us to achieve - Doubling farmers income

4.

भारत में भूमि सुधारों के प्रभावी कार्यान्वयन में भूमि अभिलेखों के डिजिटलीकरण की भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

Discuss the role of digitization of land records in the effective implementation of land reforms in India. (Answer in 150 words)

उम्मीदवारों को इस दृष्टि में नहीं लिखना चाहिए
Candidates must not write on this margin

10

Land reforms has been the objective of Govt of India since the Independence



Role of digitization of land records is effective implementation of Land reforms

Land record digitization

↳ converting the paper based (hard copy) land sale-deeds into digital form

↳ all cadastral maps are to be converted into digital format

How it will help in land reforms

1. Reduce land litigation - by digitizing the ownership record

5.

भारत को अपने जनसांख्यिकीय लाभांश का पूर्ण उपयोग करने और आर्थिक विकास में तेजी लाने के लिए एक विनिर्माण-केंद्रित विकास मॉडल को अपनाने की आवश्यकता है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

To fully exploit its demographic dividend and accelerate economic growth, India needs to adopt a manufacturing-led growth model. Discuss. (Answer in 150 words) 10

उम्मीदवारों को इस हार्जिन में नहीं लिखना चाहिए
Candidates must not write on this margin

According to UN report, 70% of India's population will be in working age group by 2050, thereby providing the benefit of demographic dividend

Need for Manufacturing Led Growth Model

1. Job elasticity in India = 0.1%

i.e for every 1% rise in GDP = 0.1%

Job is created in the market

2. Overemphasis on service sector has not been able to accommodate the employment need of the society

↳ Service sector - employs 30% population only

3. According to Economic Survey - 2024

India needs to generate 78 L+ jobs annually to accommodate rising working population till 2030.

How Manufacturing led growth Model will exploit demographic dividend :

- Large Number of employment can be generated (eg) MSME - 110M Jobs in India
- Exploit the gap in world market due to china + 1 strategy
- The advancements in Technology (AI, ML) supports the increasing demand in manufacturing
 - automation
 - need for hardware
- Unlock the potential
 - Make in India
 - Better exports
 - Market Integration

Way Forward

- 1) Formalise MSME
- 2) Greater incentives under Production linked Incentive scheme (PLI)
- 3) Focus on skill development and academic - Industry linkage

As espoused by Economic Survey - Manufacturing is the ray of hope towards increasing demographic dividend

6.

जलवायु परिवर्तन के परिणामस्वरूप बढ़ते प्राकृतिक खतरों से निपटने के लिए भारतीय तटीय समुदायों की प्रत्यास्थता को किस प्रकार मजबूत किया जा सकता है? (उत्तर 150 शब्दों में दीजिए)

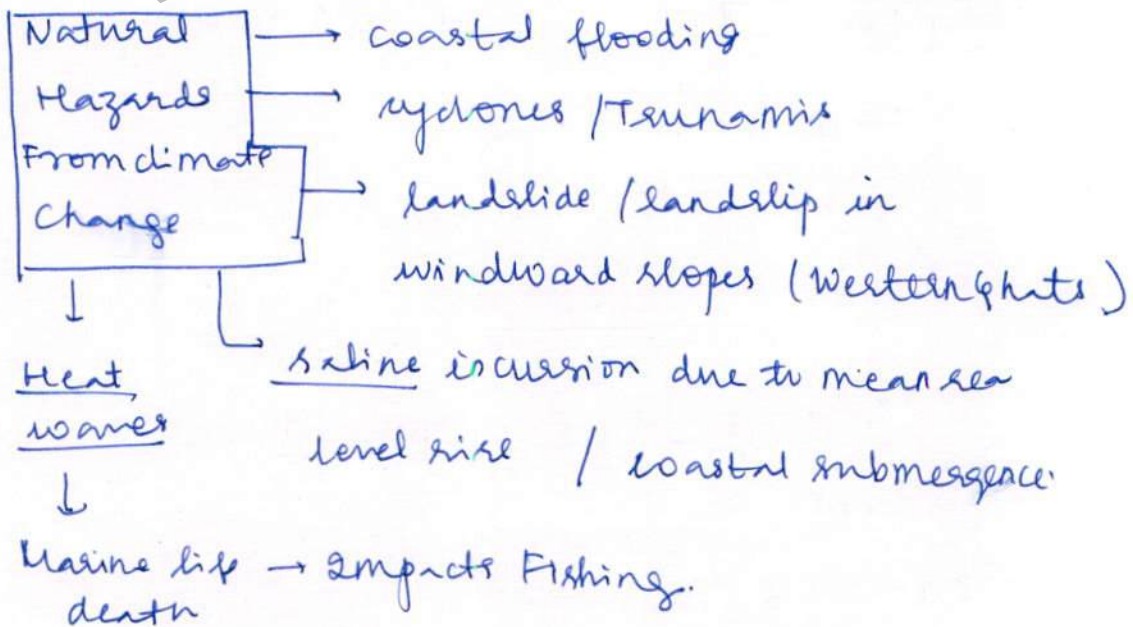
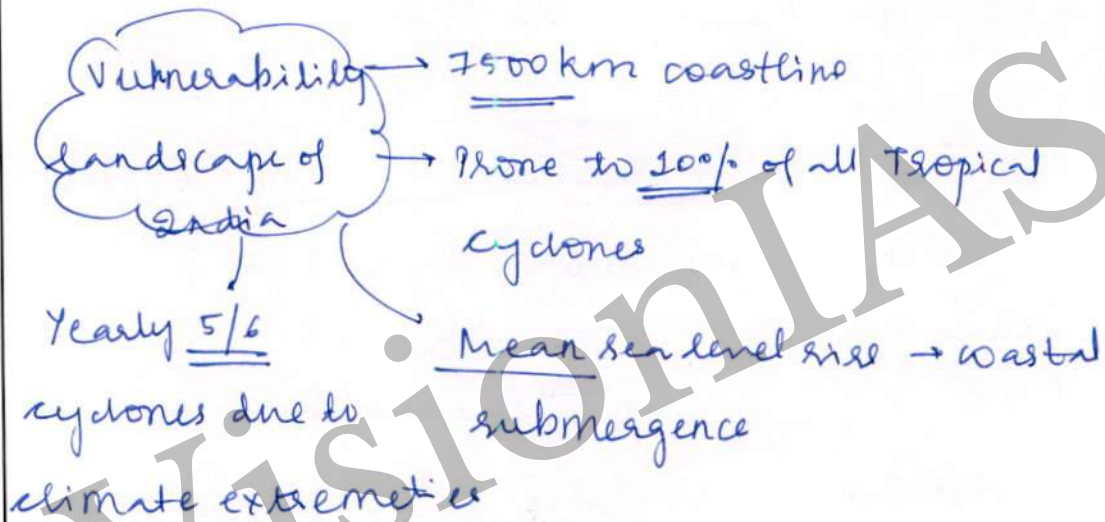
How can the resilience of Indian coastal communities be strengthened to tackle the growing natural hazards resulting from climate change? (Answer in 150 words)

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
Candidates must not write on this margin

10

According to IPCC report - ARC-

there has been 4.5 mm yearly rise in mean sea level since 2008. And WMO report states 0.2M rise has already been seen.



□ How to build Resilience

1) Anchor walls / retention walls - reducing the impact of cyclones

2) Better weather forecasting → early warning signs
↓
Zero Casualty
↳ prediction

3) Cyclone Feni - Not a single casualty in India

4) community participation → 2nd ARC
local bodies to be empowered as first line of action

5) Aapka Mitra - training of volunteers in coastal region.

6) Cooperative action
Towards SPG Center / Local Body. - state

Resilience - Adaptation - Mitigation

should be the way forward.

7.

भारत में अधिक संधारणीय पर्यावरण को बढ़ावा देने के लिए ग्रीन क्रेडिट प्रोग्राम किस प्रकार कार्बन प्रबंधन से कहीं अधिक विस्तृत है? इसके कार्यान्वयन के संबंध में विभिन्न चिंताएं क्या हैं? (उत्तर 150 शब्दों में दीजिए)
How does the Green Credit Programme extend beyond carbon management to promote a more sustainable environment in India? What are the various concerns about its implementation?
(Answer in 150 words) 10

उम्मीदवारों को इस हार्शिंग में नहीं लिखना चाहिए
Candidates must not write on this margin

Green Credit Programme
emissions extending credit line
towards green projects

↓

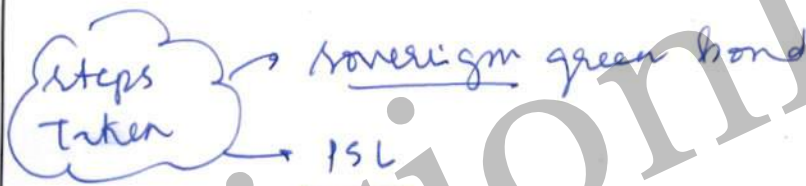
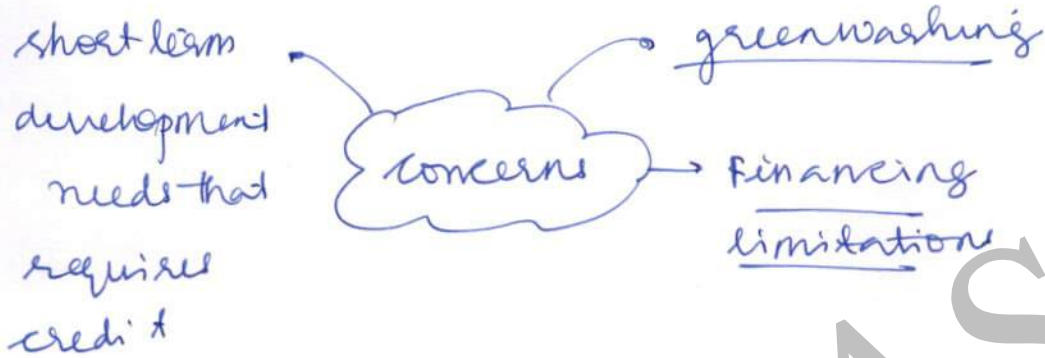
renewable energy - solar, wind.
green infrastructure
↳ green highways

How it goes beyond Carbon Management

1. Focuses both on Adaptation and
Mitigation

2. Not merely carbon management
rather envisages to build
resilience

3. Green Projects → prevents the carbon emissions addressing larger problem of global warming and climate change



Green Credit Programme is the hope for 'Green Tomorrow'.

8.

जब पहले से ही अन्य उपग्रह नेविगेशन सिस्टम उपलब्ध हैं, तो NavIC की आवश्यकता क्यों है? (उत्तर 150 शब्दों में दीजिए)

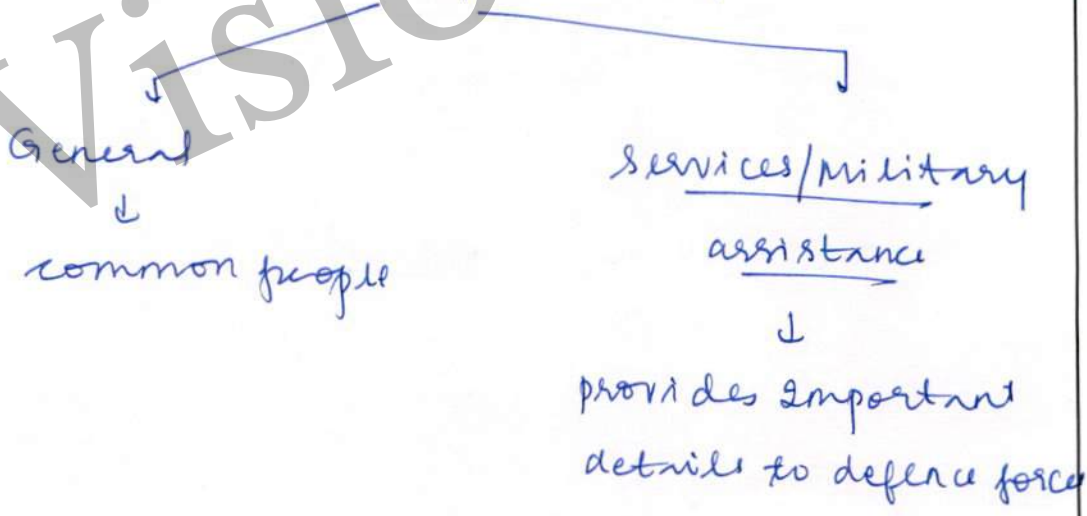
What is the need for NavIC when existing satellite navigation systems are already available? (Answer in 150 words) 10

उम्मीदवारों को इस खण्ड में नहीं लिखना चाहिए
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NavIC incorporates a network of
 7 satellites $\begin{cases} \rightarrow 4 \text{ in geosynchronous} \\ \rightarrow 3 \text{ in geostationary} \end{cases}$
 thereby aids in navigation providing
 specific details.

Need for NavIC

1. Navic has two separate components



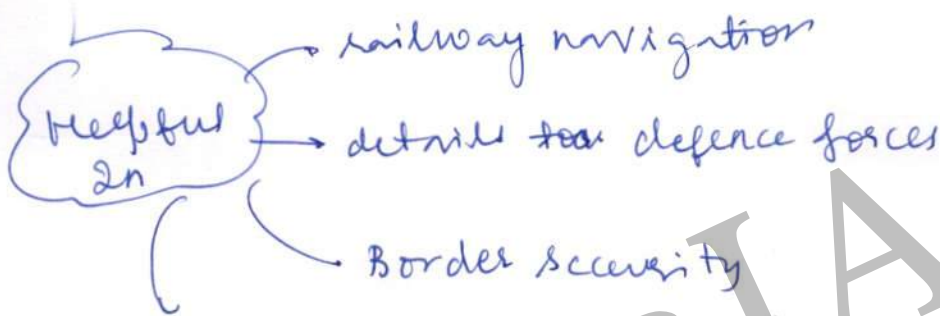
2. Navic is broad compared to hitherto navigation systems

i.e.: 1500km beyond the country's

boundary

3. NAVIC is more technologically advanced and capable

↳ remote sensing capabilities gather
timely & detail



details useful in disaster management

NAVIC - transformative potential
in achieving indigenous GPS.

उम्मीदवारों को
इस हार्जिए में
नहीं लिखना
चाहिए
Candidates
must not
write on
this margin

9.

साइबर-सक्षम वित्तीय अपराध वैश्विक धन शोधन (मनी लॉन्ड्रिंग) के नए क्षेत्र के रूप में उभरा है। चर्चा कीजिए। सरकार इस मुद्दे का समाधान किस प्रकार कर सकती है? (उत्तर 150 शब्दों में दीजिए)
Cyber-enabled financial crime has emerged as the new frontier of global money laundering. Discuss. How can the government address this issue? (Answer in 150 words)

उम्मीदवारों को इस हार्शिय में नहीं लिखना चाहिए
Candidates must not write on this margin

Britain Banks lost £1.2 B due to cyber-enabled financial crime in FY-2019, highlighting the threat it poses as a new frontier of global money laundering

Tools / Techniques used as the edge in provides towards global Money Laundering

1. Transaction in Cryptocurrency - hides the origin of the financing network
2. Block Chain Technology used towards funding terrorism - hides the transaction from investigating agency
3. Cyber connectivity facilitates global connect countering the distance
~~eg~~ cyber fraud operating from China targeting USA.

4. Cyber frauds → Cyber whaling
ransomware attacks on Banks

- as ~ money laundering tool

eg Microsoft > 57% Banks and large MNCs
targetted via cyber financial frauds.

How the Government can Address this

Domestic → regulatory Mechanism

eg 30% Tax on virtual digital asset

↓
Building Institution → fool proof cyber Protection

- CBI, ED capable to deal cyber-financial crime.

International → global cooperation

Bilateral & Multi lateral Institutions such as FATF

Solutions can be approached

eg G20 - pillars addressed cyber security Breaches

As Hon'ble Home Minister stated - today
there is shift from ' Hawala Money to Crypto
thereby our actions should also ' Transcend
Borders ' _____

10.

इंडियन आर्मी वर्ष 2024 को 'प्रौद्योगिकी समावेशन वर्ष (Year of Technology Absorption)' के रूप में मना रही है। इसके आलोक में, स्पष्ट कीजिए कि भारत के रक्षा क्षेत्रक में प्रौद्योगिकी के समावेशन की आवश्यकता क्यों है। इस पहल में भारत को किन चुनौतियों का सामना करना पड़ सकता है? (उत्तर 150 शब्दों में दीजिए)

The Indian Army is observing the year 2024 as the 'Year of Technology Absorption'. In light of this, explain why there is a need for technology absorption in the defence sector of India. What challenges can India face in this initiative? (Answer in 150 words)

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

10

Digital Darwinism has made inroads into the realm of defence sector - precision guided missiles, AI assisted UAVs, sensors and radars.

Why there is a need for Technology absorption in the defence sector:

1. Increasing unconventional warfare

- Cyber attacks

- Fourth Generation of warfare

eg Algerian hackers tried breaching DRDO website

2. To get an edge in Asymmetric warfare

eg Russia and Ukraine both have an

edge in defence technological prowess compared to opposite countries

3. To increase the efficiency of the defence forces

eg. Precision guided missiles

4. Reducing the 'human cost' in war

eg. Iron dome of Israel

Unmanned Aerial Vehicles guided by AI

5. Improving decision making skills and planning

eg. data management

6. Protecting critical Infrastructure amidst
militarisation of space & space weaponisation

~~eg.~~

What are the Challenges?

(1) Financial limitations as India is still a
developing country (2) China defence budget
5-7 times more than India

(2) Cybersecurity Threats - India most targeted
nation (Cyber Threat Landscape Report)

Moving forward - greater private participation

R&D in defence tech manufacturing is necessary.

11.

भारत के पूर्वोत्तर क्षेत्र (NER) में व्यापार एवं उद्योगों के विकास में किन समस्याओं का सामना करना पड़ा है? इन समस्याओं से निपटने हेतु किए गए उपायों पर टिप्पणी कीजिए। (उत्तर 250 शब्दों में दीजिए)
What are the issues faced in the development of trade and industries in the North-Eastern Region (NER) of India? Comment on the measures that have been taken to tackle these issues. (Answer in 250 words)

उम्मीदवारों को इस हार्जिए में नहीं लिखना चाहिए
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15

North eastern region of India has been deprived of industrialisation benefits since time immemorial in India

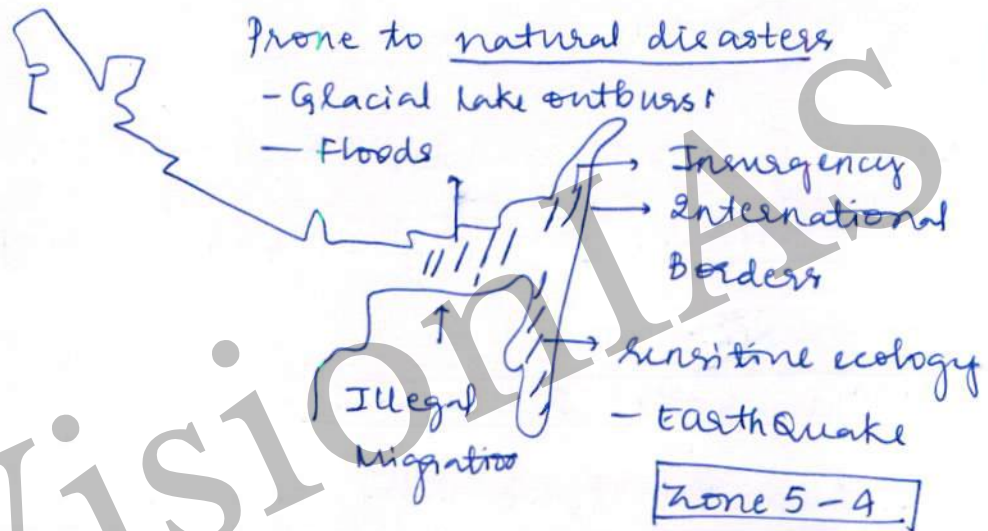


Fig. Issues faced in North East Region India

□ Issues faced in the development of trade and industries in NER.

1. Geography and Ecology:

1.1: Earthquake prone - does not encourage large scale industry construction

1.2: sensitive ecology

- Himalayan slopes are sensitive to landslide
- The Terrain in the region - rugged forest does not provide plain area for construction

2. Integration and connectivity

2.1: Chicken Neck corridor is the only way of connectivity b/w NER & mainland India

2.2: Increased logistic cost discourages prime industries

3. Socio-cultural reasons

3.1: Frequent ethnic disturbances (eg Manipur riot)

3.2: Lack of skilled manpower availability is limited in NER.

4. Security reasons

4.1: Increased cases of emergency, drug trafficking, arms smuggling disincentivise the private.

Measures that have been Taken

- 10% allocation in budget of every scheme is provided to NER
- Policies like : UNNATI → support Industrialisation
- Initiatives : NESIDS → that focuses on economic development in the region
- connectivity : connecting NW1 (Gangra) & NW3 (Brahmaputra); Tripura-Bangladesh rail link

Lacuna → still the potential in NER is not unlocked
→ Incapable to attract private Industrialists to the region
Platforms like BIMSTEC, SAARC has not been used proactively

As PM. Modi stated - NER is the gateway to India and not its end thereby increased focussed on the economic side is indispensable towards overall development.

12.

जलवायु परिवर्तन और बढ़ते जल संकट के युग में, सूक्ष्म सिंचाई प्रणालियां भारत में संधारणीय कृषि पद्धतियों में किस प्रकार योगदान दे सकती हैं? (उत्तर 250 शब्दों में दीजिए)

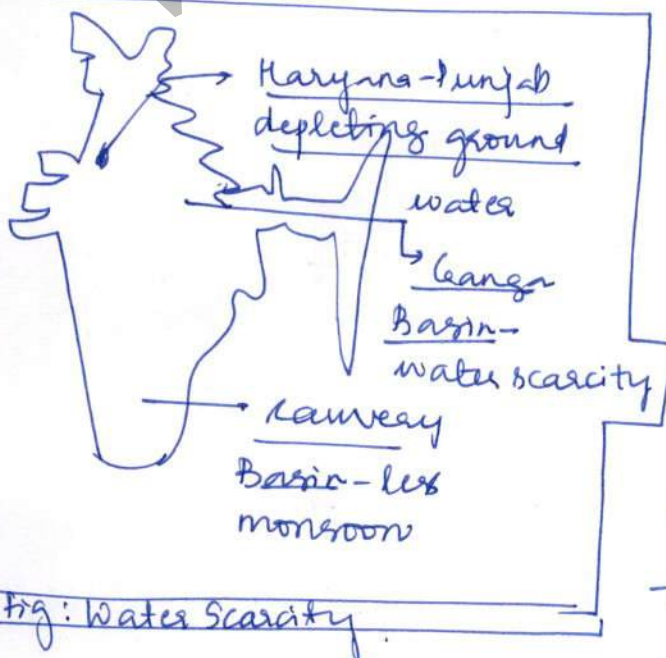
In the era of climate change and growing water scarcity, how can micro-irrigation systems contribute to sustainable agricultural practices in India? (Answer in 250 words) 15

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
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According to NITI Aayog - Composite water management report - 600M people in India live in highly water stressed region.

Agriculture $\xrightarrow[\text{VIS}]{\text{Vis-a}}$ water scarcity

- ①. 80% of fresh water used in Agriculture
- ②. efficiency of flood irrigation \rightarrow 35-40% (mostly practiced)
- ③. 52% agricultural land is water fed - prone to climate vagaries



Impact of climate change :

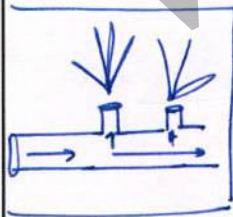
- 1) Unseasonal monsoon
- 2) El-Nino frequency is increasing leading to drought condition

3- 631 districts in India went from water deficit to water surplus in 1 month (FY-2023) due to irregular rain.

How Micro-Irrigation Systems can contribute to Sustainable Agricultural Practices

Micro Irrigation systems - uses modern methodologies such as drip irrigation, sprinkler towards increasing the water use efficiency.

1. Facilitates fertigation - i.e. fertilizers mixed with water via drip irrigation setup



Misuse of fertilizer ratio (7:4:1) can be avoided

↳ safeguards soil fertility

2. water use efficiency of

Drip Irrigation - 85-90%

canal - Flood Irrigation - 35-40%

3. Dalwai Panel observation

Micro Irrigation → 40% decrease in water consumption
→ 45% Increase in productivity
↳ 50% Increase in farmers income

Case study Malkhangiri - MP.

Micro Irrigation technique used by small marginal farmers

↳ 2 crops grown in a year → rice

↳ ₹50,000 - ₹80,000 increase in farmers income

Micro Irrigation is indispensable towards ~~tasking~~ achieving climate resilient agriculture - doubling farmers income.

13.

भारतीय रेलवे में माल परिवहन से संबंधित समस्याओं का समाधान करने तथा घरेलू माल दुलाई में इसकी हिस्सेदारी बढ़ाने के लिए कौन-सी रणनीतियां अपनाई जा सकती हैं? (उत्तर 250 शब्दों में दीजिए)

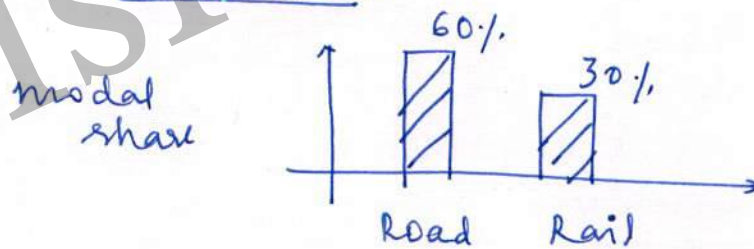
What strategies can be adopted to overcome the issues pertaining to freight transportation in the Indian Railways and increase its share in the domestic freight? (Answer in 250 words) 15

उम्मीदवारों को इस शीट में नहीं लिखना चाहिए
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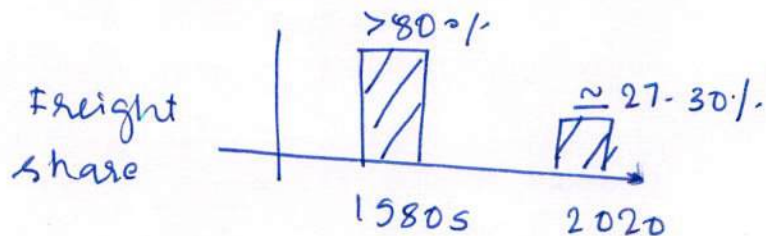
Indian railways is the 4th largest railway network in the world. and plays a central role in transportation network - especially freight transportation.

Present Issues pertaining to Freight Transportation in Indian railways

1. Skewed Modal share



2. Decreasing freight share over the years



3. Crosssubsidisation due to populism impacting freight share

1.e: Less price of ticket (people) $\xrightarrow{\text{compensation.}}$ High price of freight transport

4. Inefficiency at terminals

- loading and unloading
- Time taken is more
- complain of breakage / theft by consumers / customers

What strategies can be Adopted

1. Faster completion of Dedicated Freight Corridor

2. Sign MoU's with corporation / Industries towards freight transport

☞ West-dedicated freight corridor $\xrightarrow{\text{MoU}}$ Annual Industries

3. Increase Independence to railway authorities to fix price, prevent populism

↳ Bibek Debroy : Railway Regulatory Body . Board
Committee

14.

उन कारकों पर चर्चा कीजिए जिन्होंने नवीकरणीय ऊर्जा क्षेत्र में प्रभावशाली प्रगति करने और वैश्विक नवीकरणीय ऊर्जा परिवर्तन में अग्रणी के रूप में स्थापित होने में भारत की सहायता की है। (उत्तर 250 शब्दों में दीजिए)

Discuss the factors that have aided India in making impressive strides in the renewable energy sector and establishing itself as a frontrunner in the global renewable energy transition. (Answer in 250 words)

उम्मीदवारों को इस क्षणिए में नहीं लिखना चाहिए
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15

India stands at 4th position globally with respect to the renewable energy generating capability

Impressive strides in the renewable energy sector made by India - is as follows

Power Ministry
FY-23

- 1- 43.7% Installed Capacity from Renewable Energy
- 2- 45% power generating capacity via non-fossil fuels
- 3- 85GW - Solar energy

The Factors that have Aided India

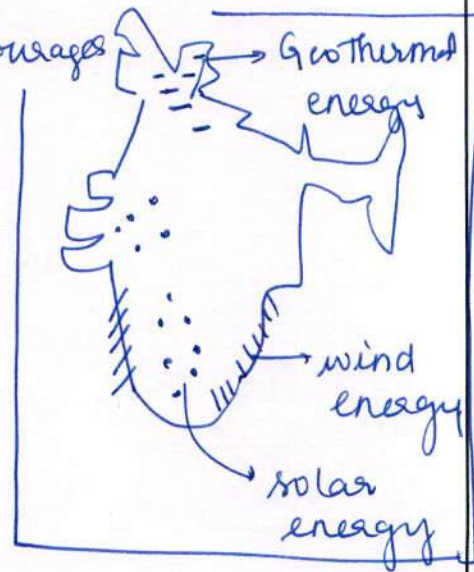
1. Geographical Advantage :-

(a) Tropical Country - encourages solar energy generating capacity

(b) Coastline of 7500 km encourages wind energy generation.

→ Himalayan region - encourages geothermal energy

(Eg) Puga - Ladakh



उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
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2. Agriculture economy - rural regions has supported Bio-energy

↳ 350-400 M Tonnes of Agriwaste generated in India → bioenergy (Gobar-dhan scheme)

3. Skilled manpower → startups; Industries that are able to harness the potential in skilled manpower/personnel

4. Active steps taken by Govt.

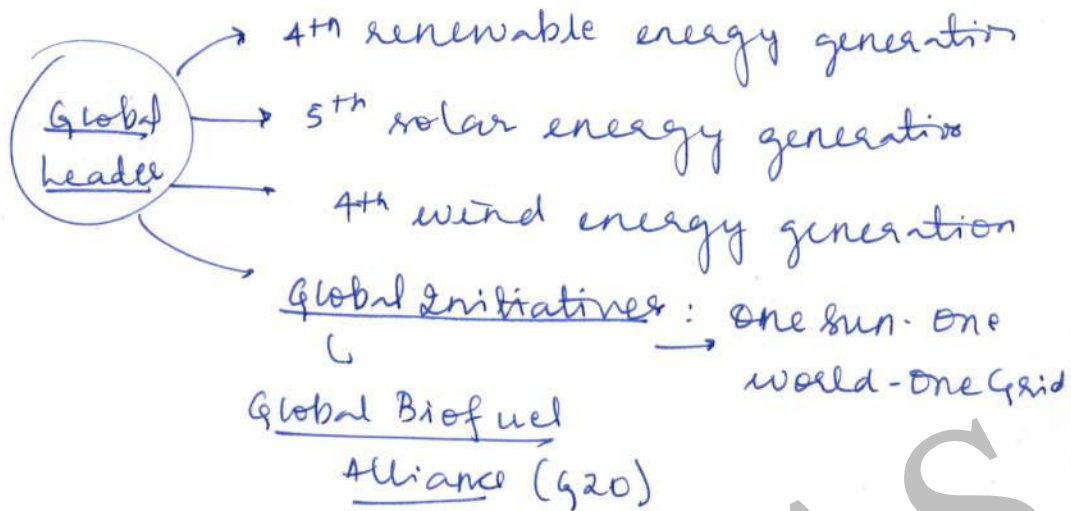
Policies: - PCI for renewable sector

- liberalised FDI norms

- PSL (Priority sector lending)

Schemes - National solar Mission,
National wind energy Mission
PM JIVAN

As a consequence established itself as a frontrunner in global energy transition.



Concerns / Shortcoming

cost of renewable energy production is still high compared to coal

Irregularity → solar energy

Need for empty land parcels

eg) 60 - 20 MW solar energy generation needs 1 km² land

Moving forward - greater PPP based models, Innovation towards increasing self sufficiency (solar panels) is required to accommodate the growing energy needs within the decarbonising goals.

15.

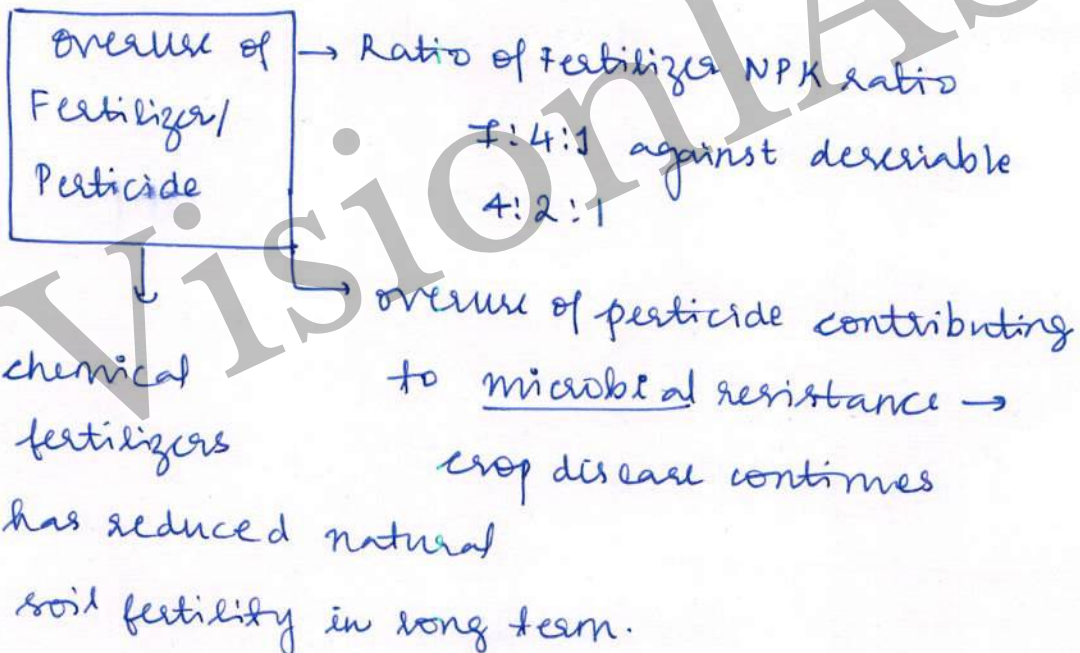
उर्वरकों और कीटनाशकों से युक्त कृषि अपवाह पर्यावरण प्रदूषण में किस प्रकार योगदान देता है? कृषि अपवाह के प्रभाव को कम करने के लिए क्या उपाय अपनाए जा सकते हैं? (उत्तर 250 शब्दों में दीजिए)

How does agricultural runoff containing fertilizers and pesticides contribute to environmental pollution? What measures can be taken to mitigate the impact of agricultural runoff? (Answer in 250 words)

15

Green revolution in India -

witnessed the increasing use of fertilizers and pesticides - towards increasing the yield, reducing unwanted weed, safeguarding the crops from diseases.



How Agricultural runoff → contributes to
environmental pollution :

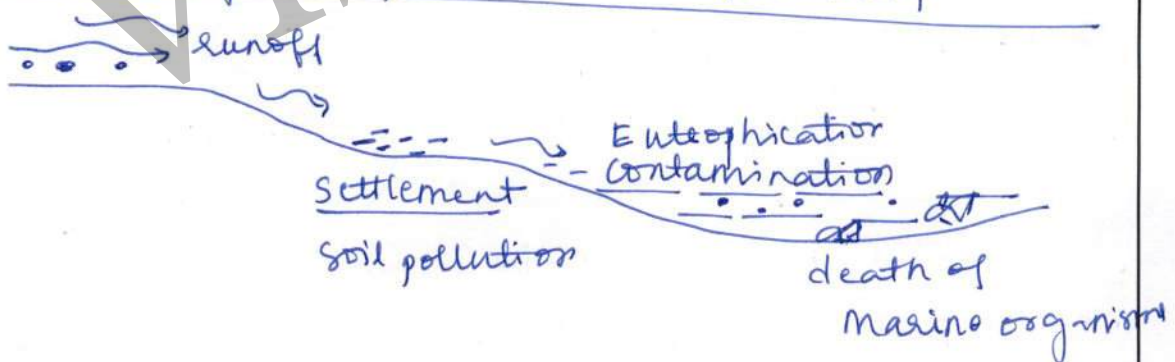
1. Carries the unwanted excessive chemicals downstream contaminating

water bodies Threatens life of
Biodiversity or rivers as drinking
- that drinks water water source
People dependent

2. Eutrophication : i.e. : Increased nutrient
content in ponds leads to algal bloom,
increased biological oxygen demand

↳ Threatens marine life

3. Soil fertility further harmed → settlement
of carried excess nutrient downstream
destroys crops and soil fertility



Measures that can be Taken to Mitigate

Agricultural runoff :

- ① Shift to Micro Irrigation from flood Irrigation

2. Fertilizer use based on the soil health
↳ Indiscriminate application should be prevented

↳ Nano Urea 500ml of Nano Urea = 1 bag of Urea

3. Fertigation : Fertilizer + Microirrigation

4. shift towards organic and Natural farming that discourages artificial use of chemical fertilizers

PM-Pranam
(Discourages chemical fertilizers)



PM-Krishi Sinchai Yojana

Exerting towards Micro Irrigation

- National Mission on Organic Farming
- Paramparaghat Krishi Vikas Yojana.

The present need is to shift towards sustainable Agriculture - towards tackling pollution as well as impact of climate change

16.

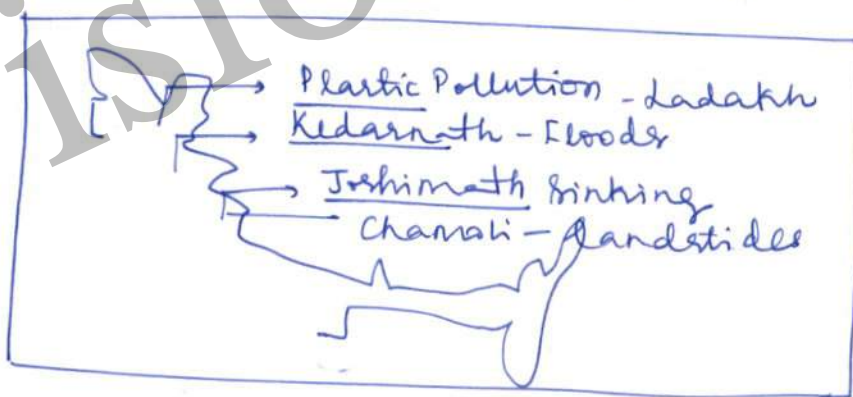
हिमालयी राज्यों में पर्यटकों की बढ़ती संख्या ने उनके पारिस्थितिकीय समावेशन क्षमता को पार कर लिया है, जिसके कारण बड़े पैमाने पर मानव-जनित आपदाएं उत्पन्न हुई हैं। संधारणीय पर्यटन को बढ़ावा देते हुए ऐसी आपदाओं को रोकने के लिए क्या उपाय किए जा सकते हैं? प्रासंगिक उदाहरणों के साथ चर्चा कीजिए। (उत्तर 250 शब्दों में दीजिए)

The growing influx of tourists in Himalayan states has breached their ecological carrying capacity, leading to significant man-made disasters. What measures can be implemented to prevent such disasters while promoting sustainable tourism? Discuss with relevant examples. (Answer in 250 words)

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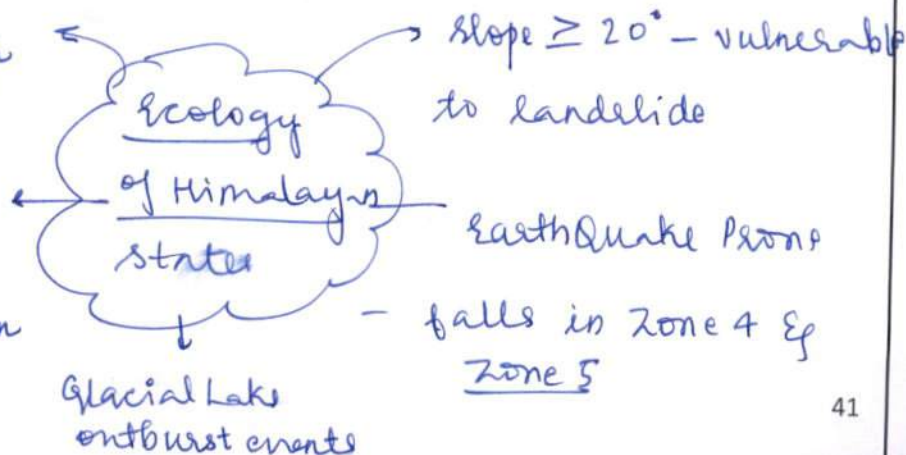
Himalayan states has attracted tourists for its - religious destination (Kedarnath, Badrinath), scenic beauty (Mussoorie), adventure sports (rafting, bungee jumping); however the tourist load in the present times has breached ecological carrying capacity.



Geographical Terrain - high altitude

Proned to cloudburst due to western disturbances

www.visionias.in



41

How Growing Influx → Man Made disasters

1. Charidham Project to exploit the religious tourism potential has altered the geomorphology
↳ Joshimath, Kedarnath
2. Illegal construction of resorts in high slopes has increased load on subsurface
↳ Joshimath - land sinking case
3. Indiscriminate deforestation has increased the vulnerability to floods and landslides
↳ Chamoli landslide case.
4. Plastic Pollution in the higher altitude of Ladakh
5. Cutting and filling of slopes for large infra-projects → chances of earthquake, landslides
↳ Silkyara Tunnel collapse.

What measures need to be implemented

1. Holistic and comprehensive - EIA - Environment Impact Assessment
2. Separate building code needs to be formulated for Himalayan states
[Mishra committee recommendation]
3. Technological Advancements to reduce the impact on the ecology
4. Compensatory Afforestation - strict implementation within the state where infra projects are built.

'Ecology is the permanent economy'

- sustainable tourism is the way forward -
a Madhyamarg b/w tourism development
and ecological protection is quintessential.

17.

सुपरकंडक्टर्स विज्ञान एवं प्रौद्योगिकी के विभिन्न क्षेत्रों में नवाचार को किस प्रकार बढ़ावा देते हैं? उदाहरण सहित स्पष्ट कीजिए। (उत्तर 250 शब्दों में दीजिए)
How do superconductors fuel innovation in diverse fields of science and technology? Illustrate with examples. (Answer in 250 words)

15

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नहीं लिखना
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उम्मीदवारों को
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18.

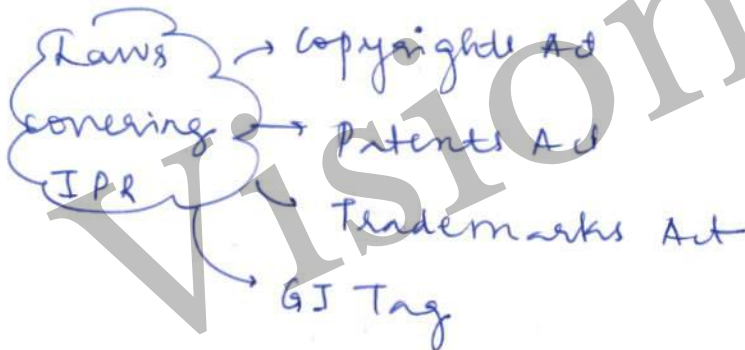
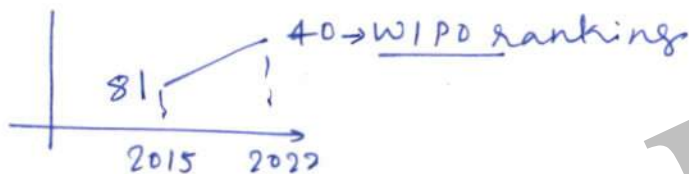
यद्यपि भारत में लगभग सभी प्रकार के बौद्धिक संपदा अधिकारों को कवर करने वाले कानून मौजूद हैं, फिर भी अनेक प्रवर्तन संबंधी, विनियामक और प्रशासनिक चुनौतियां भारत में बौद्धिक संपदा अधिकारों के व्यावसायीकरण में बाधा उत्पन्न करती हैं। सविस्तार वर्णन कीजिए। (उत्तर 250 शब्दों में दीजिए)

While India has laws covering almost all types of intellectual property rights, numerous enforcement, regulatory and administrative challenges hamper the commercialisation of IPRs in India. Elaborate. (Answer in 250 words)

उम्मीदवारों को इस हानि में नही लिखना चाहिए
Candidates must not write on this margin

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India has made rapid strides with regards to intellectual property rights as inferred from WIPO ranking.



However Numerous challenges hamper commercialisation of IPRs

1. Enforcement

- Reduced personnel in IPR department leading to delays and lapses

2. Most manufacturing / development that happens in India - IPR is held by foreign nations

↳ In defence manufacturing - most IPR is held by foreign agencies

□ Regulatory Challenges :-

1. Special Report 401 (USA) has put India in watchlist hinting at the regulatory challenges faced by India

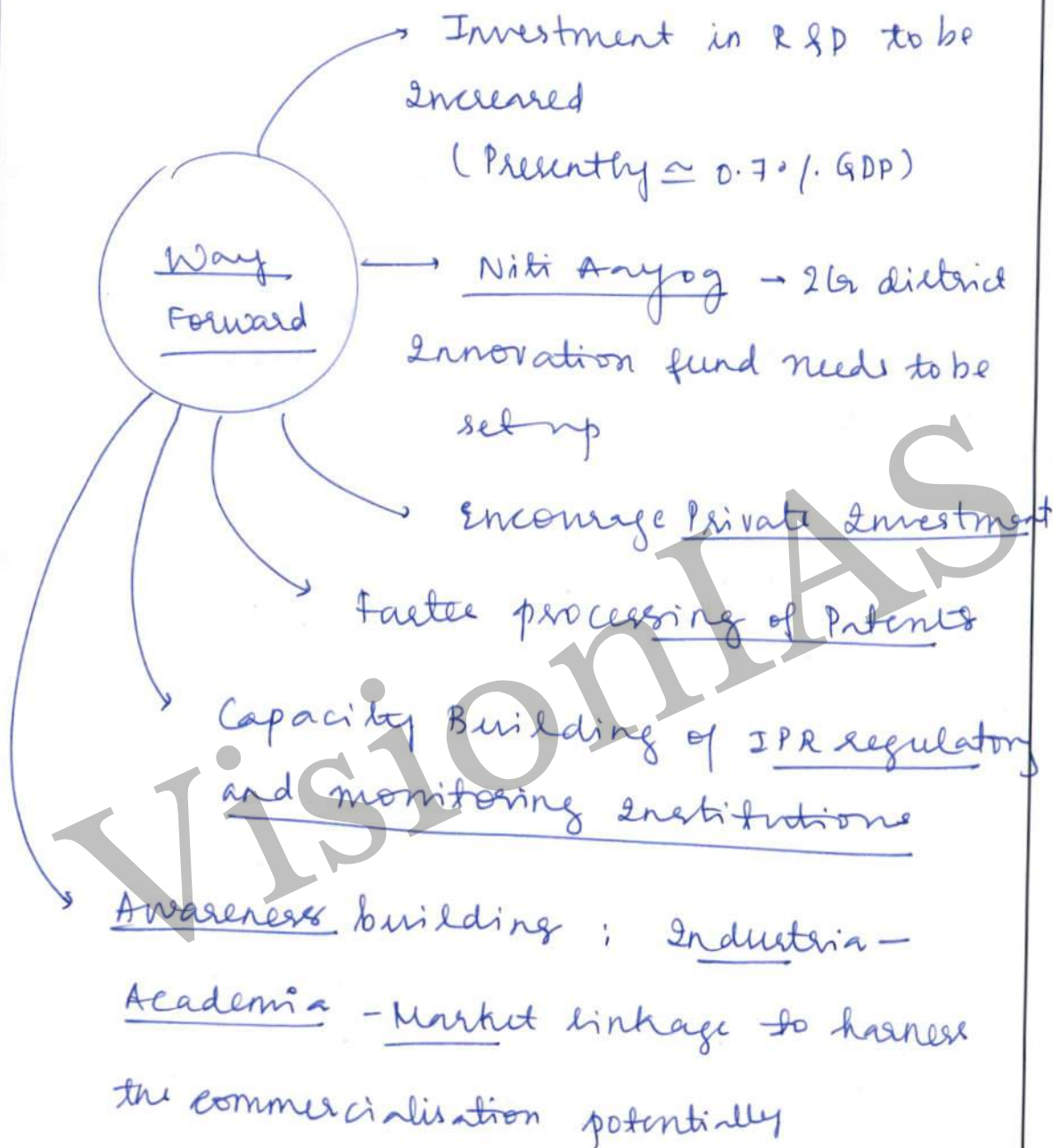
□ Administrative challenges :

1. Delay in providing Patent

> 72 months ; while developed countries like China - USA < 5 months

2. Very less support towards Innovation and creativity → discourages research personnel.

Way Forward



A vibrant and robust IPR regime and regulation is quintessentially towards.

Innovation driven knowledge based economy

is reposed by Hon'ble PM -

19.

एकीकृत थियेटर कमान का निर्माण करने में सामना की जाने वाली चुनौतियों को ध्यान में रखते हुए, परीक्षण कीजिए कि कमानों का थिएटराइजेशन किस प्रकार तीनों सेनाओं के बीच जनशक्ति और संसाधनों के बेहतर एकीकरण और युक्तिकरण को बढ़ावा दे सकता है। (उत्तर 250 शब्दों में दीजिए)

Keeping in view the challenges in creating integrated theatre commands, examine how the theaterisation of commands can lead to greater integration and rationalisation of manpower and resources among the three services. (Answer in 250 words)

15

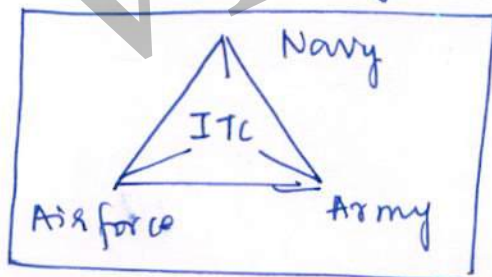
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Integrated Theatre Commands

proposal was made by Kargil Review Committee as well as by Shekatkar Committee in India.

Integrated Theatre command (ITC)

↳ entails the idea of integrating various individual commands (Navy, Airforce, army) under one Head



Challenges in Creating Integrated Command

1. Defining the contours of control of all 3 commands

2. Determining the hierarchy and line of communication

↳ For eg: So far we have independent hierarchy and ranks for each command/

3. Air force is skeptical - that its resources and control will be usurped by the Army.

4. Acceptance of all three forces to come together is a difficult task

Nevertheless - Therterisation can lead to greater integration and rationalisation in the following ways:-

1. Reduce the future cost of war by Integrated Purchase

eg Time delay b/w Air Force and Army had increased the cost of procurement - APACHE Helicopters

2. Specialised Training based on the location of the Theatre

eg. Maritime / Island Command - maritime prowess / navigation / counter attack from air + water

3. Faster Counter Attack can be launched when all three are under single command
↳ Better security - reduced damage to critical infra.

4. Accommodates the need of current times (CDS)
- China's dominance - string of Pearls
- Asymmetry and Grey Zone warfare in geopolitics

Steps already taken → ITC in Andaman-Nicobar Islands.
→ Inter services Act (2023)
→ creation of the post of CDS

Moving forward - catalysed steps towards faster formulation of Integrated Theatre Command along with drafting national security strategy is indispensable

20.

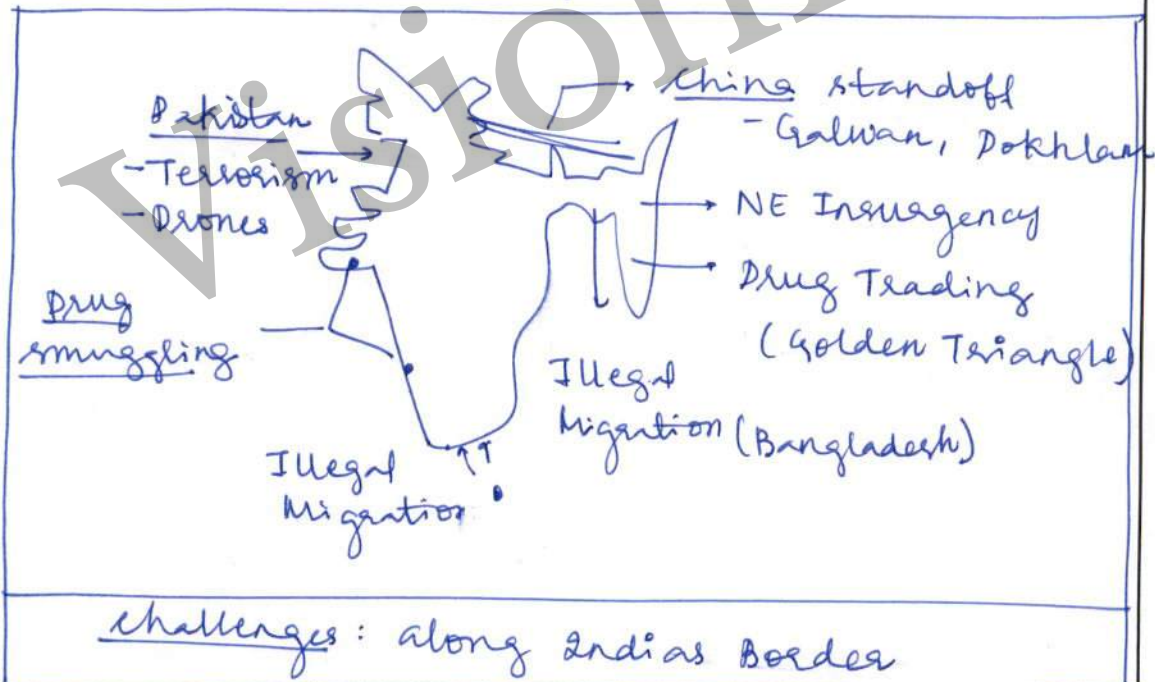
सीमावर्ती गांवों को न केवल भौगोलिक दृष्टि से बल्कि सुविधाओं के मामले में भी प्रथम गांव मानना, सीमा सुरक्षा बढ़ाने की एक प्रमुख रणनीति हो सकती है। विवेचना कीजिए। साथ ही, इस संबंध में सरकार द्वारा किए जा रहे उपायों पर भी प्रकाश डालिए। (उत्तर 250 शब्दों में दीजिए)

Treating border villages as first villages not just geographically but also in terms of facilities can be a key strategy for enhancing border security. Discuss. Also, highlight the measures being taken by the government in this regard. (Answer in 250 words)

उम्मीदवारों को इस दृष्टि से नहीं लिखना चाहिए
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Recently Hon'ble PM regarded the border villages as the "GATEWAYS" — first villages of the country and not last — highlighting the central role played by border villages in addressing the security realm of the country.



How Treating Border Villagers ^{Facilities} → Key towards enhancing Border Security

(1) Border development → employment
→ economic development
discourages youth from joining extremist/insurgent forces ← better socio economic conditions

(2) Technological Facilities along Borders
smart borders → Facial recognition
→ AI
→ sensors/radars
↓
Reduce illegal migration, arms smuggling, cross-border drones

(3) Facilities - Personnel → capacity building
→ Training, modern arms and ammunition
greater deployment

(4) Infra Facilities (along North border)
facilitate faster mobilisation of troops.

Measures being Taken



Way Forward

Shekhar

linear should be

replaced by grid network - towards faster mobilisation

Kargil Review Committee

• One Border one Force - border security force should not be diverted to Counter emergency

Madhukar Gupta: Modernise the Border Forces

Security of Borders is indispensable towards

Sovereignty - Integrity - Unity of the country

SPACE FOR ROUGH WORK

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