



**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. : 00613218

अभ्यर्थी का नाम/Name of Student : PRASHANT SINGH

माध्यम: हिंदी/अंग्रेजी  
Medium: Hindi/English

ENGLISH

तारीख  
Date

25/8/2024

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

केंद्र  
Centre

LUCKNOW

निरीक्षक के हस्ताक्षर  
Invigilator's Signature

	<p style="text-align: center;"><b>महत्वपूर्ण अनुदेश</b></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;"><b>Important Instructions</b></p> <p><b>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.</b></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 भी 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
<p>परीक्षक के हस्ताक्षर Signature of Examiner(s)</p>	

**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)		
<b>सकल योग (A+B) / GRAND TOTAL (A+B)</b>					



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

निर्धारित समय: तीन घंटे

Time Allowed: Three Hours

अधिकतम अंक: 250

Maximum Marks: 250

#### 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) 10

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

Food Processing Industry contributes 8% to the GDP of India and is one of the fastest growing sectors in India

Reasons for Rapid growth of Food Processing Sector

- 1) 20 Agroclimatic zones ⇒ huge crop diversity
- 2) Highest cattle population in the world
- 3) Emerging as largest inland fishery producing country
- 4) Improvements in packaging sanitary & phytosanitary measures
- 5) Reducing trans fat eg. FSSAI mandates it to less than 2%
- 6) Increasing demand for processed food due to both pastor earning.

Food Processing leading to Food Safety Challenges

→ 1) ~~WHO~~ <sup>FAO</sup> has highlighted the rapid emergence of Ultra processed food (SOFA Report)

→ 2) Rising cases of non communicable diseases, eg: Hypertension

→ 3) Overdependence on animal based food = more land requirement

→ 4) Rising cases of adulteration in processed food eg: Rice Milk, etc

→ 5) Increasing diabetes even in urban poor due to eating junk foods.

Food Processing Industry needs to be nutri based including fortification elimination of transfat & use of milletts.

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)

10

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

The Public Distribution System under NFSA

2013 guarantees wheat, Rice & Coarse

grains at ₹ 3, 2, 1 to nearly 80

crore people distributed through fair

price shops.

- Transformation of Fair Price Shops
- 1) Originally envisaged only for NFSA food distribution programme
  - 2) later even began selling non ~~food~~ legal items eg. sugar, spices, etc
  - 3) selling of Khadi products, AYUSH products, etc too has been allowed.
  - 4) ePOS digitized the Direct Benefit Transfer under PDS.

→ 5) Seed & fertilizer too can be sold through Fair Price shops.

→ 6) Can also act as Common Service Centre, Bank correspondents, etc.

- Challenges with FPS
- 1) Adulteration of cereals with other food products
  - 2) Black marketing & corruption
  - 3) Technical glitches in biometric authentication leaves out genuine beneficiaries

- Solutions
- 1) Pre packaged food grain bags of 5 kg each
  - 2) Blockchain technology usage for food grain movement tracking

Fair Price Shops are vital to achieve SDG2 (Zero Hunger) & improve rank in Global Hunger Index (111 currently)

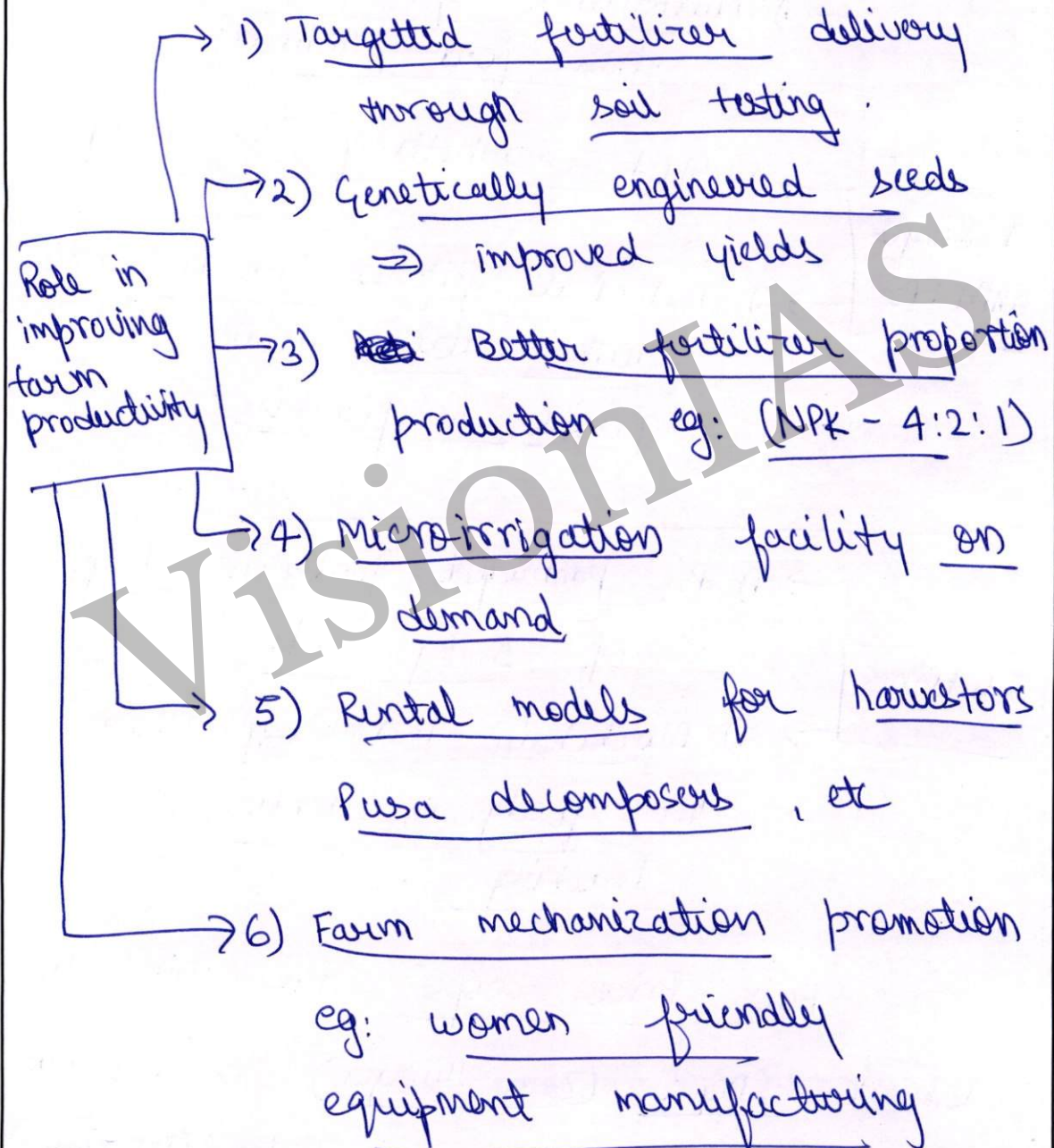
3. भारत में एग्रिटेक स्टार्ट-अप्स किसानों की कृषि उत्पादकता एवं बाजार पहुंच बढ़ाने में किस प्रकार मदद कर रहे हैं? (उत्तर 150 शब्दों में दीजिए)

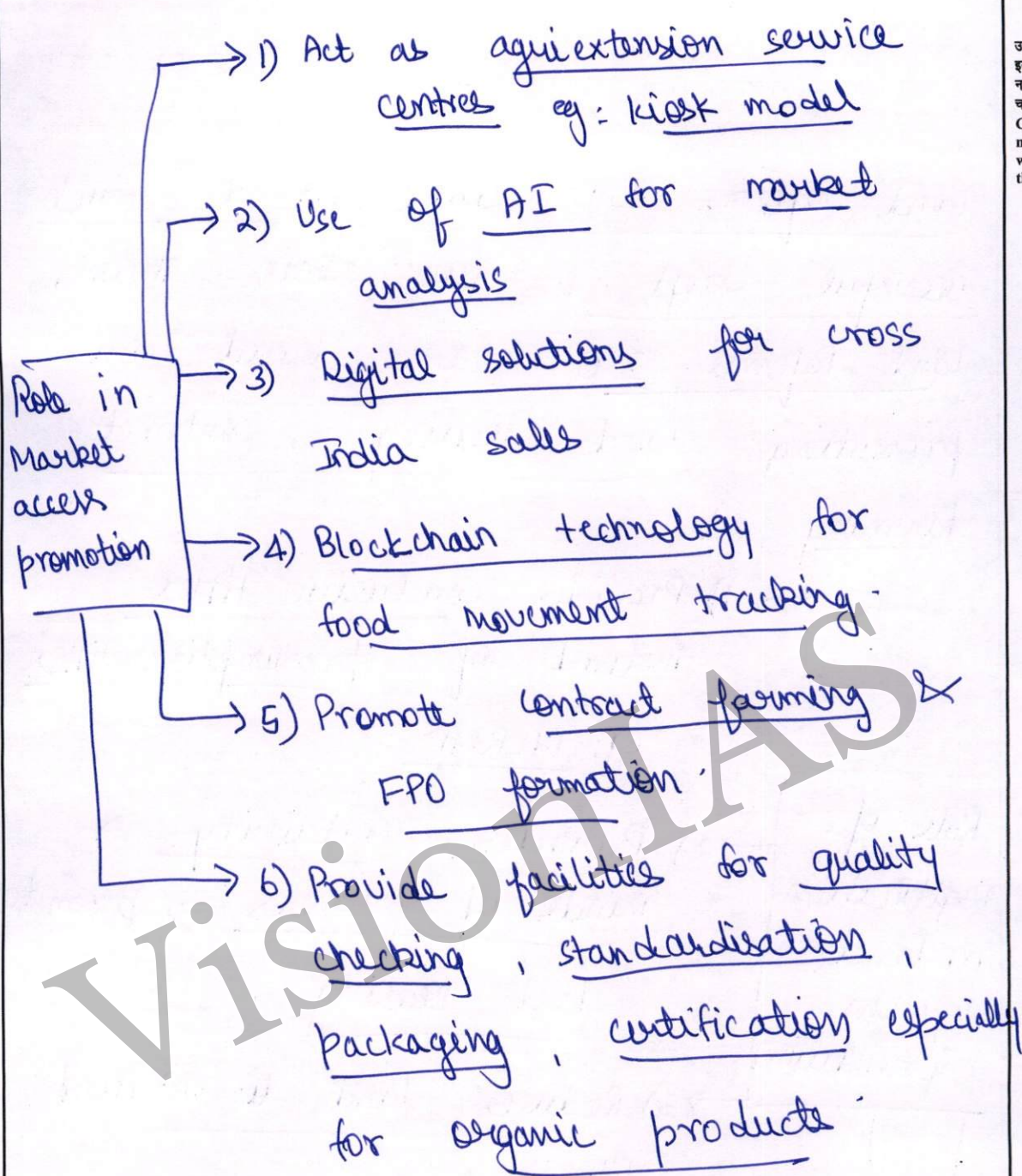
How are agri-tech startups in India helping farmers in enhancing farm productivity and market access? (Answer in 150 words)

10

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

Agri-tech startups are companies dedicated at improving the agricultural sector in India.





Agripreneurs using Agri tech solutions  
can truly make India as the  
global granary leveraging its traditional  
agricultural knowledge & agroclimatic diversity.

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)

10

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

Land reforms 1.0 could not be much successful except in few states. Thus, Land Reforms 2.0 came based on promoting land leasing, contract farming, etc.

Role of Digitization in land reform implementation

→ 1) Provides conclusive titles instead of presumptive titles  
eg: DILRMP

→ 2) Provides certainty in minds of farmers ⇒ promotes land leasing.

→ 3) Reduces land related litigation.

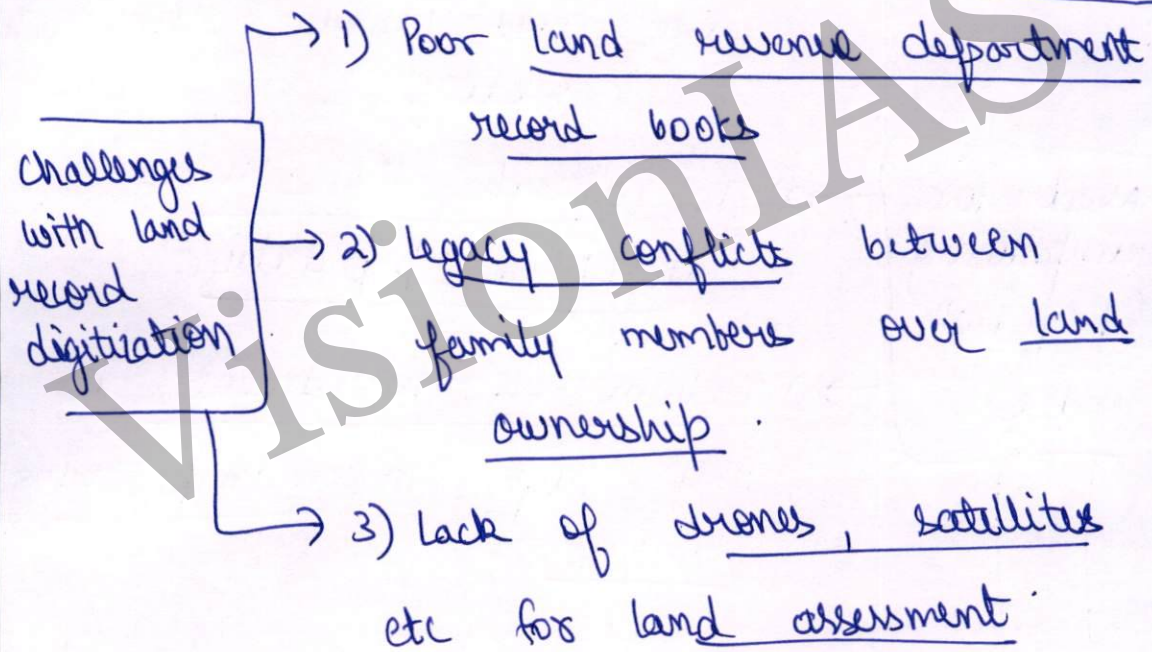
→ 4) Promotes contract farming when farmers are assured of his farm ownership.

→ 5) Promotes consolidation of fragmented

landholdings when farmer's land clearly  
identifiable -

→ 6) Promotes cooperative farming &  
formation of FPOs

→ 7) Promotes farm forestry by  
demarcating habitations from farm  
lands eg: SVAMITVA



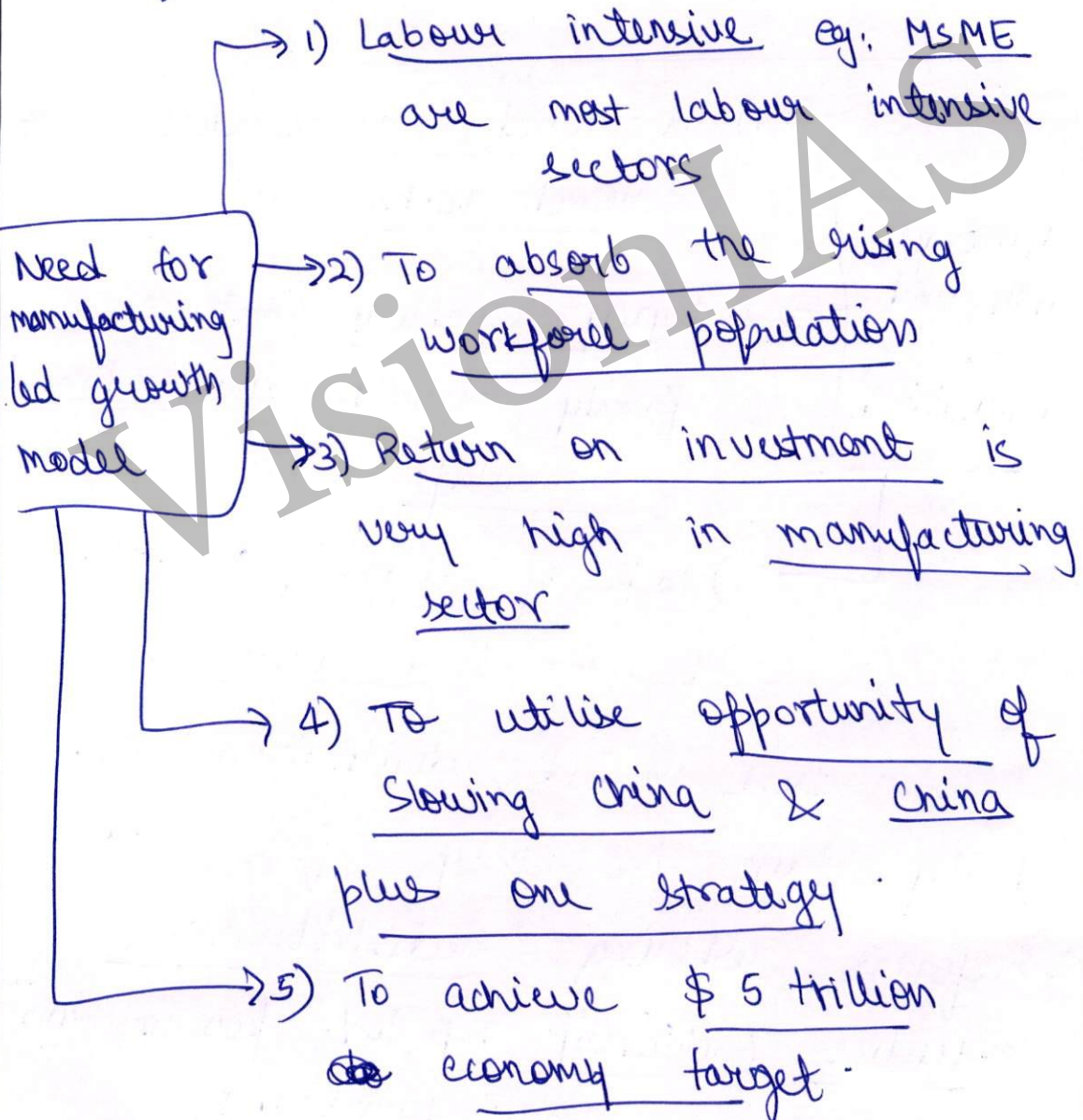
land record digitization can  
truly pave the way for land  
reforms ushering redistributive  
justice (Currently Top 10% farmers own  
45% farmland)

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 हार्शिए में नहीं लिखना चाहिए  
Candidates must not write on this margin

India has 65% population (~100 crore) in the working age group (15-60 years) with median age being 28 years. However the demographic dividend requires manufacturing sector.



### Challenges with the model

- 1) 40% graduates in India are non employable
- 2) Huge upfront investment compared to service sector.
- 3) Lack of focus on vocational education & skill training.
- 4) Competition from china, Vietnam, Bangladesh, etc
- 5) High logistic cost (12% of GDP)

### Solutions

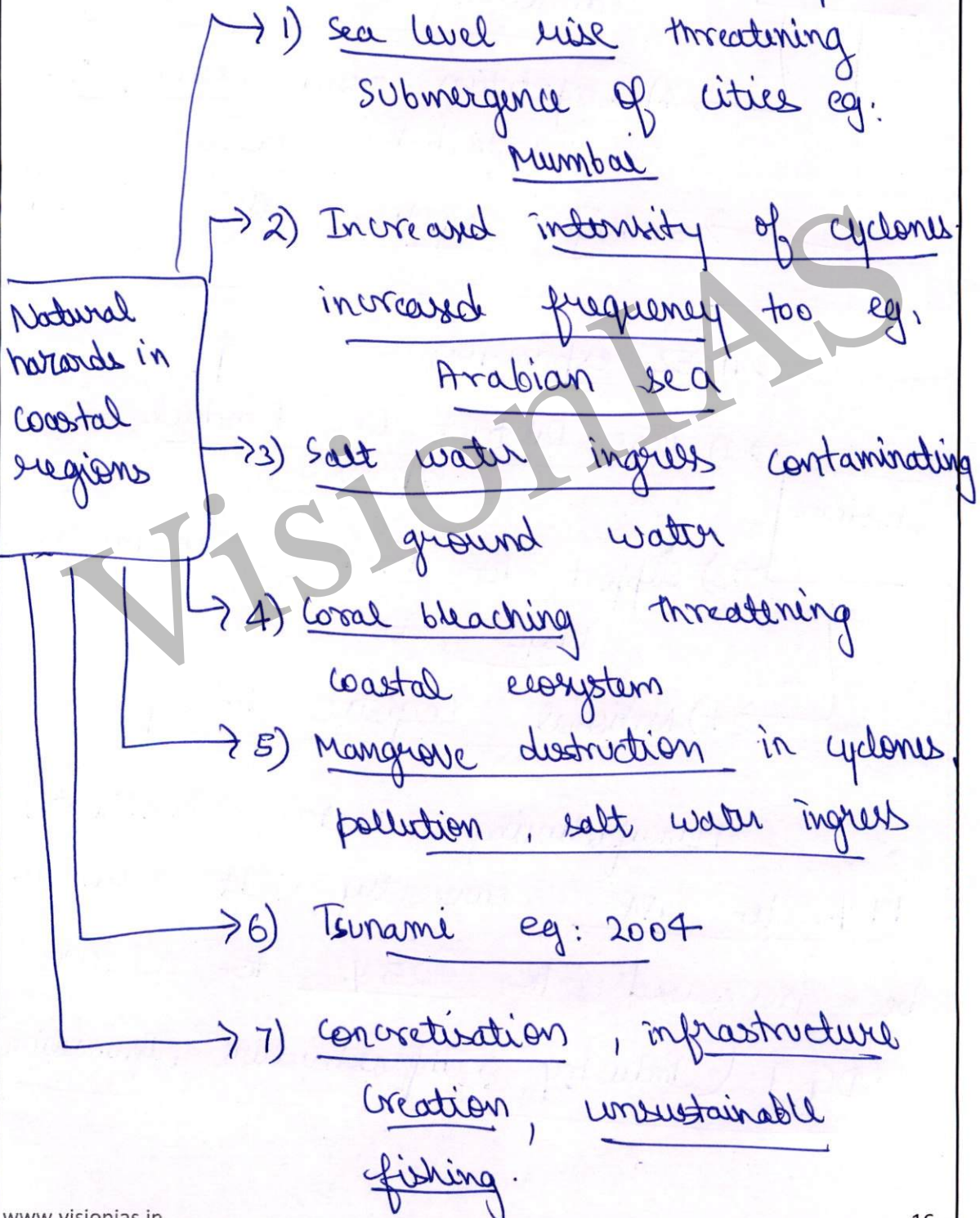
- 1) SEZ expansion
- 2) One District One Product expansion
- 3) Support to MSMEs - Mudra loans, ECGIS, etc
- 4) National Logistic Policy

Manufacturing sector contributes 17% to GDP currently. It needs to be increased to 25% to achieve SDG 9 (Industry, Infrastructure, Innovation).

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

India has a long coastline of 7500 km. With increasing climate change effects coastal resilience needs to be improved.



- Solutions to tackle them
- 1) Ecoshields & Nature based solutions  
eg: MISHTI for Mangroves
  - 2) Construction of embankments  
along sea shore
  - 3) Coastal Regulation Zone guidelines  
with CRZ I protection for mangroves  
corals, etc
  - 4) Blue Economy vision 2025 &  
Harit Sagar programme
  - 5) Use of technology for early  
warning system eg: Satellites,  
Lidars, drones
  - 6) Deployment of dedicated coastal  
NDRF
  - 7) Sustainable fishing, inland fishery  
promotion

Coastal regions are most vulnerable to climate change. Protection of coastal region lies at trijunction of SDG 13, 14 & 15

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

Green Credit Initiative was launched by India together with UAE at COP 28 meeting. It is based on Carbon Credit principles but for individuals.

### Carbon management

- i) Aim is to trade Carbon credit
- ii) Given for reduction in carbon emissions
- iii) Vital for large companies & carbon emitting sectors
- iv) Restricted to Carbon emission reduction
- v) Globally recognized under Kyoto Protocol

### Green Credit Program

- i) Aim is to trade credit for all environment protection efforts
- ii) Given for environment protection efforts
- iii) Recognizes efforts by individuals & NGOs
- iv) Includes pollution abatement, afforestation etc
- v) Not ~~not~~ bound by any convention

Concerns with Green Credit Program

- 1) Refining green projects  
eg: small hydro projects are not truly green
- 2) standard setting for recognizing green projects & associated benefits
- 3) Market development for green credit. eg: PAT for oil credit
- 4) Issue of greenwashing by individuals in lack of proper definition, standards, certification & third party verification.
- 5) Diverting attention from real issue i.e. consumption patterns  
(Economic Survey 2023-24)

Green Credit program is based on individual efforts towards climate change mitigation. It can help achieve SDG 13.

8.

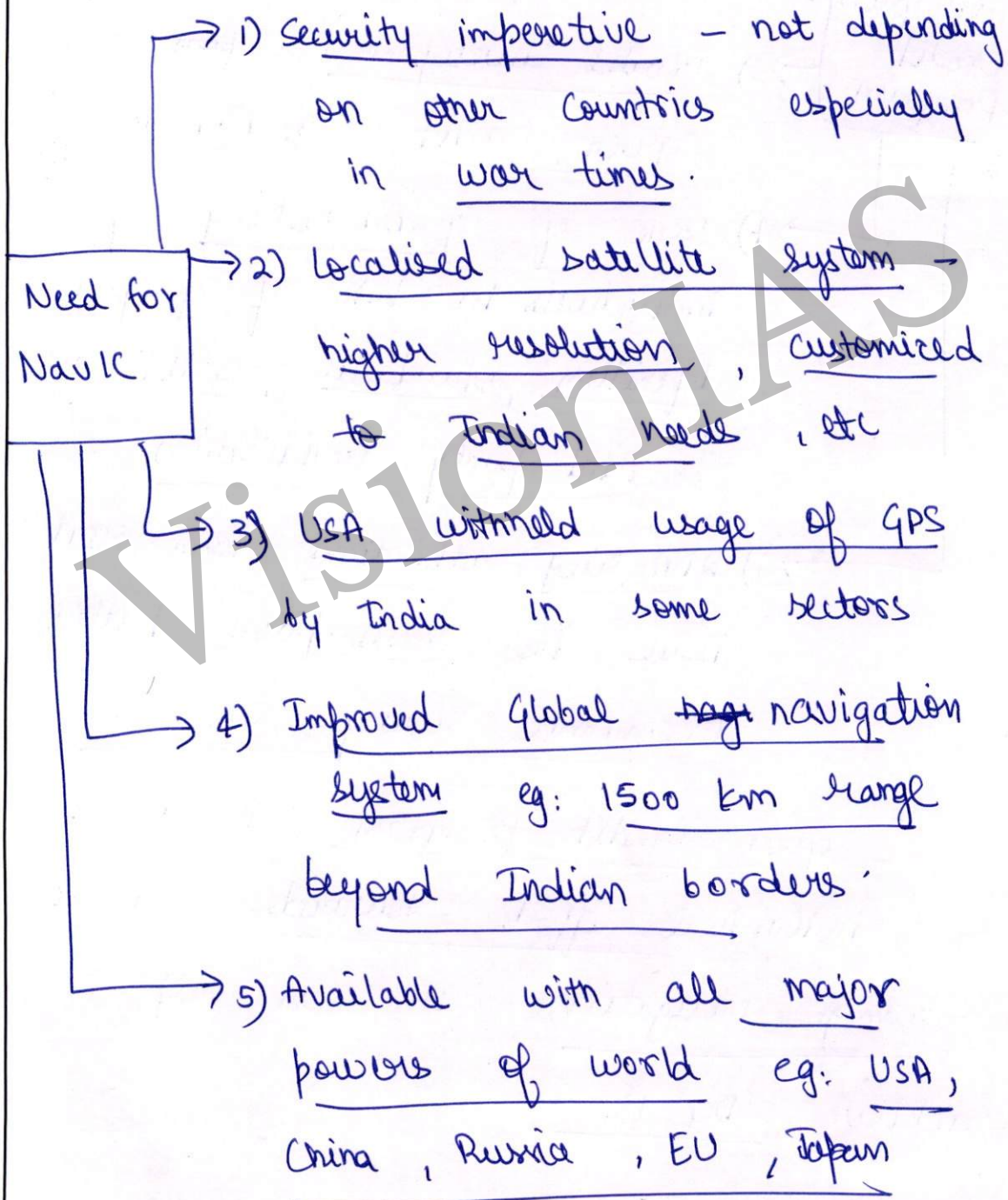
जब पहले से ही अन्य उपग्रह नेविगेशन सिस्टम उपलब्ध हैं, तो NavIC की आवश्यकता क्यों है? (उत्तर 150 शब्दों में दीजिए)

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

10

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए  
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NavIC is the indigenous satellite navigation system developed by India like the GPS of USA, Baidu of China, etc.



→ 6) Promotes e commerce, rental cab, etc  
in India eg: Ola

→ 7) Vital in Coastal region management  
SAGAG initiative of India

उम्मीदवारों को  
इस कक्ष में  
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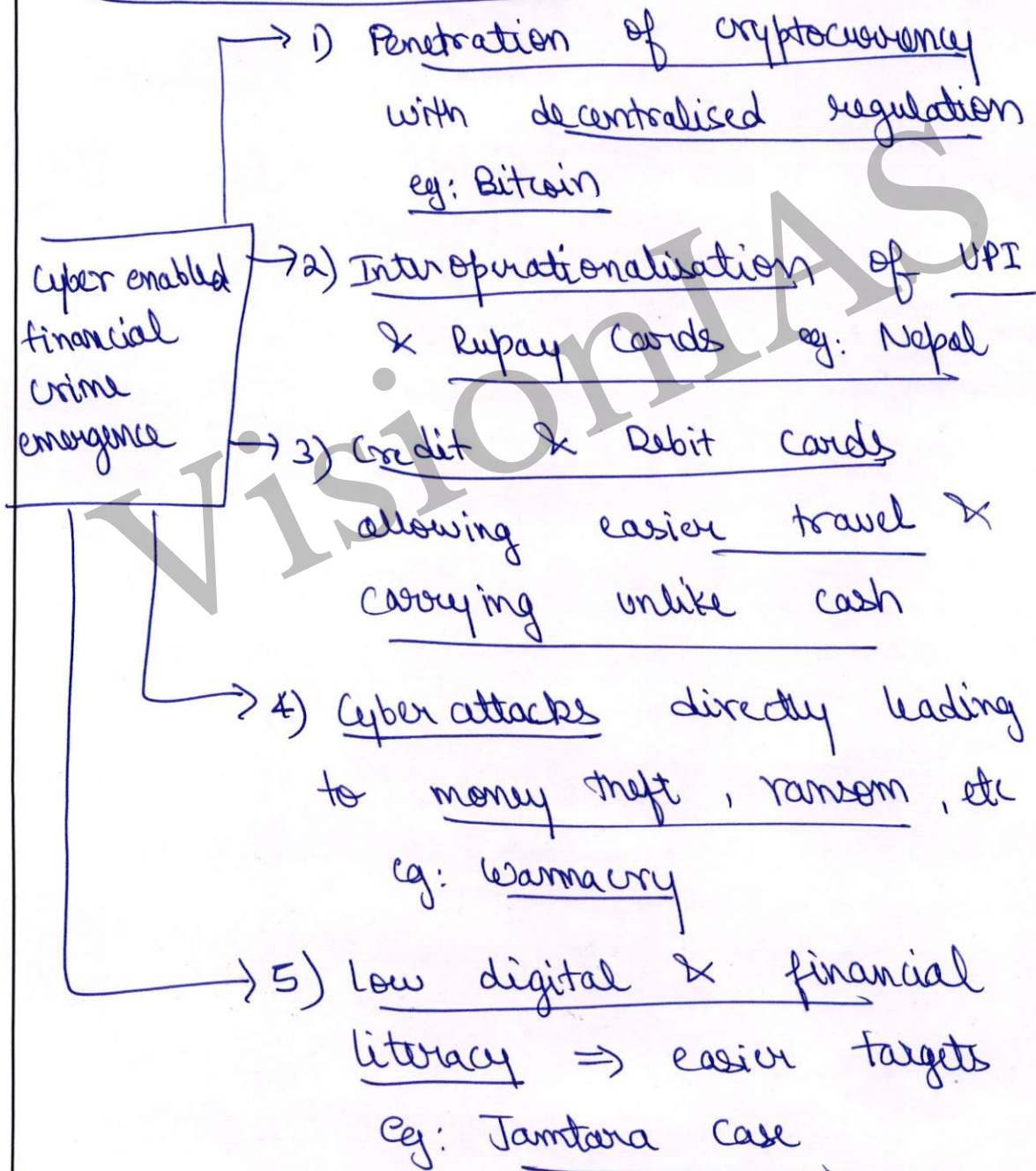
9.

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)

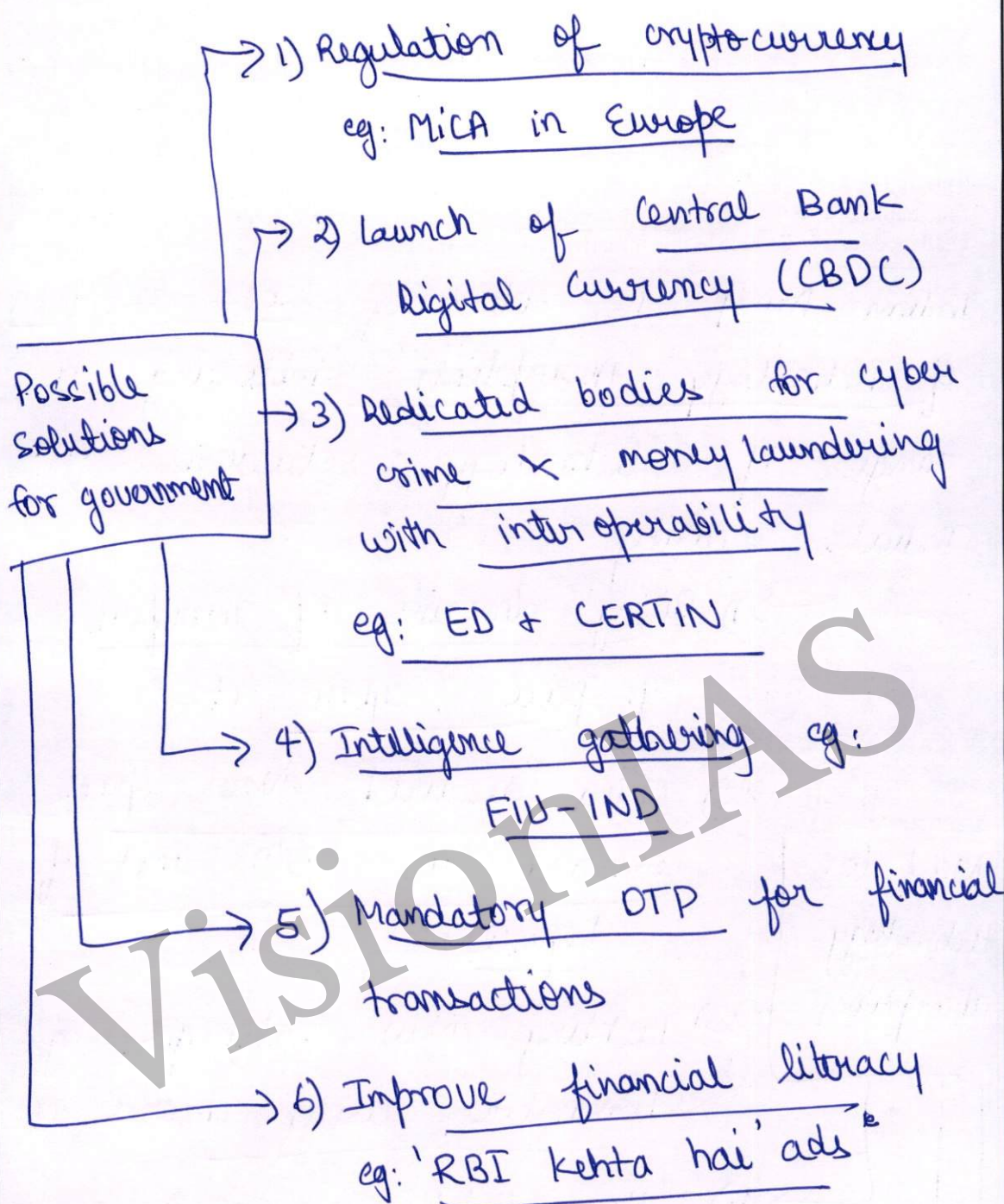
Cyber-enabled financial crime has emerged as the new frontier of global money laundering. Discuss. How can the government address this issue? (Answer in 150 words) 10

### IMF Global Financial Stability Report (2023)

highlighted the increased number of cybercrimes since Pandemic, and its impact on economic system.



उम्मीदवारों को इस हार्जिए में नही लिखना चाहिए  
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~~And~~ India ranks 10th in the  
Global Cybercrime Index necessitating  
vigilance & policy formulation.

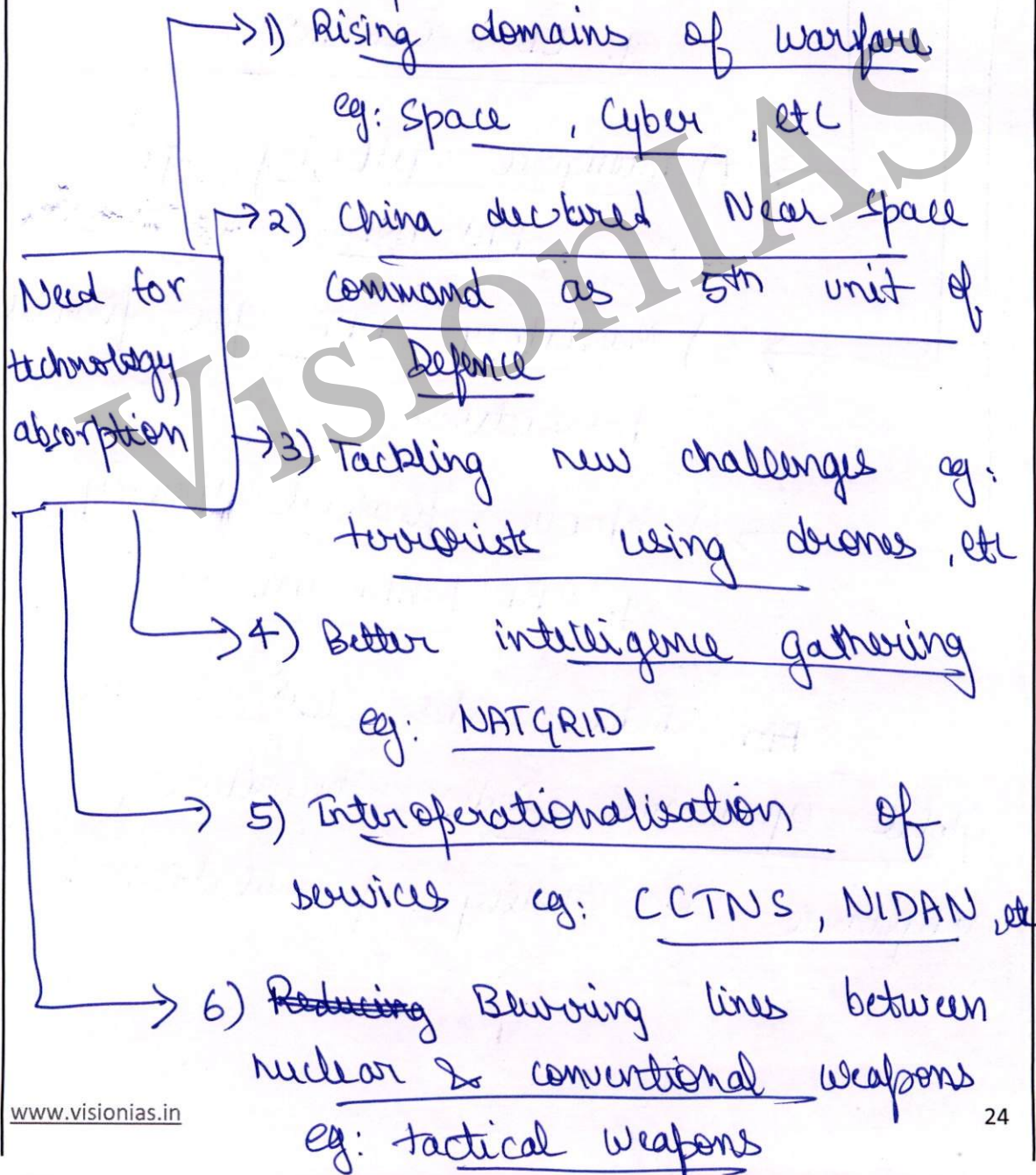
10.

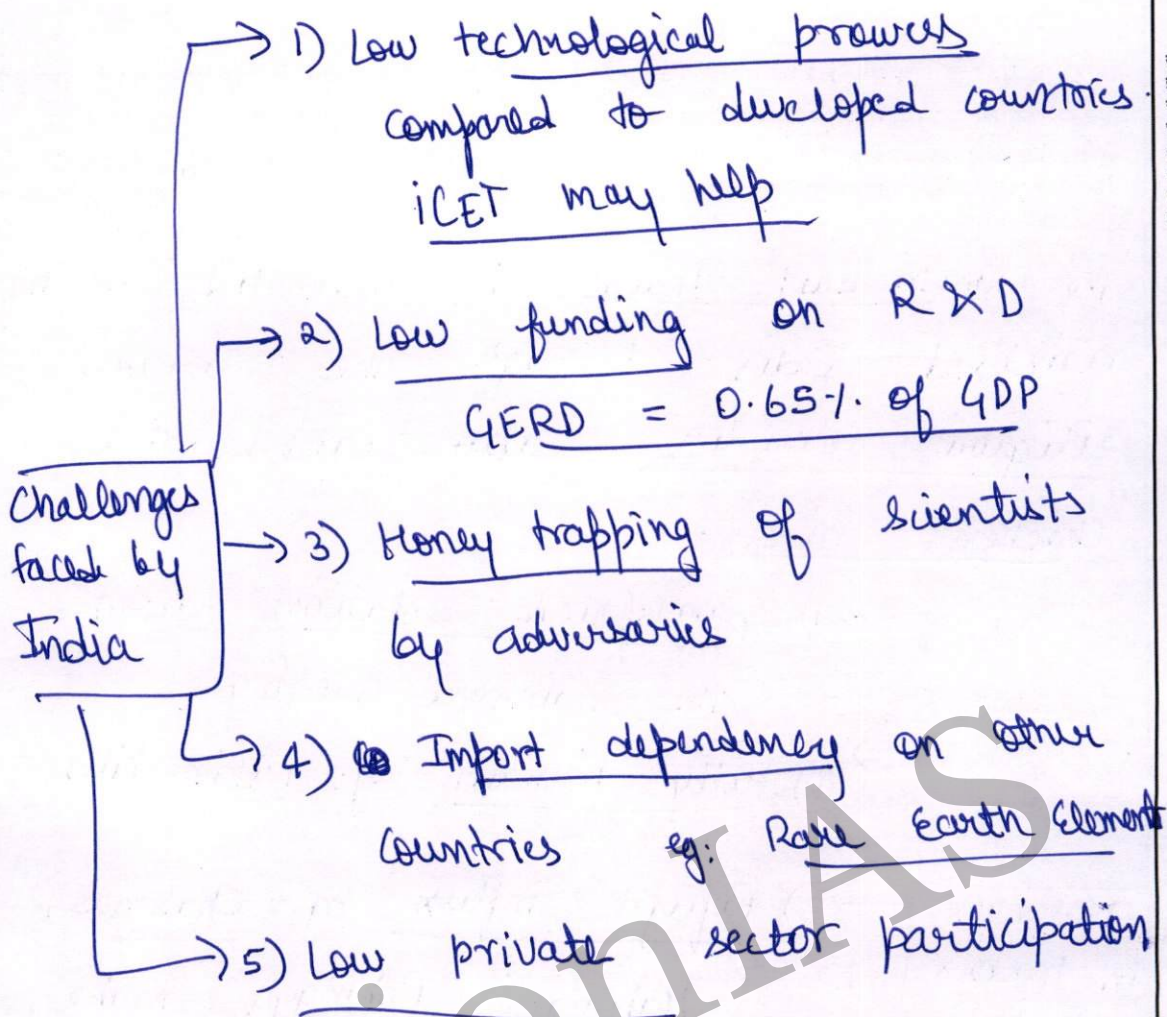
इंडियन आर्मी वर्ष 2024 को 'प्रौद्योगिकी समावेशन वर्ष (Year of Technology Absorption)' के रूप में मना रही है। इसके आलोक में, स्पष्ट कीजिए कि भारत के रक्षा क्षेत्रक में प्रौद्योगिकी के समावेशन की आवश्यकता क्यों है। इस पहल में भारत को किन चुनौतियों का सामना करना पड़ सकता है? (उत्तर 150 शब्दों में दीजिए)

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) 10

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए  
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Indian Army is observing 2024 as 'Year of Technology Absorption' initiating a range of technology solutions for India's security





India's defence sector needs to be tech ready for 21<sup>st</sup> century challenges.

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 हार्शिए में नहीं लिखना चाहिए  
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15

The North East India is connected to the mainland India through the narrow Siliguri corridor also called the Chicken's neck.

Challenges in trade & industry development in Northeast India

- 1) Geographical isolation from the mainland country
- 2) Hilly terrain eg: Mikir hills
- 3) Refugee influx eg: Chakmas, Hajongs, Rohingya make the region instable
- 4) Border issues eg: with China in Assamachal Pradesh
- 5) Huge tribal population usually apprehensive of intrusive development projects
- 6) Closeness to Golden triangle leads to drug menace in youth.

However, despite the challenges, various initiatives have been taken for development of the North east region

- Initiatives taken
- 1) UNNATI scheme announced for industrial development in the region - includes credit availability
  - 2) PM DEVINE scheme for holistic development of North east
  - 3) Dedicated Ministry of Development in North East region (MODONER)
  - 4) Kaladan multimodal project connects Kolkata to North east via Sittwe in Myanmar
  - 5) North east Council for joint development of North east
  - 6) India Myanmar Thailand trilateral highway
  - 7) BIMSTEC & BBIN promotes regional approach

→ 8) Power exchange agreement with  
Bhutan eg: Mangdechhu project

→ 9) 11th schedule provides autonomy  
to tribal communities in  
governance.

→ 10) Joint operations to eliminate  
insurgents eg: Operation Sunrise  
Operation all out.

North East region is critical  
for India's Act East Policy &  
Indo Pacific Initiative (IPI)

12.

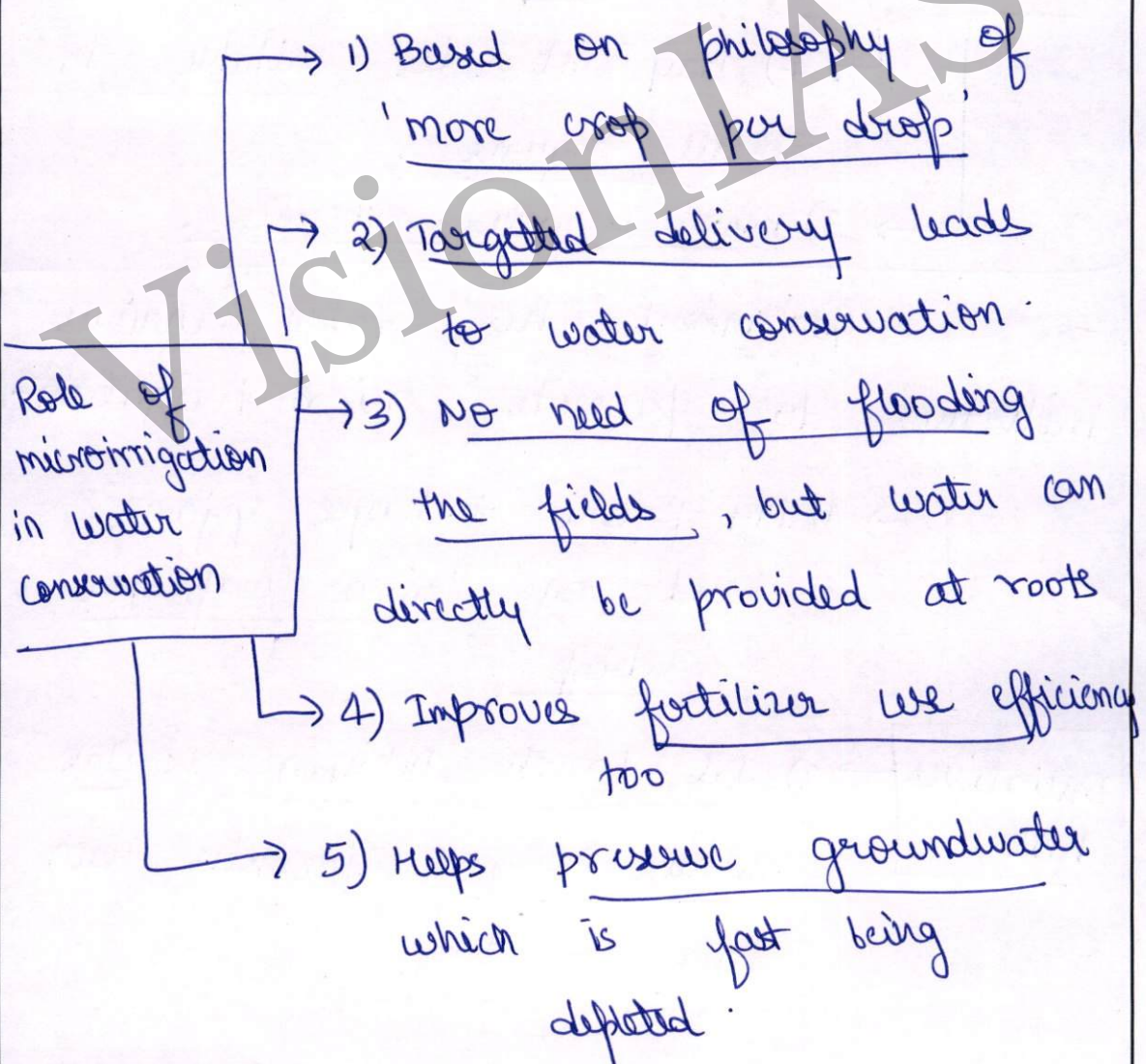
जलवायु परिवर्तन और बढ़ते जल संकट के युग में, सूक्ष्म सिंचाई प्रणालियां भारत में संधारणीय कृषि पद्धतियों में किस प्रकार योगदान दे सकती हैं? (उत्तर 250 शब्दों में दीजिए)

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

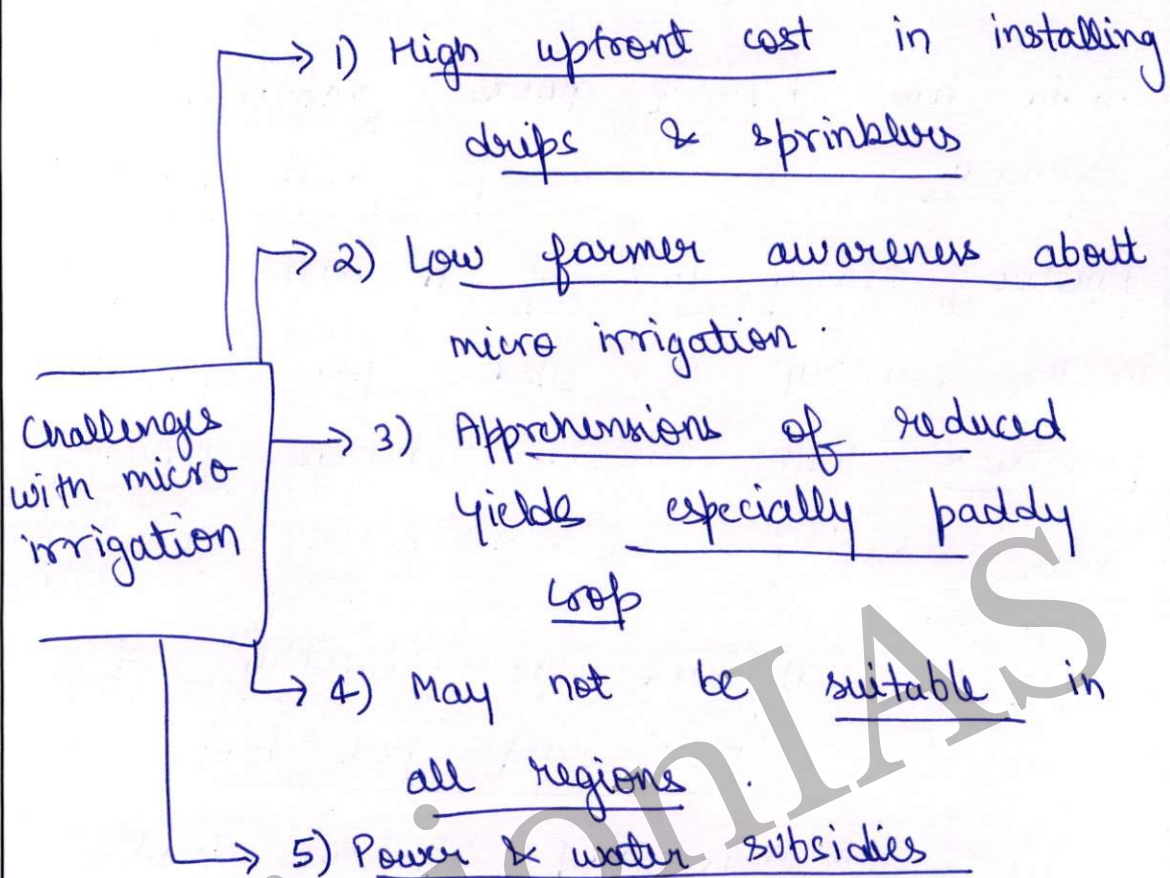
उम्मीदवारों को इस खण्ड में नहीं लिखना चाहिए  
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India has 4% of global freshwater resources with 18% of global population.

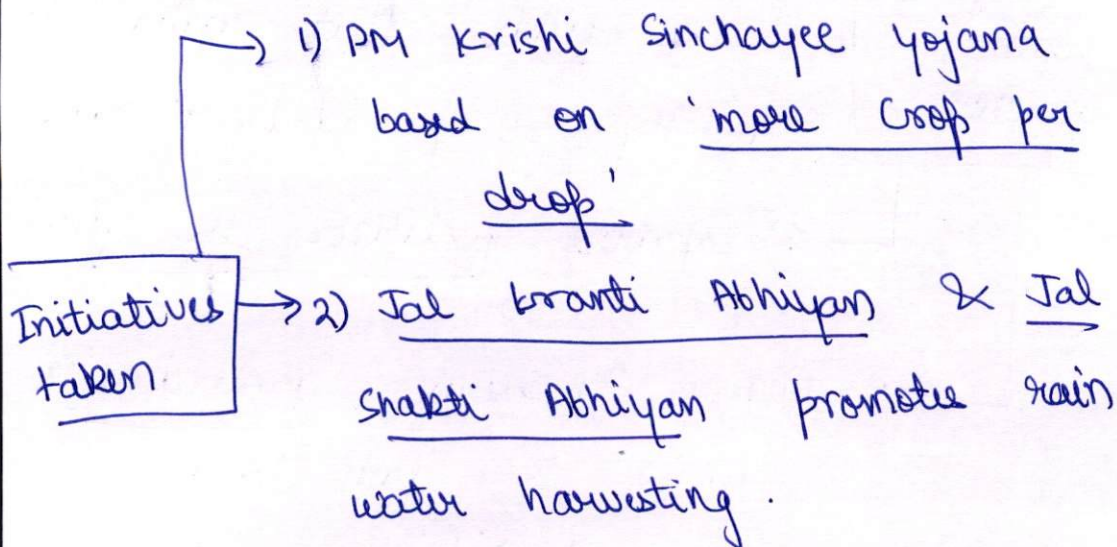
Further, nearly 90% of water resource in the country is used for agricultural practises. With climate change growing water scarcity, micro irrigation can help.



However, micro irrigation has some challenges too —



Government has taken various initiatives to promote micro irrigation—



→ 3) launch of nano urea & liquid urea ideal for micro irrigation use.

→ 4) subsidies provided in installing drip & ~~sprinkler~~ sprinklers

→ 5) Elimination of power & water subsidies is being discussed.

Though microirrigation provides great benefits, there is also a need to promote dryland farming to reduce water usage in agricultural sector.

13.

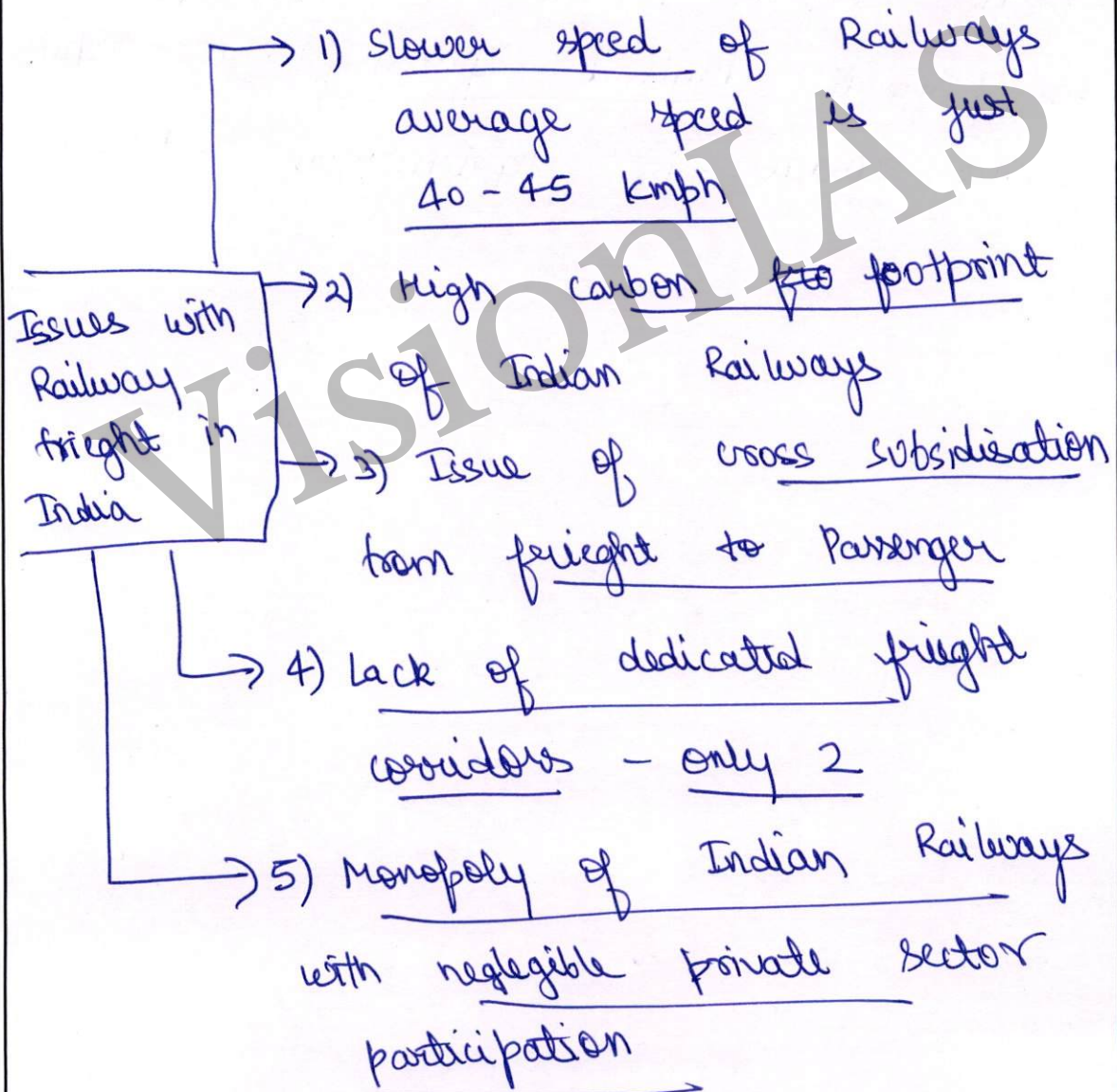
भारतीय रेलवे में माल परिवहन से संबंधित समस्याओं का समाधान करने तथा घरेलू माल ढुलाई में इसकी हिस्सेदारी बढ़ाने के लिए कौन-सी रणनीतियां अपनाई जा सकती हैं? (उत्तर 250 शब्दों में दीजिए)

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 हिसाब में नहीं लिखना चाहिए  
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India Railways carry nearly 33% of the freight in the country with roadways accounting for 66%.

India Railways has set a target to increase the share to 45% by 2030.



→ 6) Railway accidents eg: Balasoore accident

→ 7) Lack of last mile connectivity  
which favours roadways

उम्मीदवारों को  
इस हिसाब में  
नहीं लिखना  
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→ 1) Expansion of dedicated freight corridors

→ 2) Greening of Indian Railways  
eg: net zero target by 2030

Strategies  
that can  
be adopted

→ 3) Revenue saving through reduction of expenditure on pensions, etc

eg: 41K target of Indian Railways

→ 4) Improve operating ratio from current ₹ 1.07 to less than ₹ 1

→ 5) Private players entry in the freight sector eg: IRCTC

→ 6) Elimination of all surface level crossings (Anil Kakodkar committee)

→ 7) Fast speed trains , replacement of coaches with Link Kofmann Busche coaches.

→ 8) Electronic signalling system , KAVACH for automatic braking.

Indian Railways is the lifeline of India . But the enterprise needs to be modernised to reduce logistic cost from 12% to 8% of GDP

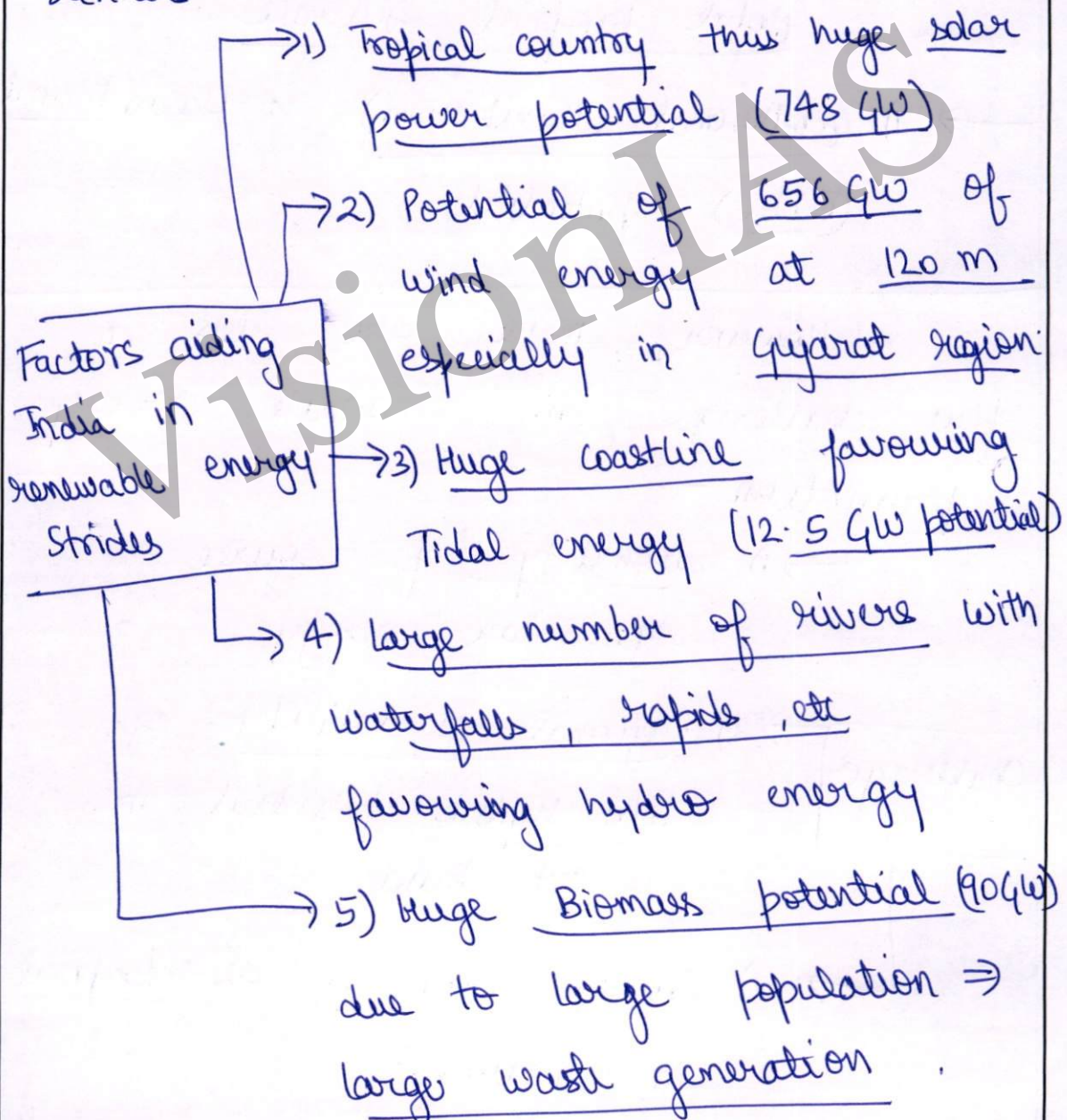
14.

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)

15

India's renewable energy contribution to total installed capacity has reached nearly 45% with solar (85 GW), hydro (47 GW) & wind (46 GW) being the top runners.



- 6) Natural lifestyle of Indians living in harmony with nature
- 7) Government support eg: PM Surya Ghar Muft Bijli yojana, PLI for Solar PV module manufacturing.

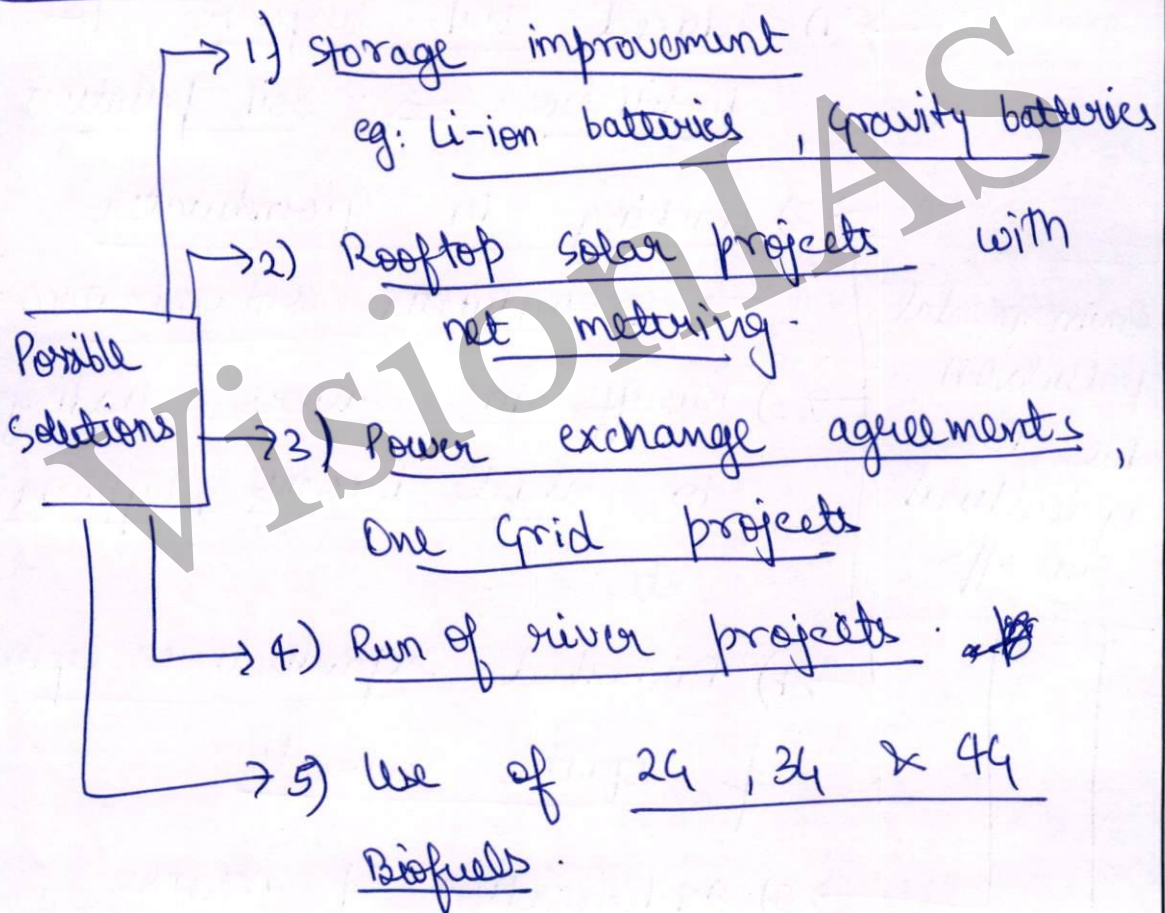
- 8) International collaborations eg: International Solar Alliance, Global Biofuel Alliance.

- 9) Geothermal (Manikaran) & Ocean thermal (OTEC) potential

However, there are also a few challenges in renewable energy promotion -

- Challenges
- 1) Seasonality of source eg: solar energy
  - 2) Regional variability eg: low hydro potential in West India
  - 3) Storage problems as temporal in nature.

- 4) Grid connectivity especially when DISCOMs already stressed.
- 5) Import dependency for Rare Earth Elements, Silicon, etc
- 6) Disaster vulnerability, resettlement of population in hydropower projects.



For meeting SDG 13, it is important to invest heavily in renewable energy.

15.

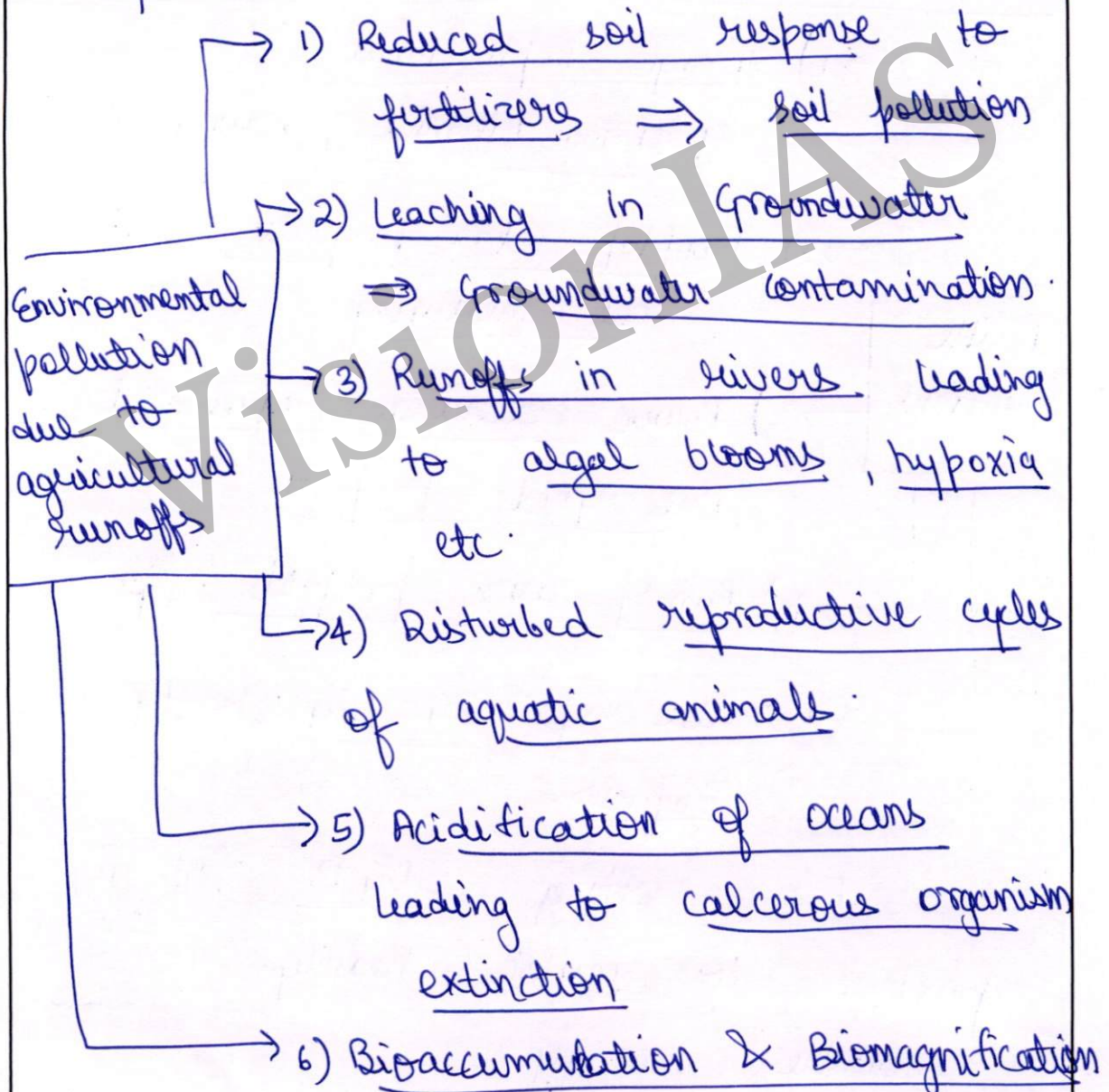
उर्वरकों और कीटनाशकों से युक्त कृषि अपवाह पर्यावरण प्रदूषण में किस प्रकार योगदान देता है? कृषि अपवाह के प्रभाव को कम करने के लिए क्या उपाय अपनाए जा सकते हैं? (उत्तर 250 शब्दों में दीजिए)

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)

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए  
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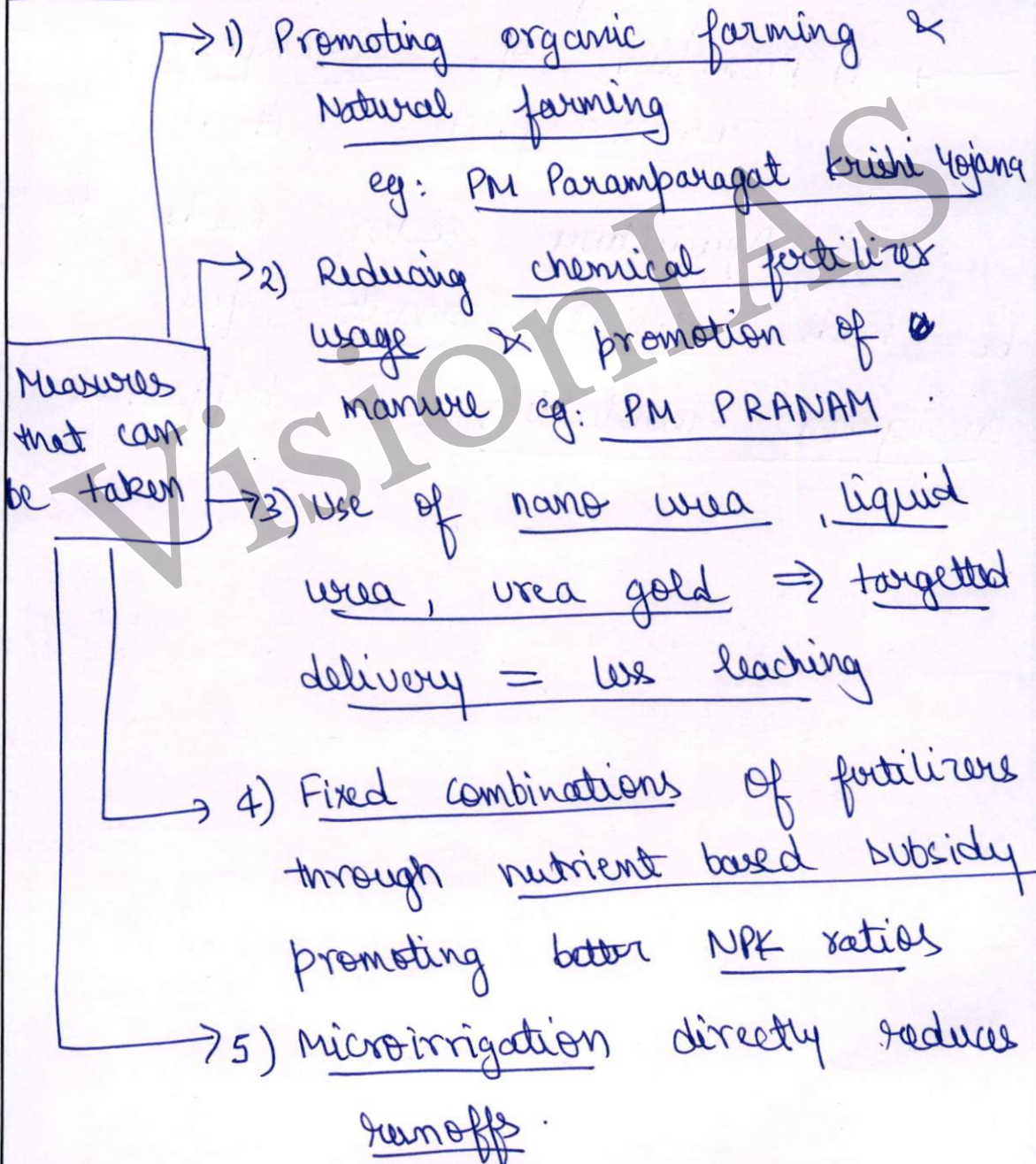
India has one of the highest fertilizer usage in the world and also in proportions of 8:3:1 (N:P:K) when ideal is 4:2:1. This leads to many environmental challenges —



eg: heavy metals found in human blood

→ 7) Reduced dissolved oxygen & increased Biological Oxygen demand of water bodies.

→ 8) Methane emissions into atmosphere from waterlogged fields.



→ 6) Promotion of dryland farming

eg: Millets

→ 7) Reclamation of wetlands which act as natural filters of waterbodies.

→ 8) Genetically engineered crops requiring less fertilizers.

→ 9) Promotion of Biocompost, vermicompost, etc.

Agriculture sector needs to be made climate smart for evergreen revolution to happen.

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) 15

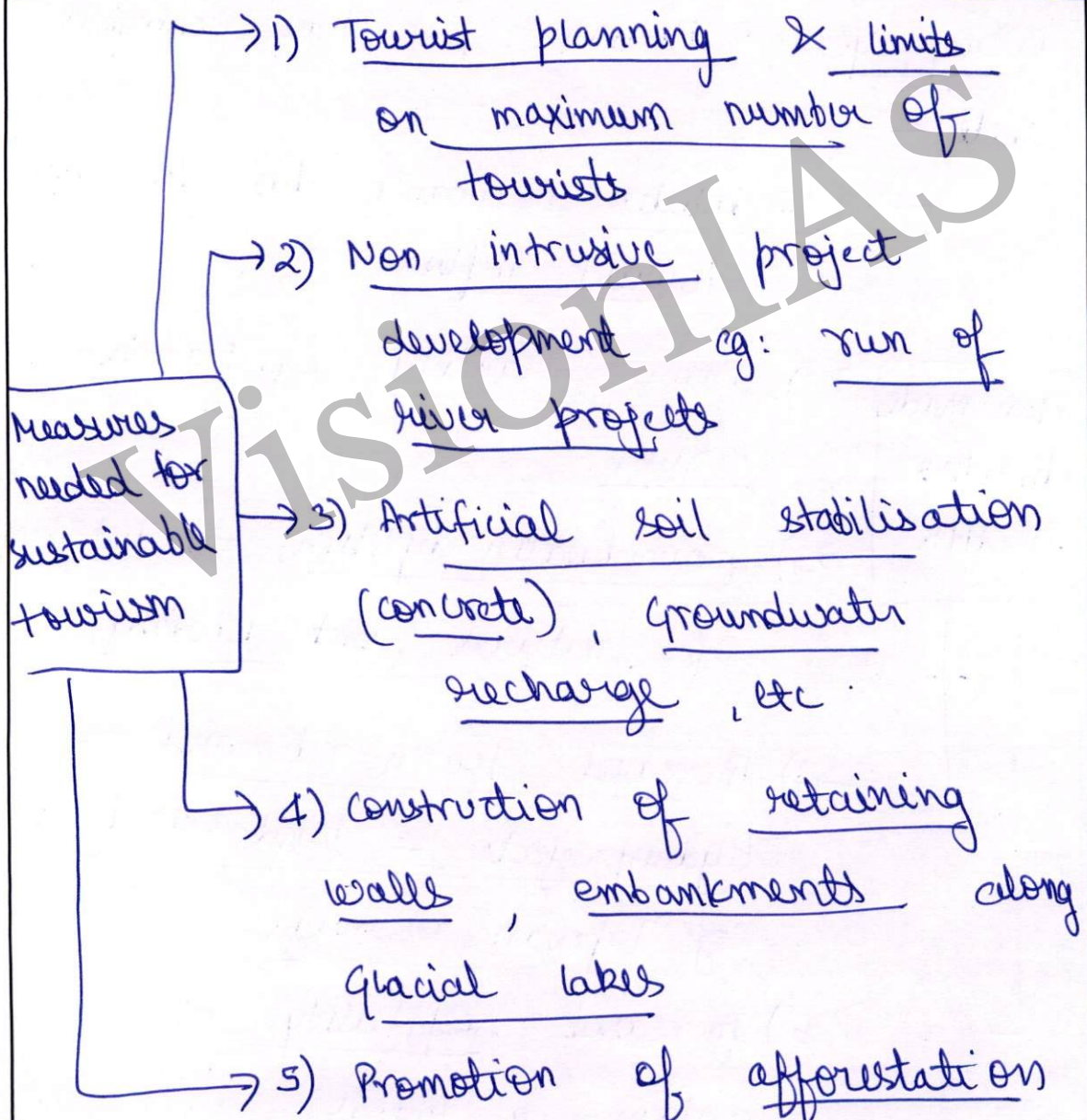
India Himalayan Region (IHR) is one of the most scenic beauty place in the world attracting over 200 million tourists every year. However, it has ecological

costs -

- Man made disasters in IHR
- 1) landslides occurrence due to high tourist influx
  - 2) Water scarcity eg: Manali Region
  - 3) Groundwater depletion ⇒ disturbing of natural isostasy
  - 4) Increased power demand = Hydroprojects = land subsidence eg: Tapovan Vishnugad project
  - 5) Increased hospitality infrastructure creation eg: Hotels

→ 6) Plastic & solid waste accumulation  
eg: Dal lake in Kashmir

→ 7) Increased cases of GLOFs, etc  
due to intrusive infrastructure  
projects - Ravi Chopra Committee  
highlighted it



terrace farming in the region -

→ 6) SECURE project for holistic protection of the region including pastures, livelihoods, etc

→ 7) Himalayan States Council by NITI Aayog for integrated development.

→ 8) conscious tourist behaviour promotion eg: no water wastage, proper solid waste disposal, etc

Indian Himalayan Region is the Water Capital of the Earth & thus

vital for conservation directly impacting over 1.4 billion lives.

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)

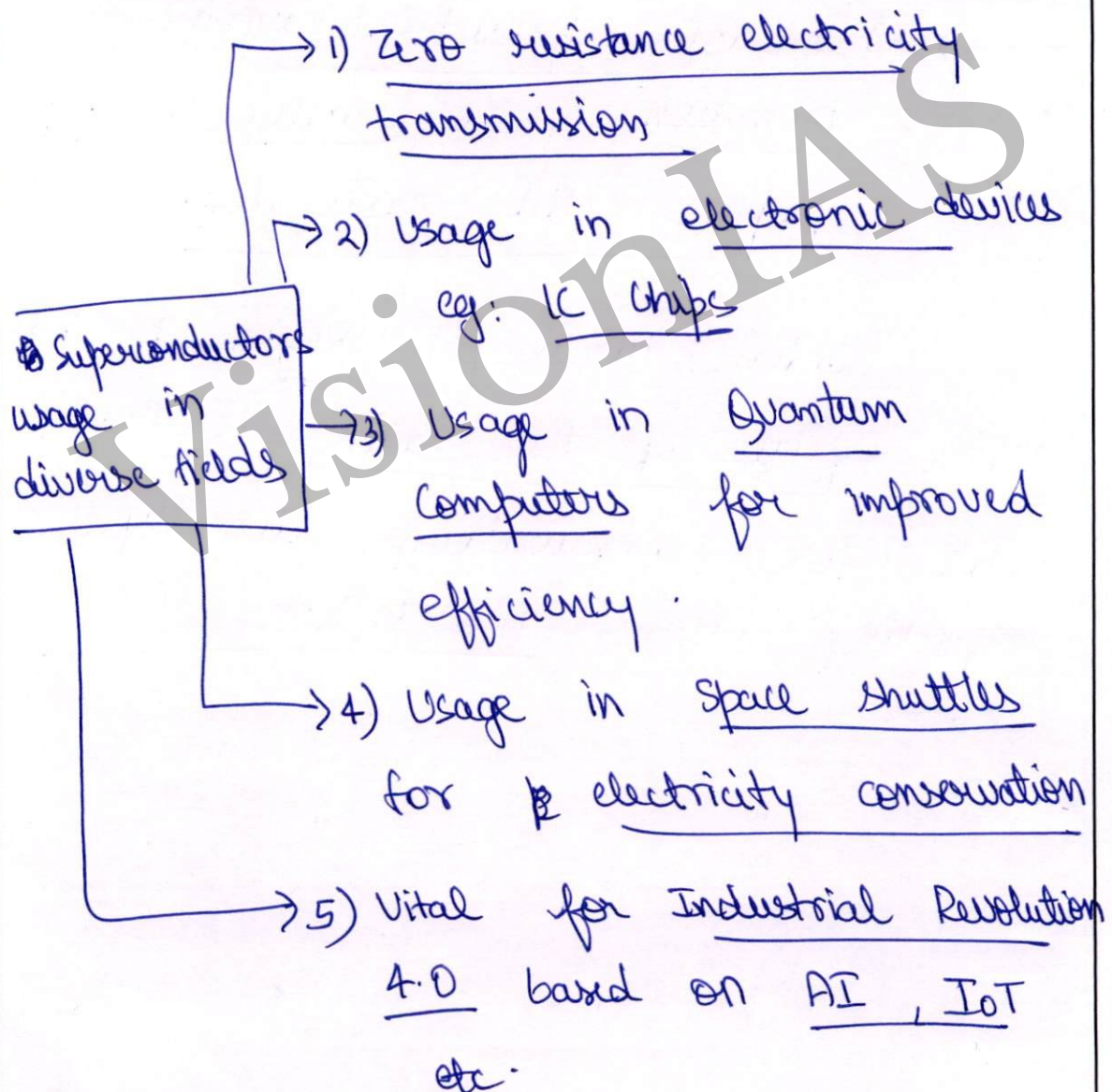
How do superconductors fuel innovation in diverse fields of science and technology? Illustrate with examples. (Answer in 250 words)

15

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Superconductors are materials with negligible ~~resist~~ resistance to electricity

& thus can offer great advantage in fast & clean electricity transmission.



Yet they have some serious challenges -

Challenges with Superconductors

- 1) Near absolute zero temperature requirement
- 2) Rare Earth Element requirement - But China controls 90% market
- 3) Technological know how missing especially in developing countries eg: Taiwan is a leader in semiconductor technology
- 4) Technological apartheid by developed countries.

Recently, India has signed the ICET with USA which can help in development of superconductors. Also few scientists have been making progress in achieving super conductivity at room temperature.

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इस कक्ष में  
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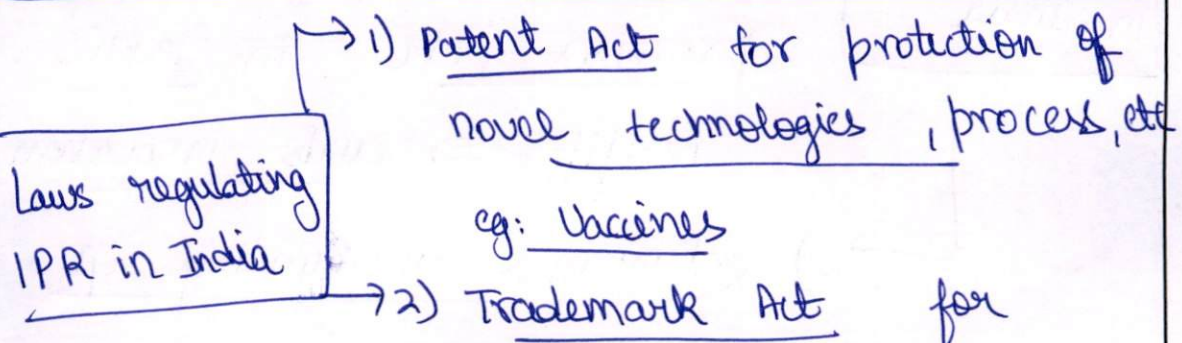
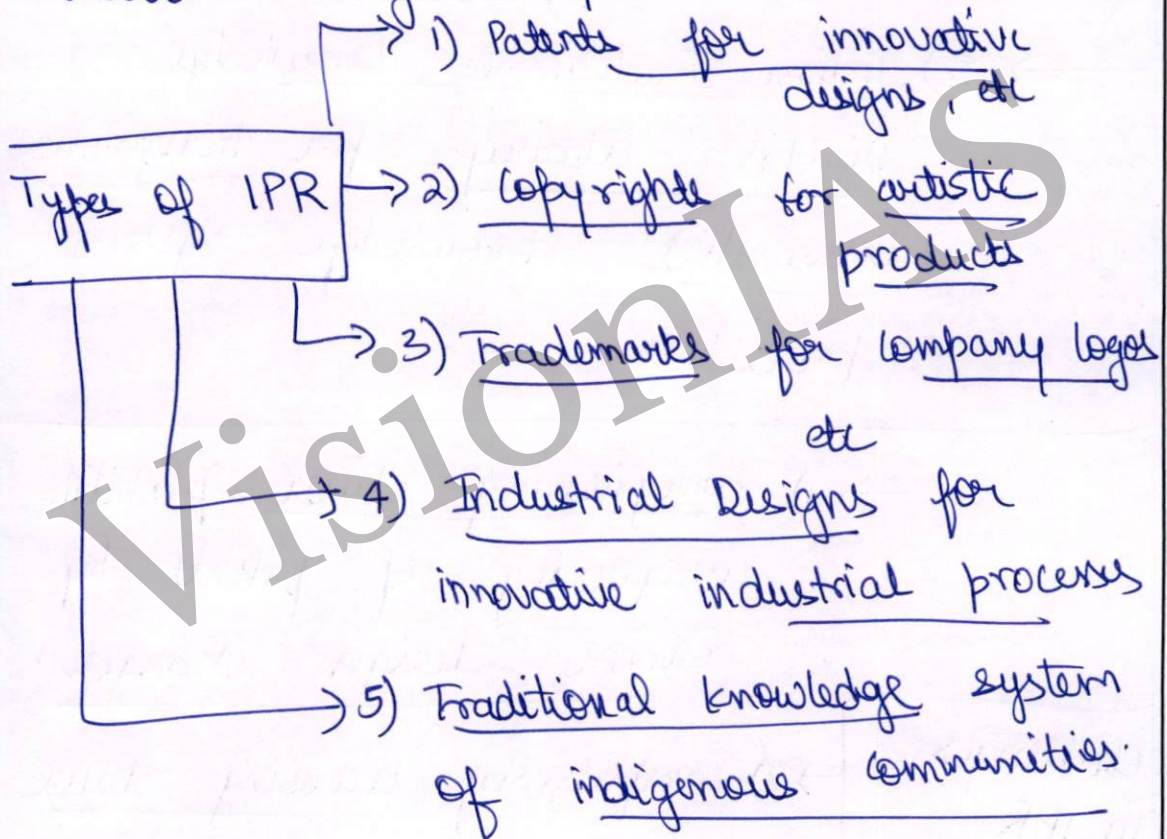
18.

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)

15

Intellectual Property Rights are the rights of a person over an innovative process, product, etc which one ~~is~~ has created using his/her intellect.



## protection of trademarks of companies

→ 3) Farmers Rights Act for protection of agricultural process & due benefits to farmers.

→ 4) Geographical Indication Act for protection of local products  
eg: ~~Red~~ Aligarh Locks

→ 5) Indian Traditional Knowledge Digital Library for indigenous communities' knowledge system protection.

→ 1) Evergreening clause prohibits evergreening of patents by minor design changes.

→ 2) Compulsory licensing clause for life saving drugs, processes, etc in public benefit ⇒ curbs innovation.

→ 3) Controversies surrounding GI

Challenges in IPR Commercialization in India

tag identification

eg: Rosgulla in West Bengal vs Odisha

→ 4) Stringent provisions of Farmers Right Act

eg: Pepsico Potato case

→ 5) Absence of Traditional Knowledge legislation

Recently WPO introduced the Traditional Knowledge Treaty which can further enhance IPR protection across the globe.

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए  
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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

Integrated theatre command is based on the philosophy of integrating the army navy, airforce, space & nuclear command under one authority in a regional theatre wise manner. This was proposed by Kargil Review Committee & Shekatkar Committee.

- Challenges in Integrated theatre Command
- 1) Planning required before implementing integrated theatre command.
  - 2) Increased manforce & resource requirement in short term.
  - 3) Lack of National Security Strategy

उम्मीदवारों को इस शीट में नहीं लिखना चाहिए  
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However, integrated theatre command is still desirable as -

- i) Leads to targetted response against adversary in case of war.
- ii) Faster decision making is possible as single command authority for each region / theatre
- iii) Integration of resources of trisevices  
eg: Andaman & Nicobar trisevices command.
- iv) Inclusion of space warfare too into account eg: China declared ~~sp~~ Near Space Command as 5th unit of its defence force
- v) Nuclear response & deterrence become more agile when theatre wise deployment.
- vi) Reduction in manpower requirement in the long run.

उम्मीदवारों को इस क्राशिय में नहीं लिखना चाहिए

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vii) Interoperability between resources of the three services eg: Common Satellites, Lidars, etc

viii) Dedicated & ~~get~~ geographically sensitive response eg: Coastal theatre requirements are different from Mountain theatre requirements.

Integrated theatre command together with National Security Strategy is important for India when all military superpowers have it including China.

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)

15

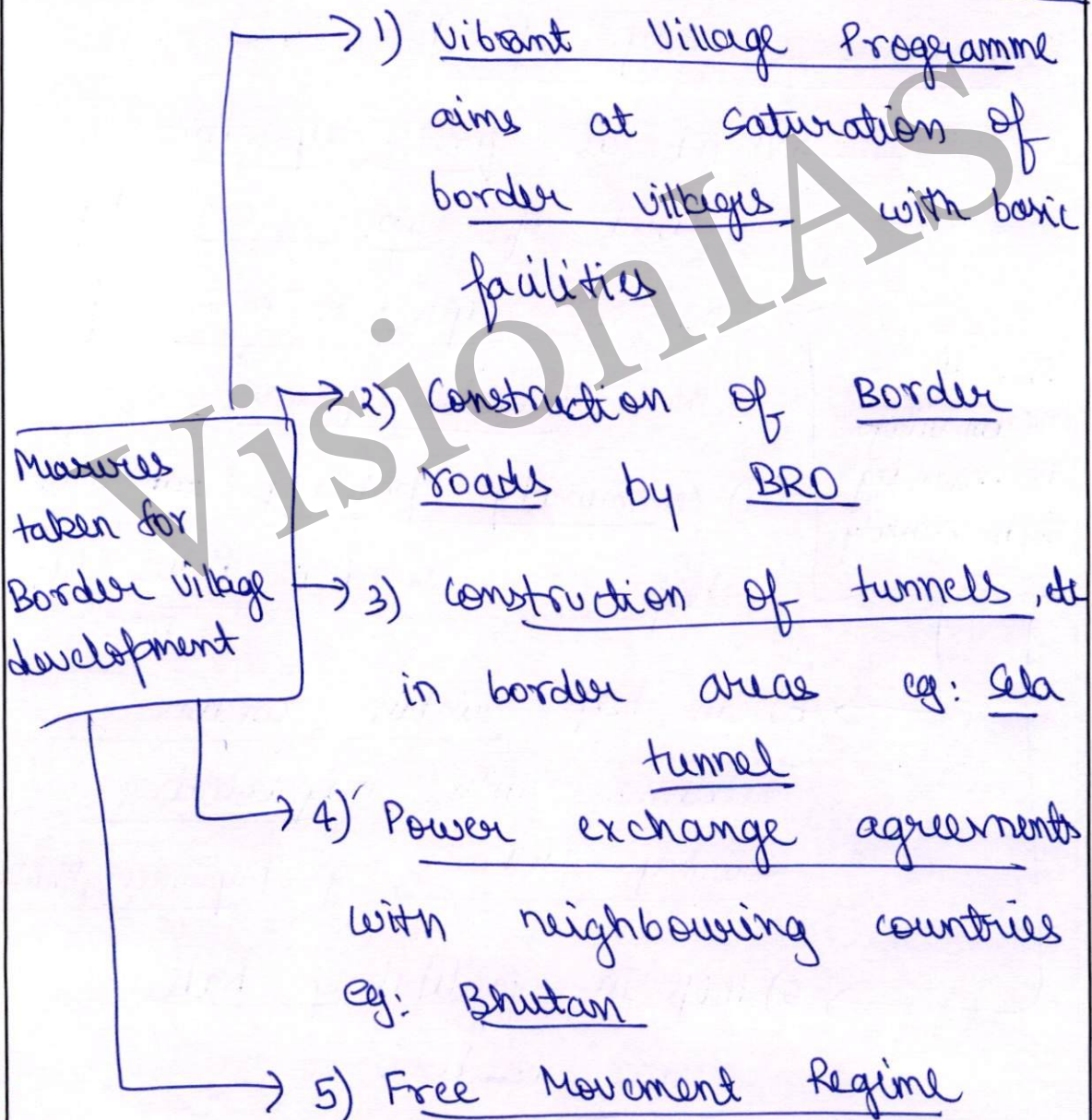
PM Modi highlighted the role of Border villages in security of the country calling them as first rather than last villages in his

Independence Day Speech 2023

- Role of Border villages in enhancing Border security
- 1) Act as first responders in event of war, calamity, etc
  - 2) Act as eyes & ears of the Armed forces.
  - 3) Community policing ~~can~~ can help the Border Police eg: BSF
  - 4) Can help maintain cordial relations with neighbouring country villages eg: Myanmar, Bhutan
  - 5) Help in facilitating trade across borders.

→ 6) Help curbing arms running drug trafficking, etc in border areas eg: Golden triangle route

→ 7) Help protect country from terrorist ~~inf~~ infiltration  
eg: Jammu region



Upto 16 km along India - Myanmar border  
for tribal integration.

→ 6) Border security Force & expanded  
Coverage upto 50 kms

→ 7) Comprehensive Integrated Border  
Management System (LIBMS) using  
lasers, drone, etc

→ 8) Sadbhavana scheme of Indian Army  
for development of trust between  
army & local populace through  
army school establishments.

India ranks 7th in  
Global Terrorism Index . Border

Villages can act as eyes & ears  
reducing terrorist infiltration.

उम्मीदवारों को  
इस ह्रासिए में  
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