

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. : 00339922

अभ्यर्थी का नाम/Name of Student : DJAYANK GUPTA

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH

तारीख
Date

25/08/24

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

केंद्र
Centre

Bhai Joga Singh

निरीक्षक के हस्ताक्षर
Invigilator's Signature

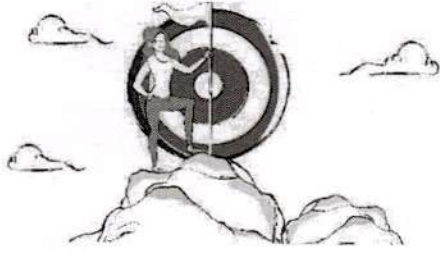
Arju

	<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 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>

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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)					



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.

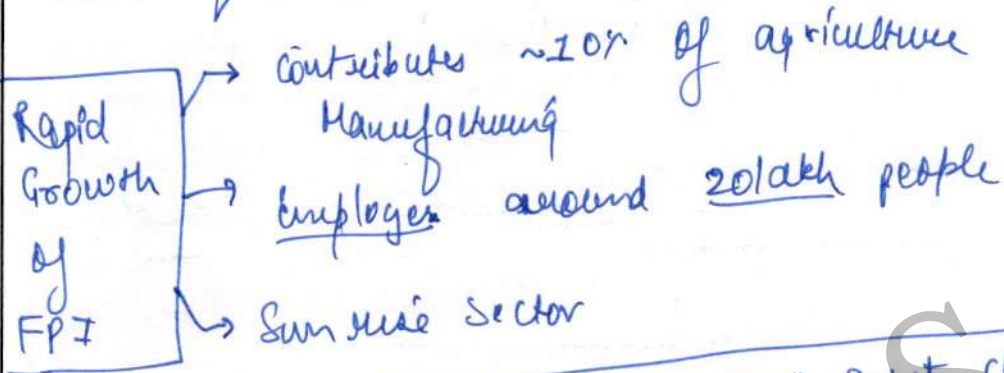
6.

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

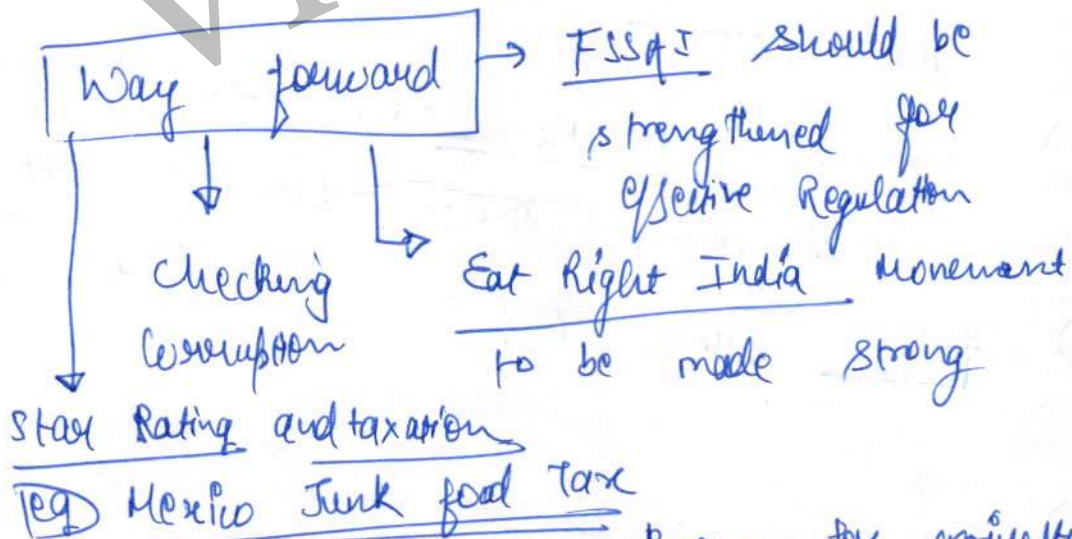
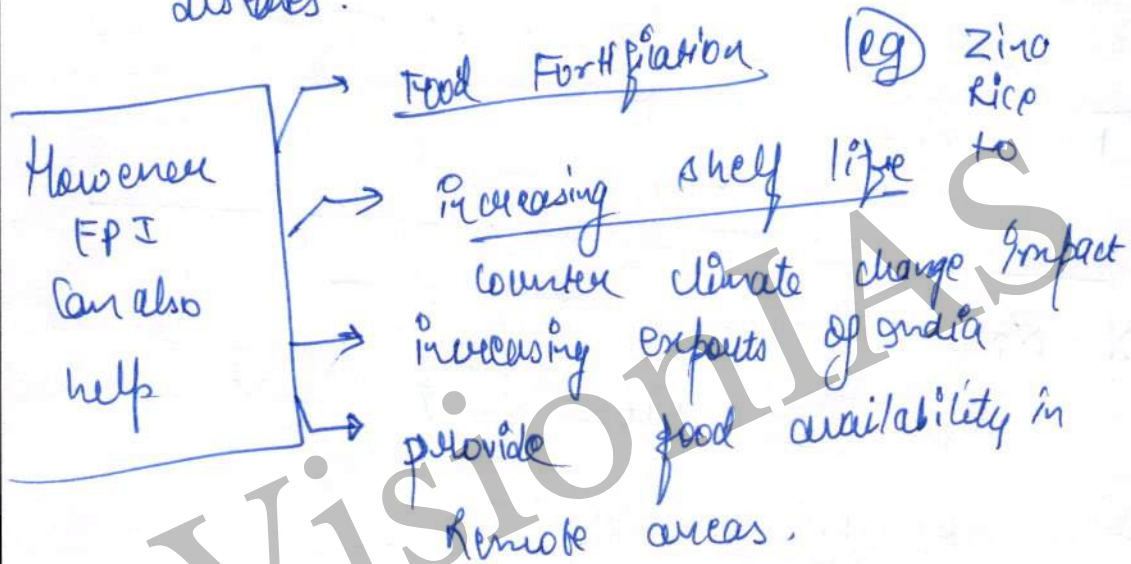
Food processing industry is growing at a CAGR of $\sim 10\%$ in the past decade.



Rapid growth of FPI leading to Food Safety challenges

- 1.) Adulteration - happening due to low cost manufacturing
- 2.) ultra processed food impacting the food.
- 3.) 100% FDI allows foreign entities to start their firm and flout norms (eg) NESTLE water has sugar
- 4.) There is issue of lockdown in regulation.
- 5.) Corruption in FSAI prevents effective checks.

- 6.) There is issue of exports getting rejected eg Spain rejected MDH spices
- 7.) Carcinogenic content found in them
- 8.) Transfat leading to non-communicable diseases.



India is a country which is known for agriculture and food. Therefore effective regulation on FPI will go a long way.

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

PDS system was brought in to ensure availability of basic goods like food, petroleum oil to the most disadvantaged section of the society. In this (FPS) play an important role.

Fair Price Shops (FPS) transformation is an evolving process.

- 1.) Due to digital push, there is more than 95% ration shops turning into FPS
- 2.) States willingly accepting the central guideline.
- 3.) one Nation one Ration card given to people to access for ration from any shop.
- 4.) Aadhar enabled people to access their grain.
- 5.) Geo Tagging of shops ensures easy locating the shop.

However there are some issues with FPS

उम्मीदवारों को इस कश्चि में नही लिखना चाहिए
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1) Some states not cooperating (eg) W. Bengal and Delhi not actively part of FPS.

2) Due to digital divide (Rural only ~50%)

↳ prevents effective functioning of FPS

3) Siphoning of Ration - prevents food to

4) The needy collusive corruption in FPS shop owners and contractors.

5) Technology failure (eg) Shankhard Adhikari failure prevented millions from accessing ration.

Way forward

Shanta Kumar Committee

↳ Incentive to FPS shop owners

↳ working efficiently

↳ ensuring digital accessibility

Pankaj Kumar Committee (4 Is)

↳ Incentive, Infrastructure,

Information, Institution.

MS Swaminathan

said that ~~Nation~~ Future belongs to

countries with grains and not guns. Therefore

fair and wide accessibility should be the way ahead.

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

As per Economic Survey (FY 23) - there are more than 1000 agri-tech startups in the country.

Agri-Tech startups helping farmers in

Enhancing Farm Productivity

- 1.) Promoting precision agriculture through sensors, weather reports.
- 2.) promoting climate-resilient agriculture through CRD in GM crops (eg) Delta Mustard
- 3.) improving Mechanisation → currently 40% while USA (95%)
- 4.) improving soil yield through Nutrient Profiling
- 5.) They are contributing through Nano Technology (eg) Nano-emulsifiers, Nanobots

Improving Market Access

- 1.) connecting farmers with the world
 (eg) IITK SIDBI ~~and~~ part of e-NAM.
- 2.) setting up e-hats (eg) farmnet setting hats
- 3.) Buyer price Realisation
- 4.) they are empowering Women in agriculture

Issues that exist

- lack of awareness in farmers
- chances of farmers being cheated
- issue of digital divide (~50%)
- lack of attitude in farmers toward digitisation

Way forward

- use of Agri-Stack
- awareness about ENAM, e-NWR
- promoting incentives under startup policy:

~~Agriculture~~ Agri-Startups could help India in connecting and Jai Kisan and Jai Amishandhan therefore should be promoted.

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

J.C. Kumarappa Committee laid the foundation

stone of land reforms in the country.
However, their impact has been limited.

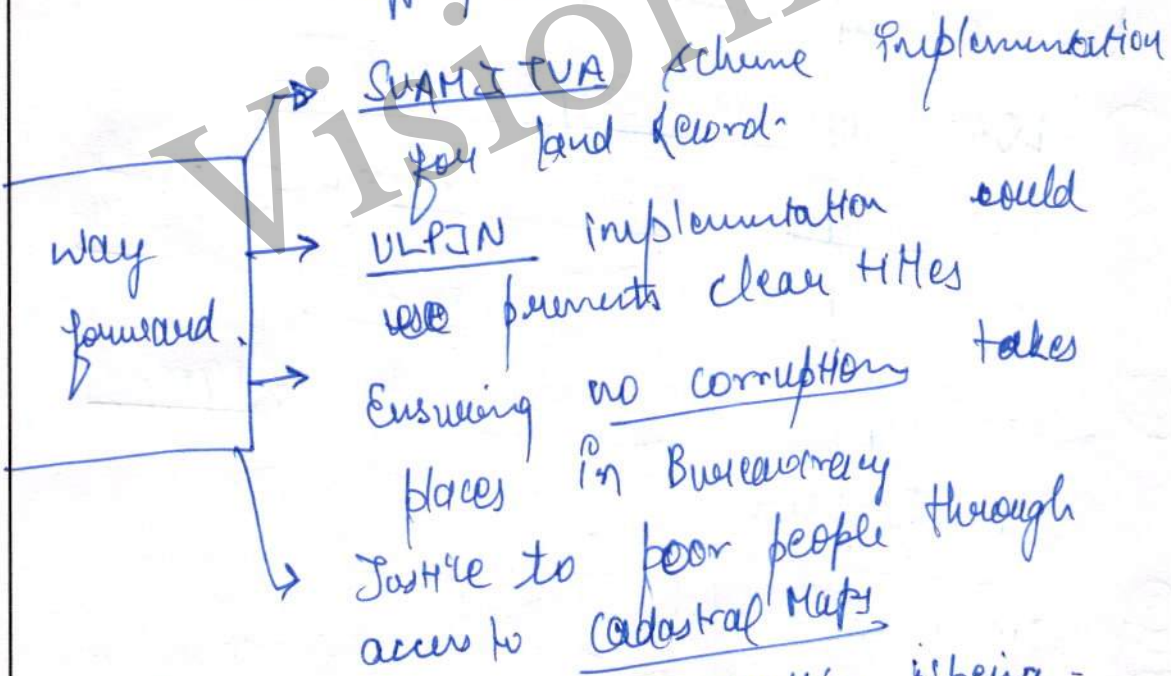
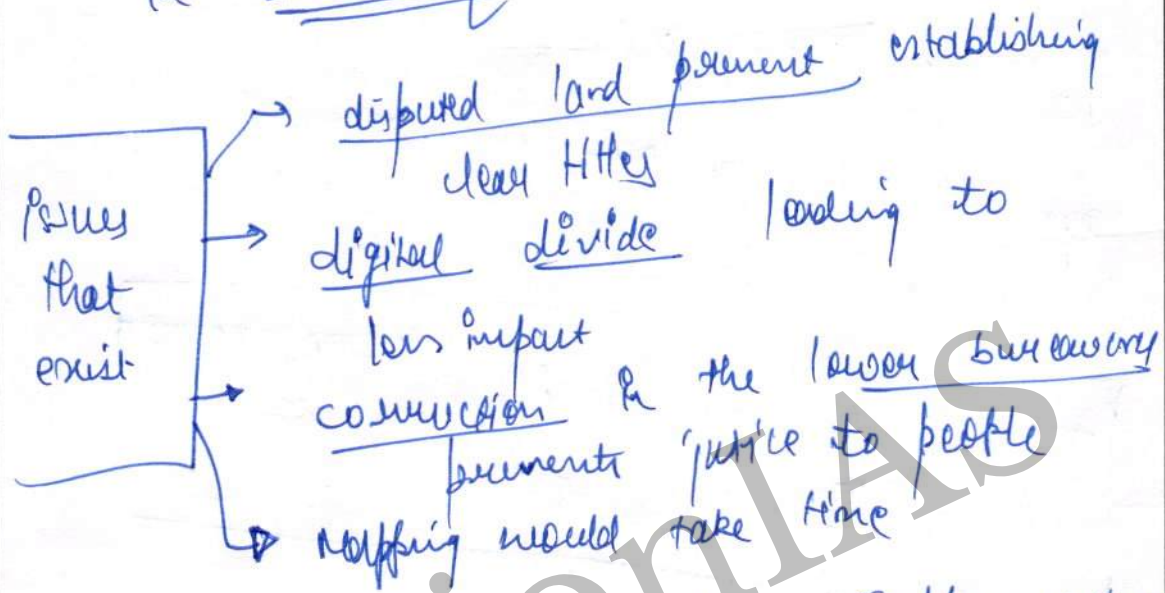
Role of Digitisation of Land Records

- 1) Cadastral Maps would promote mapping of whole area.
- 2) Blockchain technology would ensure trust and permanent judging the records in future.
- 3) Robotics would help in mapping remote areas. (eg) Agri-drones
- 4) It would promote access to land titles. (eg) Jaga Nivaran in Odisha.
- 5) Farmers' disputes over land could over (eg) ₹ 7.7 lakh crore land dispute in India

उम्मीदवारों को इस दृष्टि में नहीं लिखना चाहिए
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6.) Would help Judiciary in fast disposal of cases.

7.) Could ensure better price Realisation in Land acquisition act (2013)



about DoY of Cadastral mapping is being -
Therefore it is time for india to ensure that full land reform occur as desired by constitutional makers.

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

As per the UN population Report, 65% of the population in India is below 35% of age which provides potential of demographic dividend.

India needs to adopt Manufacturing led growth

① Would generate employment
↳ ES 20 - 4 crore jobs by Assembly in India
by 2025

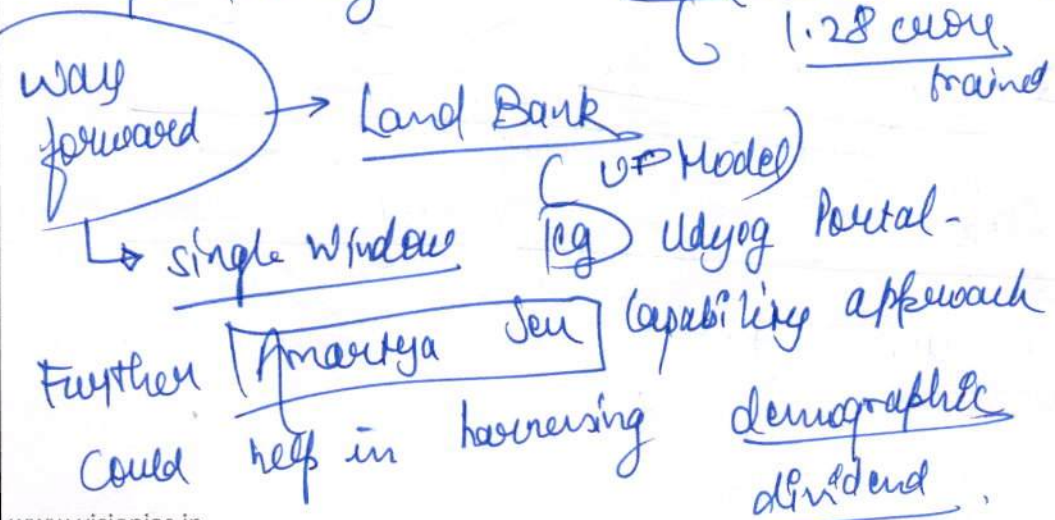
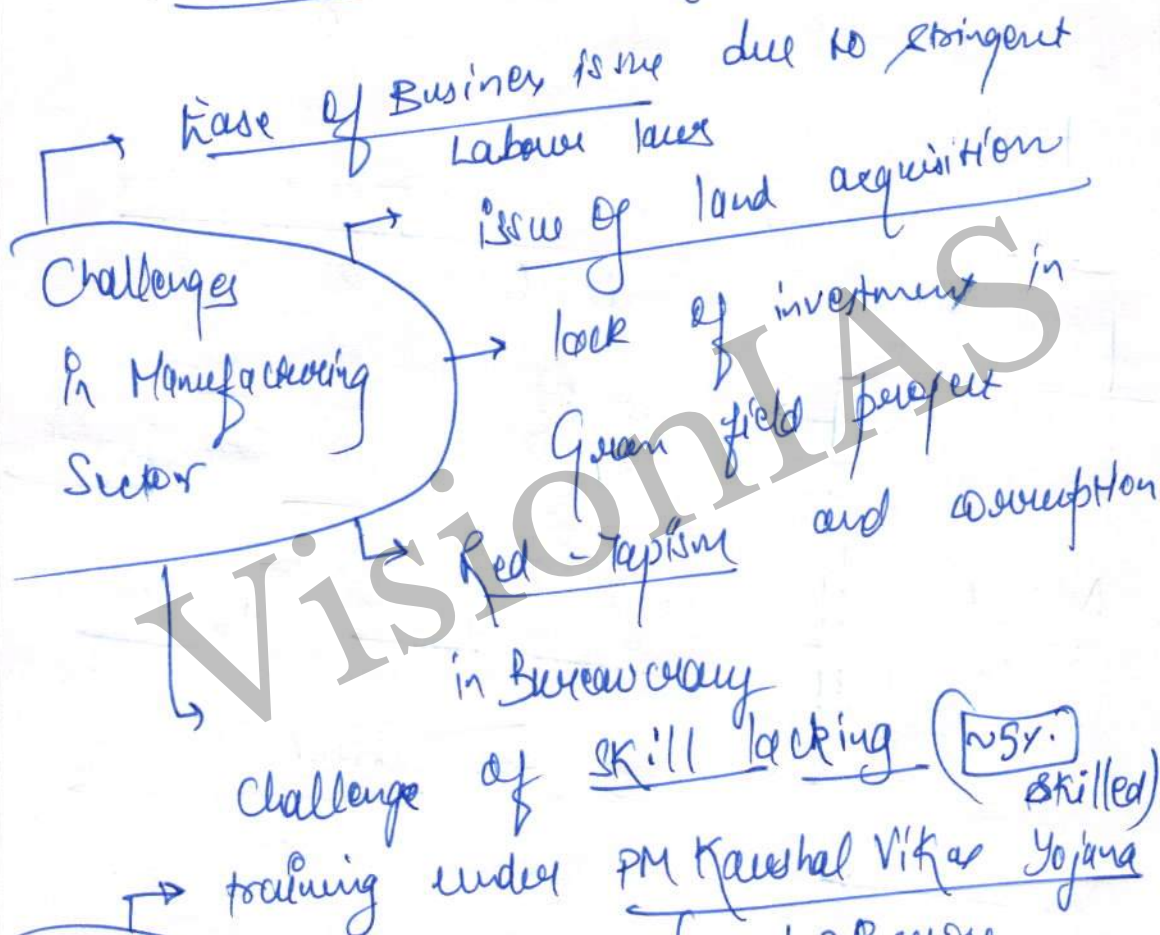
② would prevent disguised unemployment
in Agriculture.

③ Better standard of living

④ Help in providing better skill
under PMKVY

⑤ Lead to better export growth
↳ currently India contribution only 2.4%

⑥ Would improve status against premature deindustrialisation (avoid Subminimum)



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)

10

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

As per the JOD, disaster in form of cyclone have risen by over ~200% in Indian ocean and threatening coastal people

→ Rise in Cyclones in Arabian Sea due to Global Warming

→ issue of violence over fishing communities (eg) Katchikhan Island

→ coral destruction (eg) 4th Mars Bleaching

→ Threat to coastal security

→ Cases of Tsunami (eg) 2004 Tsunami

Strengthening coastal communities can help in this

① By cooperating with security forces

eg fisherman community
Training of coastal communities

②

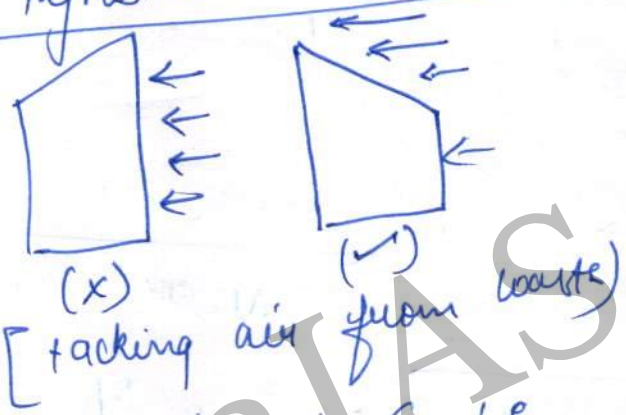
eg odisha giving training to coastal people
 under CBDM Mode.

③

Participation

④

Change in infrastructure and living style



⑤

Early Information through Gender

Challenges → low awareness
 → lack of bottom up approach
 → funding issue.

way forward → cooperation through Panchayat
 → climate resilient infra
 eg Raising the height of infra
 → promoting women participation

gender is a gender of model in this approach, and should

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)

उम्मीदवारों को इस हार्शिए में नही लिखना चाहिए
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10

Green Credit Programme was launched by India in col 28 for better funding for green projects

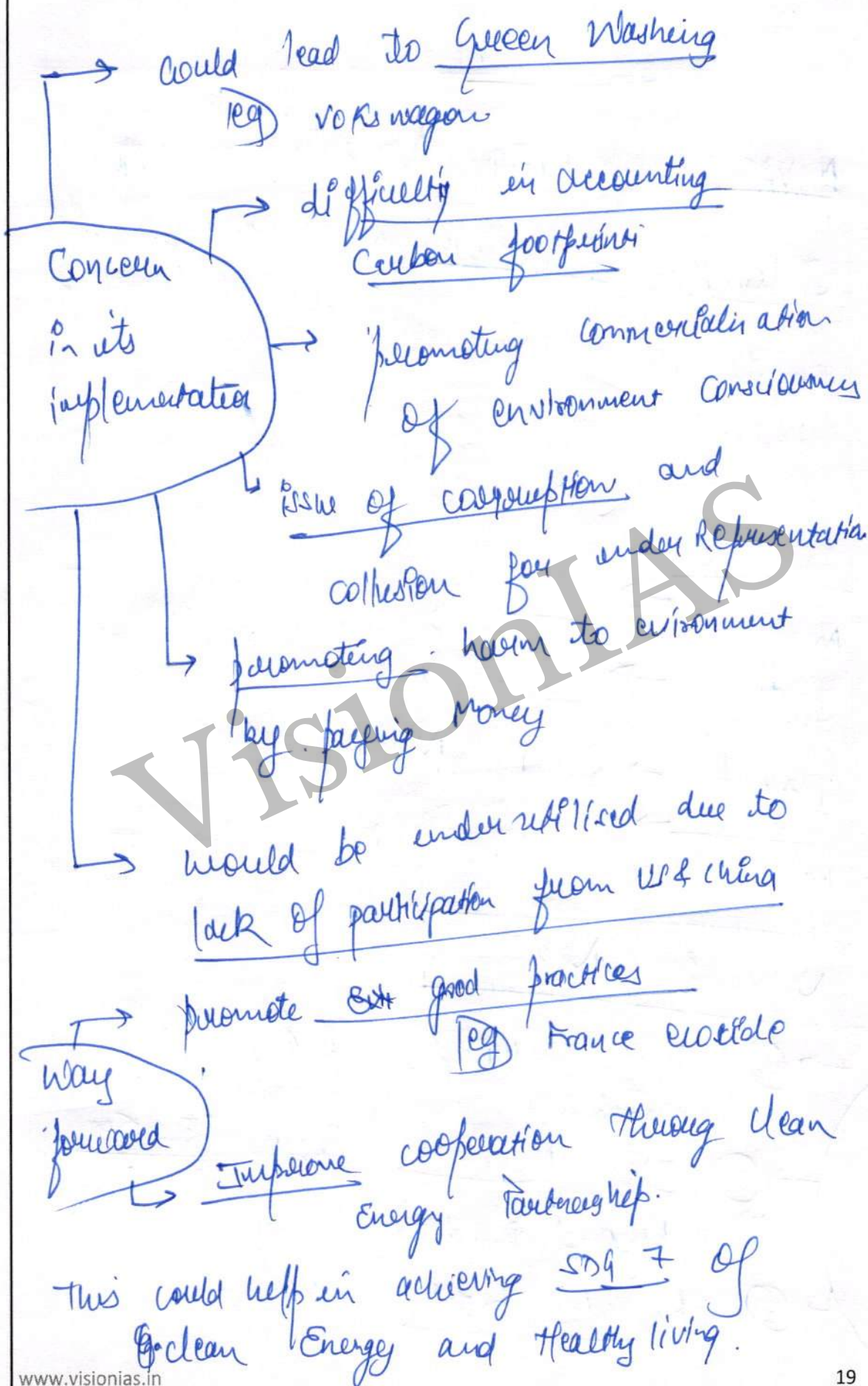
→ would ensure rise in focus cover (eg) Nagar Van Scheme

→ would promote ^{incentive} to communities in line with REDD+

→ increase environmental consciousness

→ would ~~not~~ investment in green technologies
(eg) Adani - Reliance in H₂

→ would promote R & D (eg) SETGHT project for electrolysers.



8.

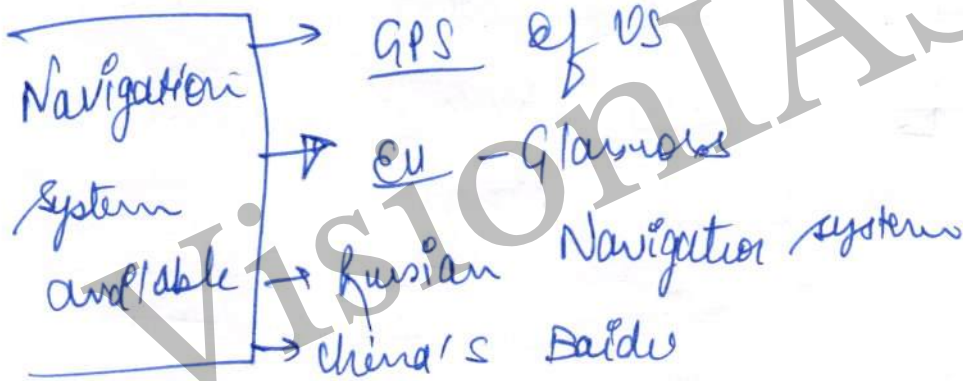
जब पहले से ही अन्य उपग्रह नेविगेशन सिस्टम उपलब्ध हैं, तो NavIC की आवश्यकता क्यों है? (उत्तर 150 शब्दों में दीजिए)

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

10

उम्मीदवारों को इस हाशिये में नहीं लिखना चाहिए
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NavIC refers to Navigation through Indigenous Constellation which was brought in to ensure better availability of satellite facility in India.



Need of NavIC

- ① For developing indigenous capability
- ② It monitors upto 1500 Km beyond Borders
- ③ provides better mapping

④ provides better service as
it consists of 7 satellites
(4 - Geosynchronous, 3 - Geostationary)

⑤ strategic interest
(eg) USA stopped GPS during

Kargil
Tackling Needs of Indigenous
development

promoting better development
startup

challenges → lack of adoption
→ tech & is low
→ chance of fall out

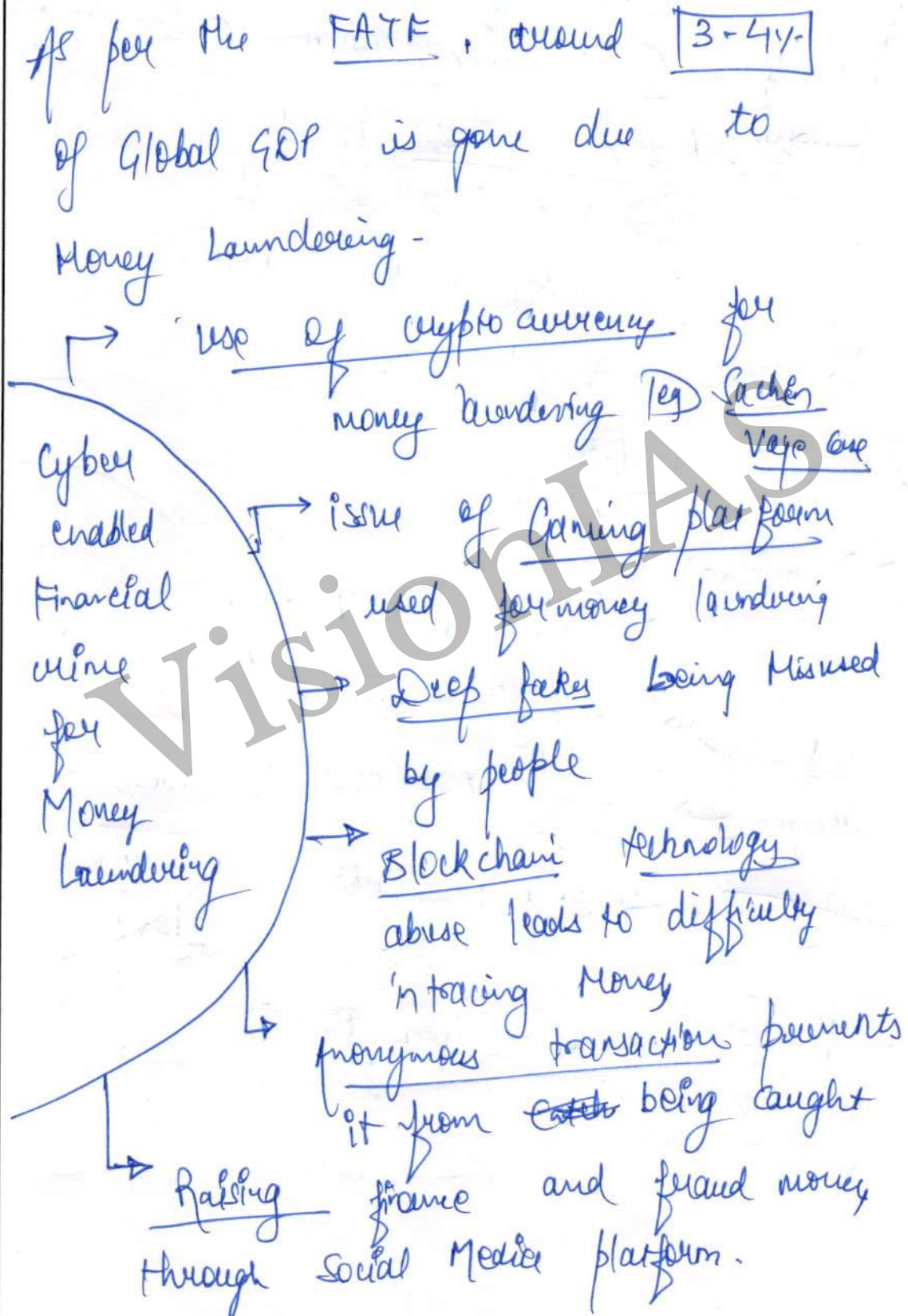
Thus proper reforms should be taken
to make it better with time.

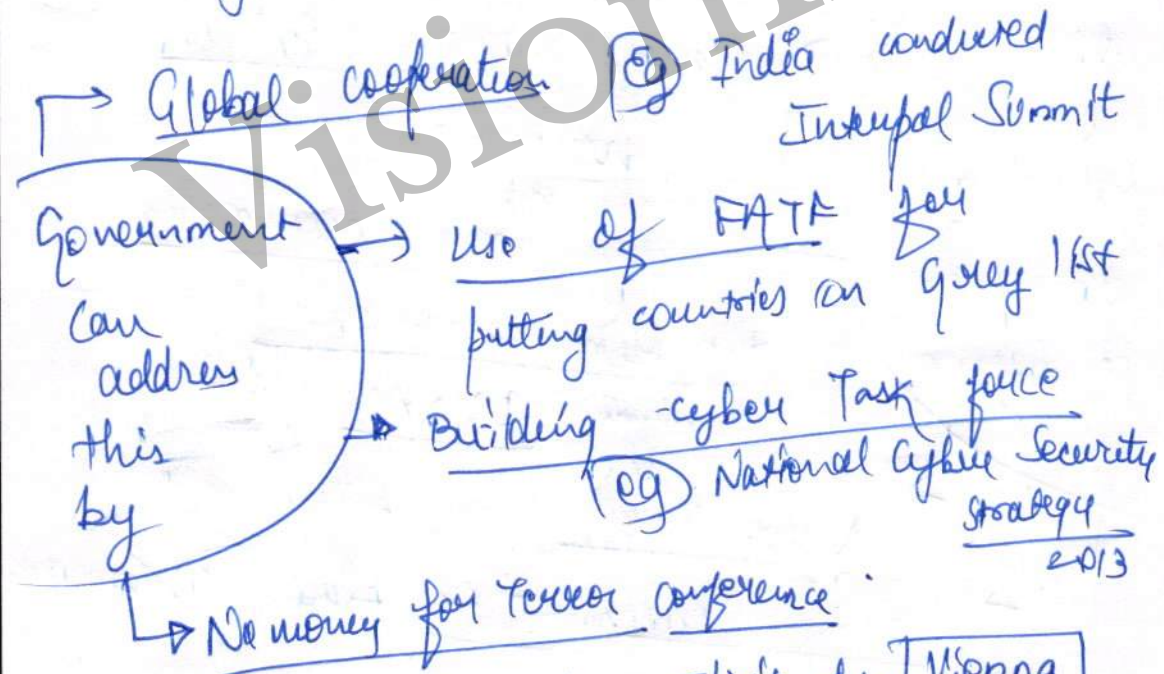
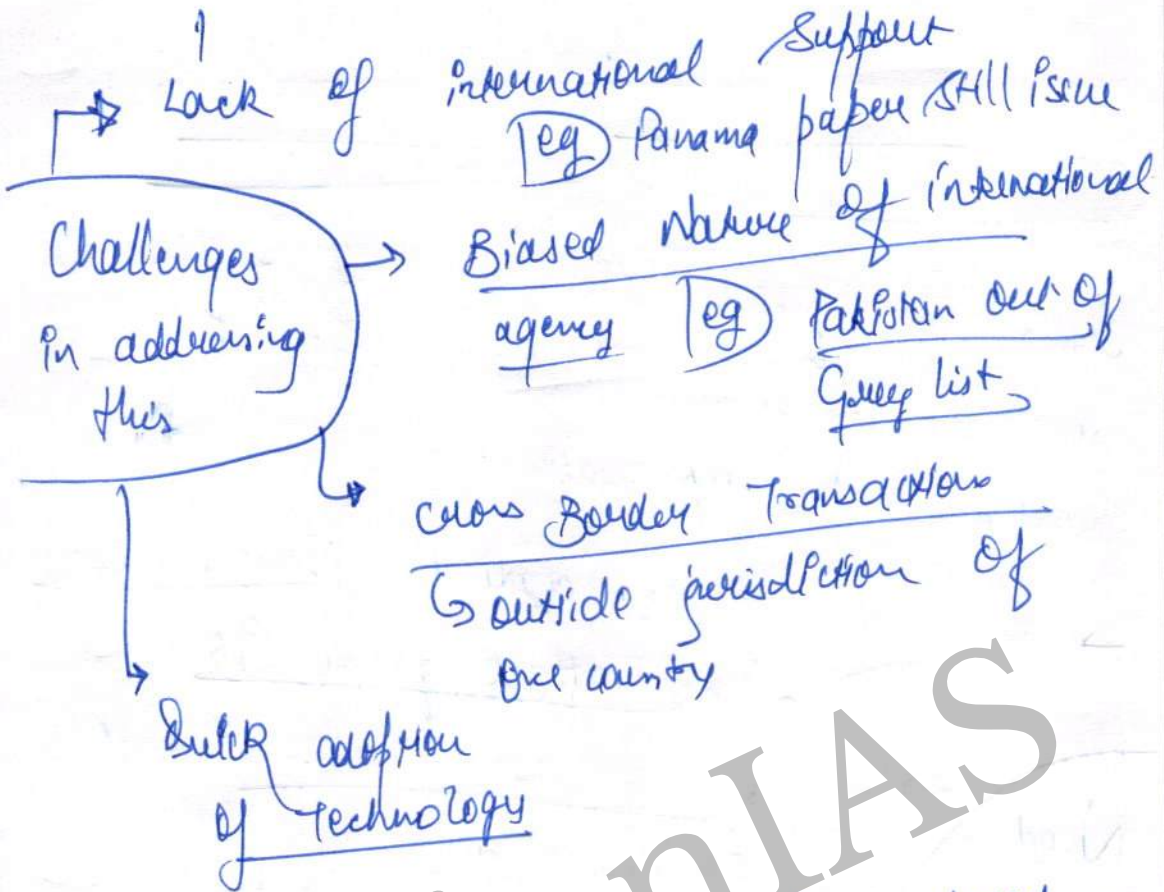
9. साइबर-सक्षम वित्तीय अपराध वैश्विक धन शोधन (मनी लॉन्ड्रिंग) के नए क्षेत्र के रूप में उभरा है। चर्चा कीजिए सरकार इस मुद्दे का समाधान किस प्रकार कर सकती है? (उत्तर 150 शब्दों में दीजिए)

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

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
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Countries should live by spirit of Vienna and Palmyra convention for tackling money laundering

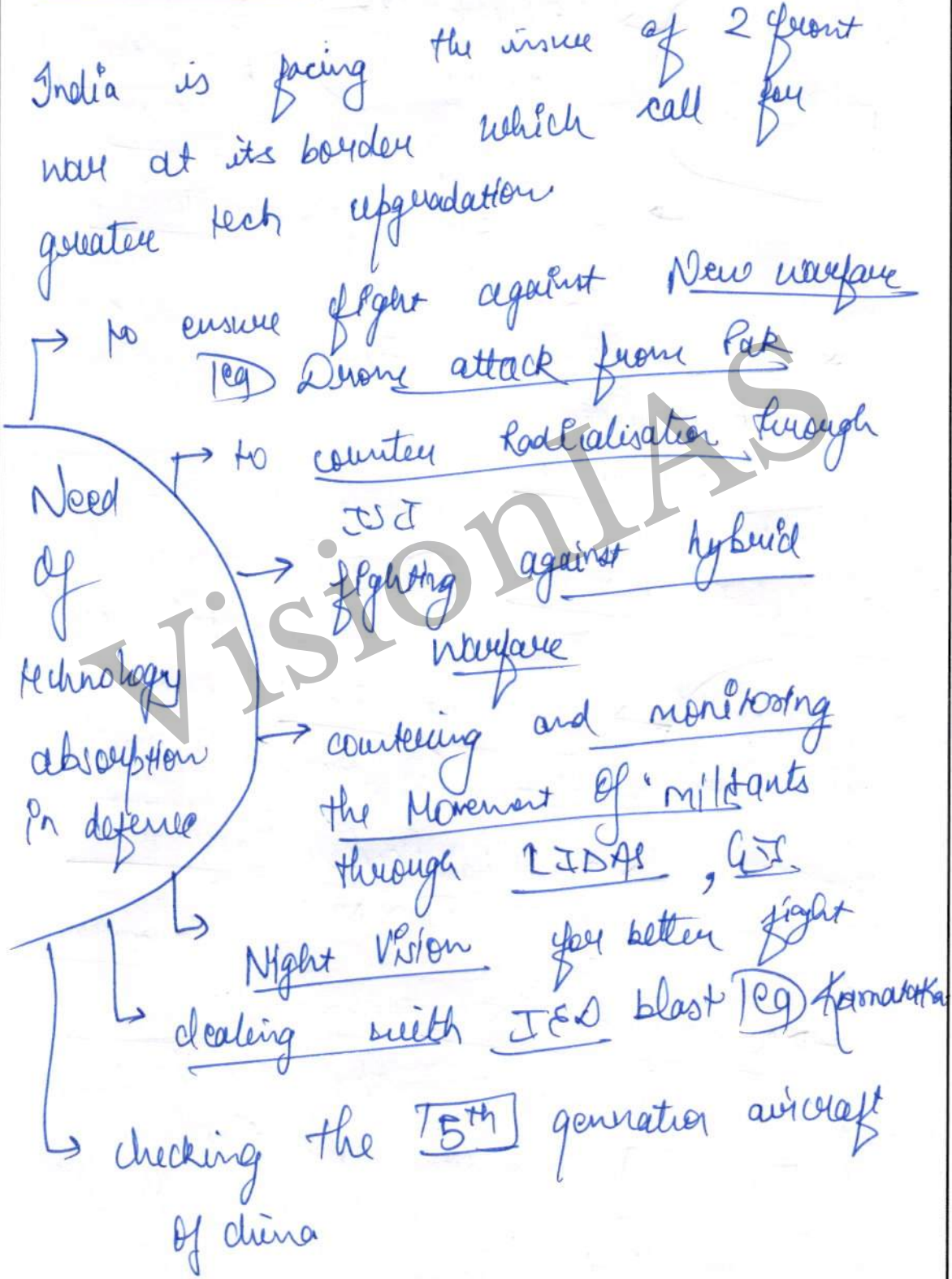
10.

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 क्षेत्र 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 हार्शिये में नहीं लिखना चाहिए
Candidates must not write on this margin

10



High Revenue expenditure (eg) 80%

poor military-civil fusion prevents defense startups

Challenges that India face

Defense startups in early stage

High average age of Military leads to poor absorption

Lack of R&D investment

poor technology cooperation and sharing by partners like USA.

Promoting innovation through JDEX

Way forward

Raghavan Committee
Defense Technology Council

Promoting indigenous (5th + the indigenous list)

Chanakya Nation to (education)

in Arthashastra asks King and focus equally on Shastra and Shastra (weapons).

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)

15

North-East Region constitute about 8% of India's Land mass and about 4% of population but the development of NE has been sub par.

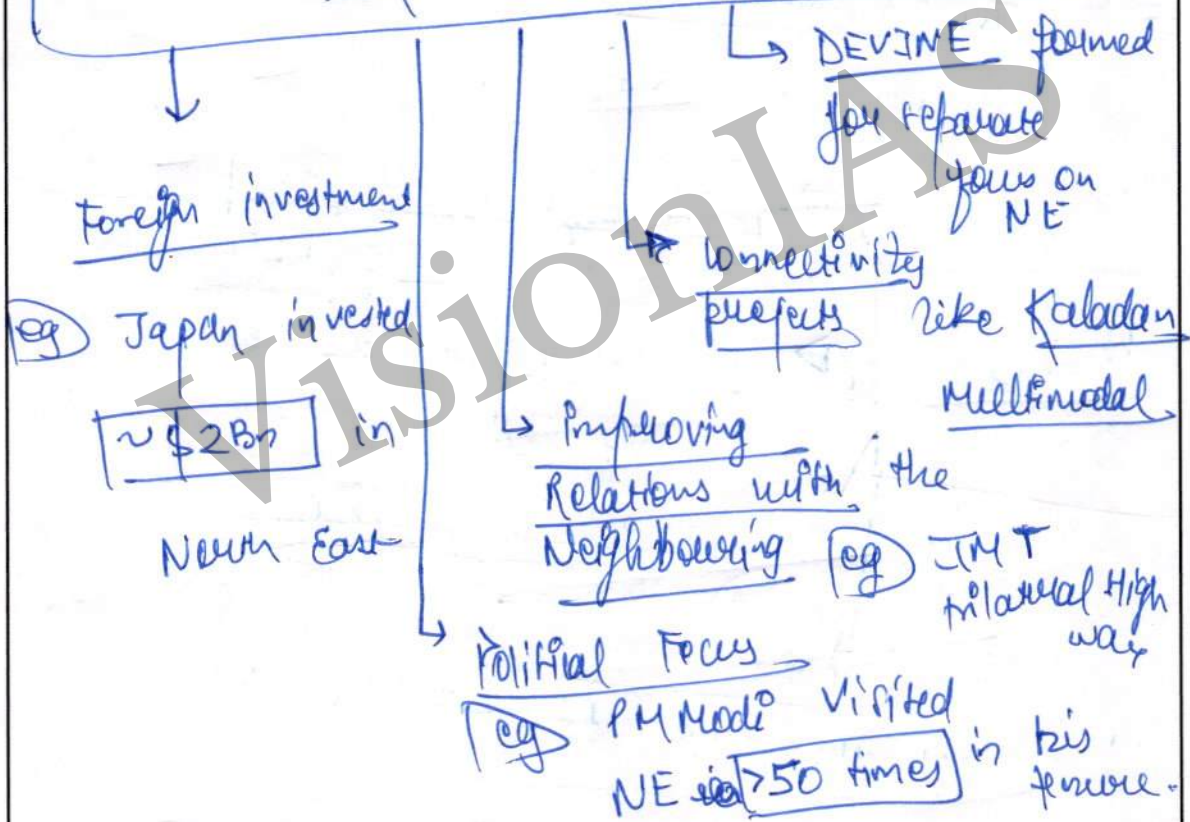
Issues faced in development of Trade and industries in NER

- 1.) Poor connectivity - only through Siliguri corridor (Chicken's Neck)
- 2.) Lack of focus on north east due to away from main land.
- 3.) Emergency in north east deterred FDI and investment.
- 4.) There were issues of resistance from locals.
- 5.) Availability of labour as skilled labour less in NE.

6.) Threat from China over its assertiveness
in South China Sea (5 finger policy)

7.) Issues of unrest in Neighbouring countries
eg Bangladesh → Military rule and civilian unrest
Myanmar

However Measures have been taken for NER Trade and Industrial dev

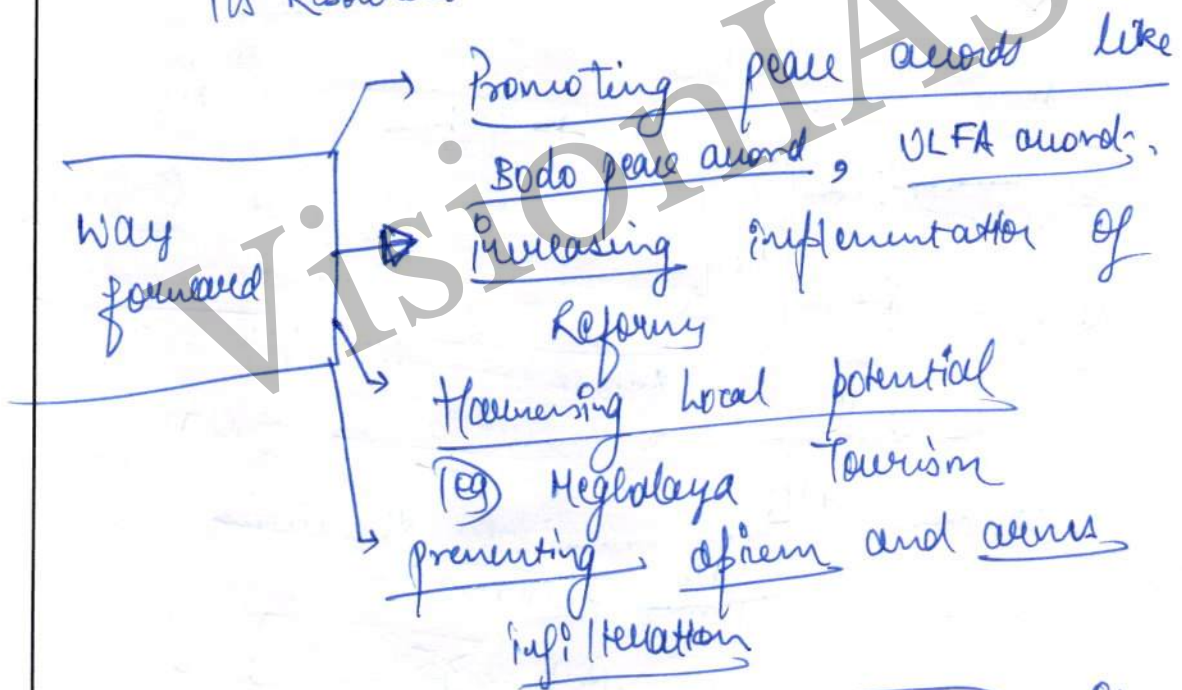


But these measures have some issues

① Unrest in Neighbouring countries preventing

Implementation of connectivity projects

- 2.) There are challenges from China (eg) resistance over Sela Tunnel
- 3.) Lack of funding for massive growth
- 4.) Japan stopped investment due to CAA protest in Assam
- 5.) Tribals Recruitment over Centre exploiting its resources.



Recently Defence Minister Rajnath Singh said that, people of North-East are not only citizens of India but they are beacon of growth for future and therefore it should be focused.

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

As per NIRFA, by 2030 about 50% of Indian ~~cities~~ landmass could suffer from water crisis.

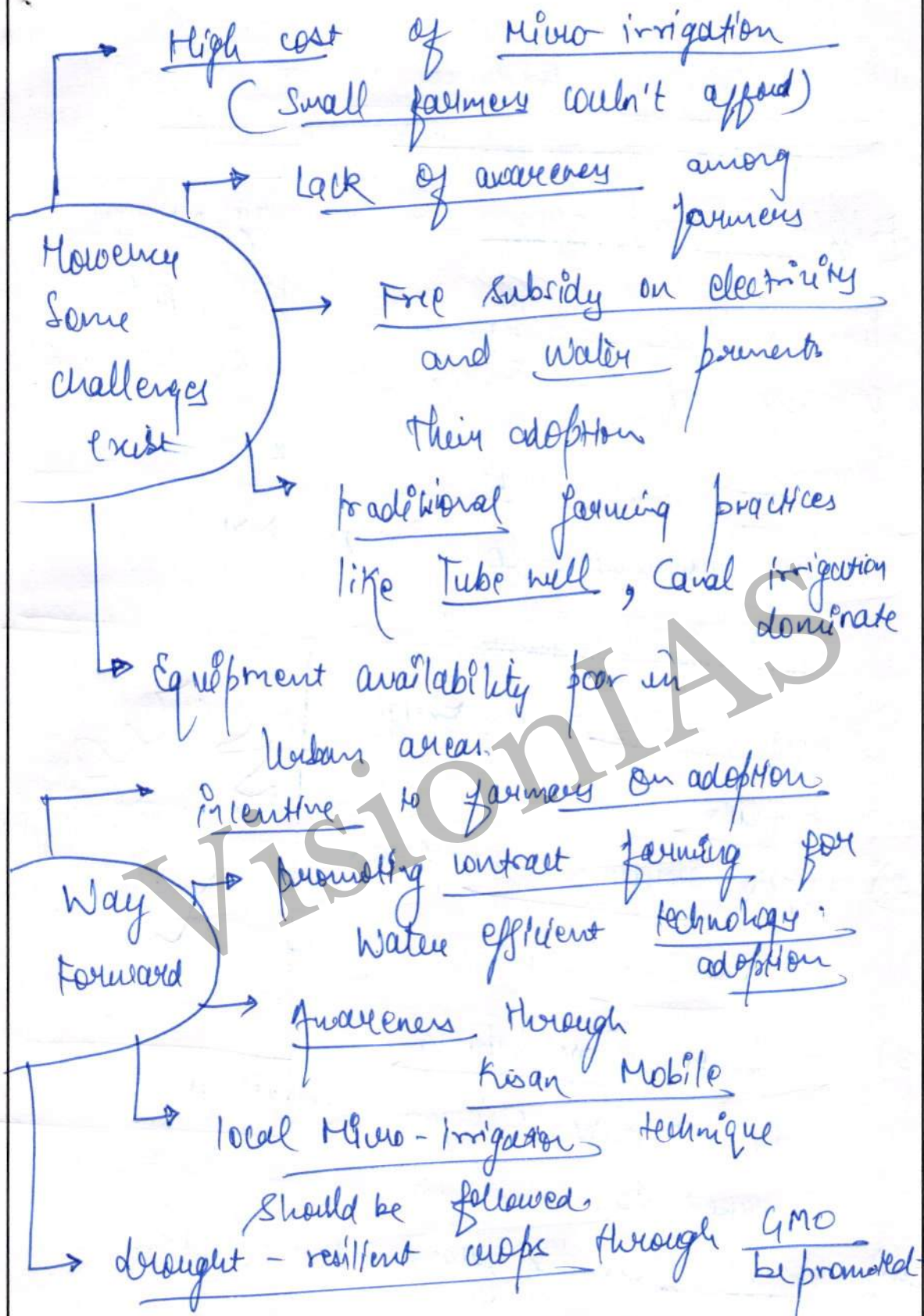
Climate change and Growing water scarcity
hindering sustainable agricultural practices

- 1.) Heat stress leading to crop destruction
(eg) wheat crop destroyed in 2025
- 2.) Pest attack (eg) locust attack
- 3.) Issue of drought leading to low yield of crops like rice.
- 4.) Reduction in shelf life of the crops.
- 5.) Issue of crop failure due to excessive rainfall
- 6.) Tube well, wells running dry due to global warming -

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

Micro irrigation system can help in promoting sustainable agriculture

- 1.) Increasing irrigation efficiency $\sim 80\%$ -
- 2.) would promote fertigation and improve field.
- 3.) Would leads to precision Farming.
- 4.) would prevent soil salinity and improve efficiency.
- 5.) would prevent water logging.
- 6.) Could be used in arid areas
eg. Jaisalmer in Rajasthan
- 7.) Would be useful in promoting drought resilient crops.
- 8.) Reducing fight / conflict over water ~~areas~~ areas.
- 9.) This would improve better policy dissemination to farmers.



This would lead to India becoming major exporter of food and improving food availability in the future.

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

Freight Transportation is currently very low in India with only few freight corridors like - Eastern, Western, East-West corridors.

Issues pertaining to Freight ~~corridor~~ transportation in Indian Railways

- 1.) Low investment on freight corridors
- 2.) High operating Ratio (OR)
[~98%]
- 3.) Issue of cross subsidy
where freight charges increased to compensate for passenger trains.
- 4.) Accident in the goods train
- 5.) Obsolete engines, breaks technology.



6.) Issue in Land acquisition in

the ~~freight~~ freight

7.) Increased ~~freight~~ freight on Road Transportation

(~45%)

8.) Lack of Green corridor, electric
trains.

Strategies that can be adopted

1.) Policy Level

a.) Thrust on Freight Corridors

b.) Using NH Aayog ~~road~~ road map
for electrification of freight trains.

c.) Genuine pricing (Bibek Debroy
committee)

d.) Fair Real | eg in North East
and Kashmir
Region

2.) Supplementation Level

- a.) Incentive to the institution for fast supplementation (Rakesh Mohan Committee)
- b.) for land acquisition for
- c.) freight Auditing of freight for safety
Reg CAG found issue with the Rarech
- d.) Involving people for behavioural change

3.) Technological level

- a.) cooperation with countries like Japan for Better Technology.
- b.) Magnetic train Reg Maglev
- c.) Underground trains for no disturbance and quick reach.

Under the Rail vision of 2030, Govt has focused on the quick and faster implementation of freight transportation and it should be done for better service to Indian people.

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 is now ranked 4th in Solar Energy and 5th in Wind Energy which is the fastest ~~fastest~~ improvement in its ranking in past decade.

India Making impressive strides in Renewable Energy and Frontrunner

- 1) India's Renewable energy share at 43% out of 440 GW
- 2) India achieved its target of emissions intensity reduction and non-fossil fuel energy of NDC (Paris Agreement)
- 3) Behavioural change toward Solar Energy.
- 4) Remote area access through Roof top Solar Energy (to 40 GW)
- 5) promotion of offshore wind power

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

through National Green wind project

Government thrust through

↳ National Solar Mission

↳ PLI scheme for Renewable Energy

↳ Promotion of incentives

eg Green hydrogen Mission
(sight project incentive)

↳ Promotion of behavioural change through [LIFE]

Mission

International Effort

↳ ISA implementation in 3 phase

Zero import on solar products

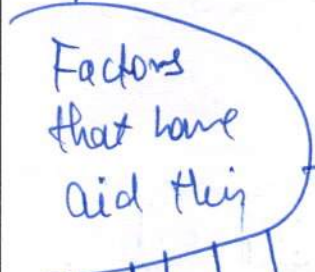
↳ Improving efficiency through Innovation eg [Perovskite cell]

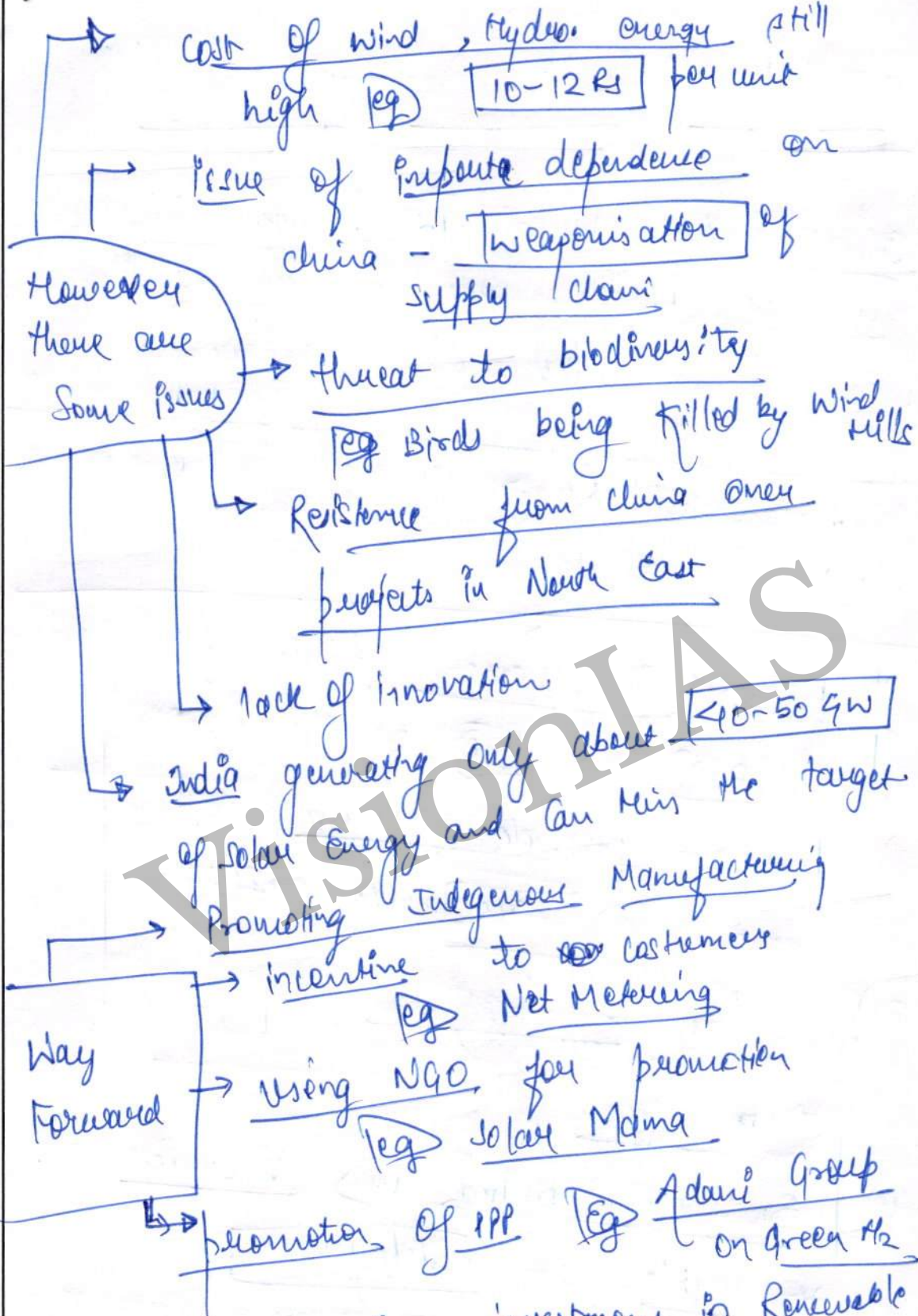
Promotion of Hydro energy

↳ Run of the River Project

Promoting Compressed Biogas

↳ SA TAT Scheme.





PM Modi Energy more investment is like a gold mine and therefore investment must be done.

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

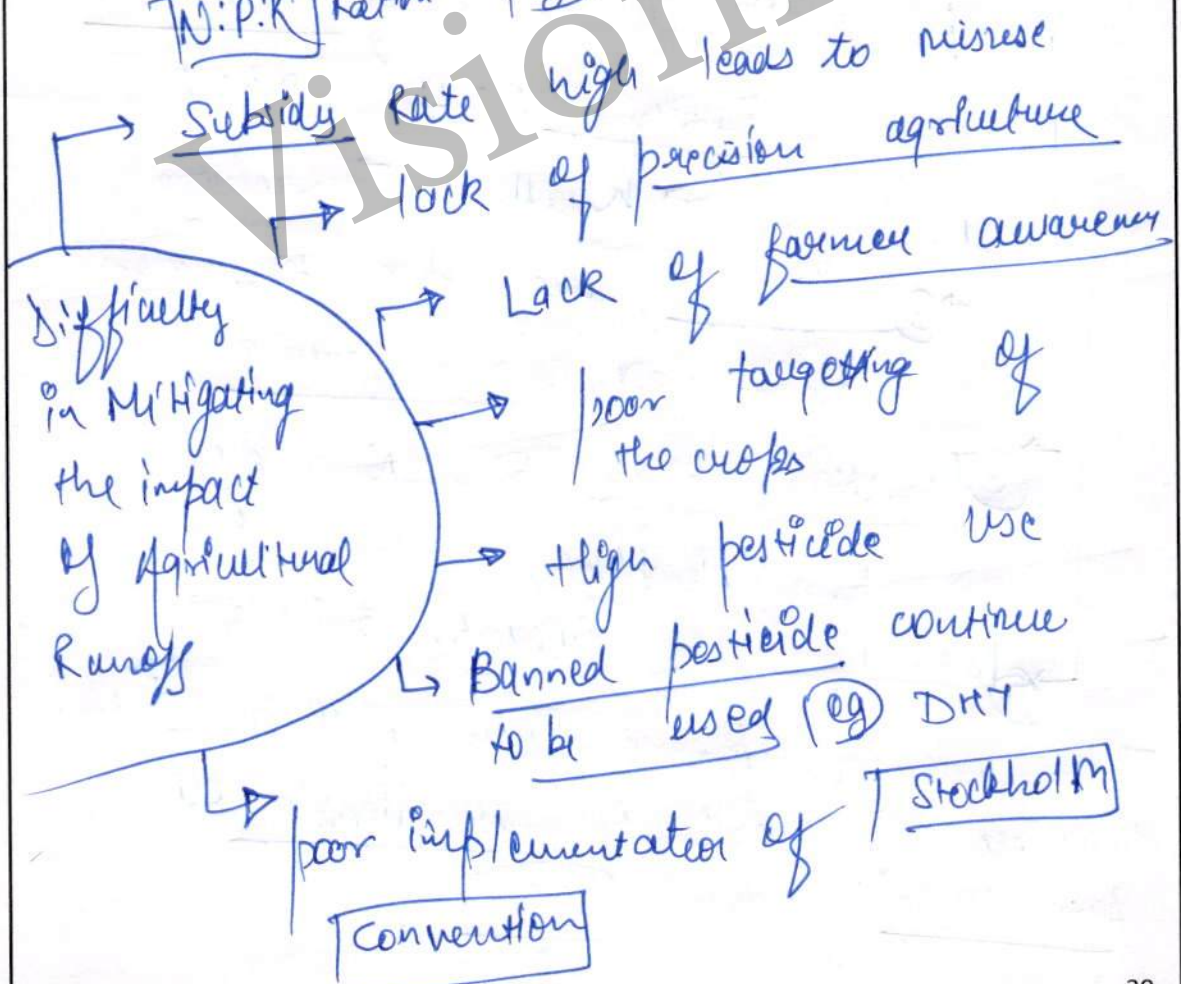
India is the world's 2nd largest Fertiliser consumer which leads to excess of its usage and polluting the environment.

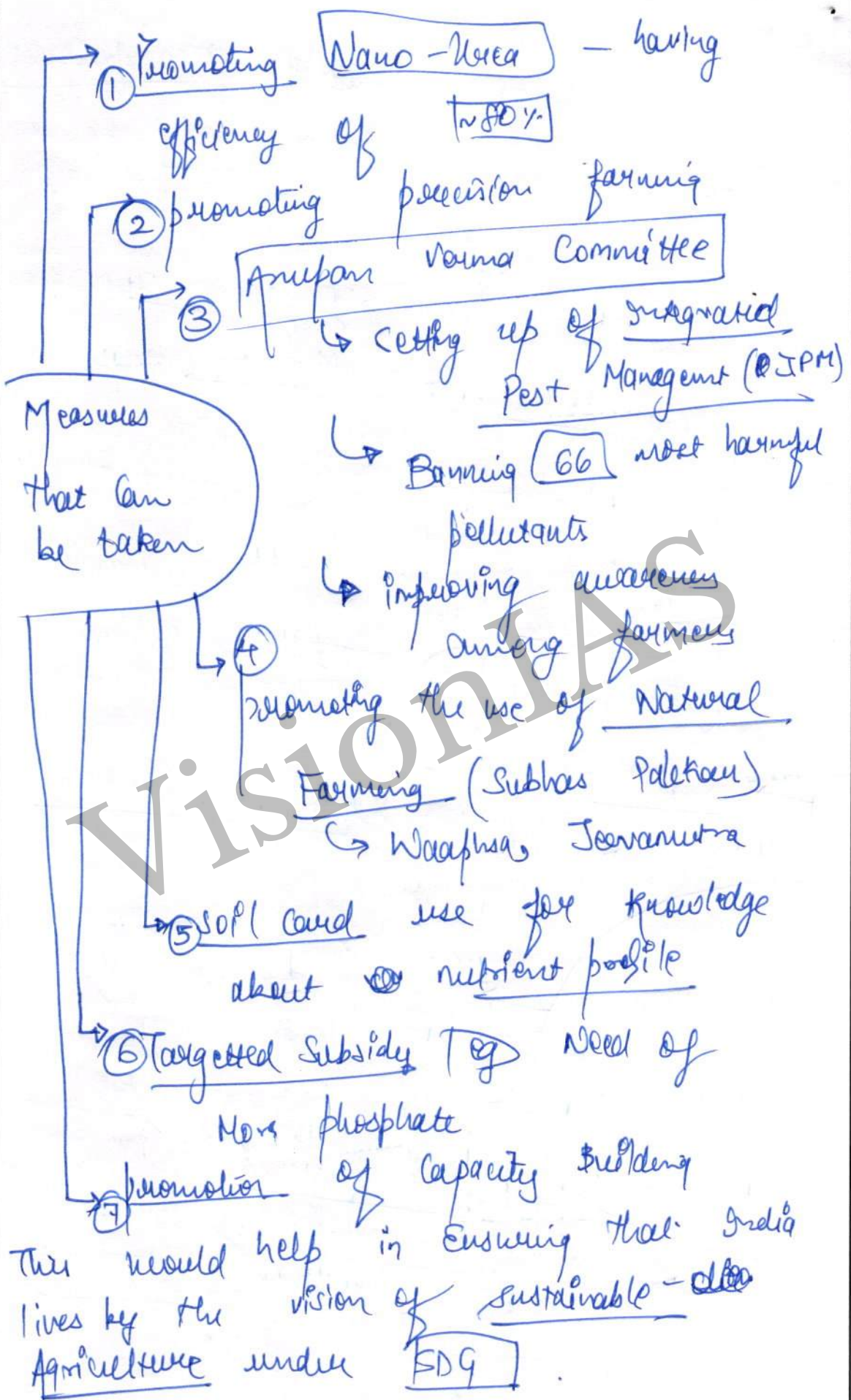
Agricultural Runoff contribute to Environment pollution

- 1.) Leads to Eutrophication which reduced the BOD and CO₂ of the ecosystem.
- 2.) Leads to pesticide poisoning causing death (eg) ~7000 death in 2022.
- 3.) Issue of Bio magnification and Bio-accumulation
- 4.) Biodiversity killing (eg) Vultures vulnerable to diclofenac
- 5.) Gives rise to weeds and invasive alien species (IAS) (eg) Lantana Quercus

- 6.) There are issues ~~are~~ of food poisoning
- 7.) Harms the restorative function of environment
- 8.) There are issues of damage to Coral Reefs and Mangroves
- 9.) Ocean acidification ← could happen due to isfiltrates
- 10.) Soil Salinity harms due to disproportionate

N:P:K Ratio (eg) 8:2:1 in Punjab.





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)

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

15

As per Ministry of Tourism, ~~there~~ about

100 mn tourist visit Himalayan states annually creating huge pressure on ecosystem.

→ Scenic Beauty of Himalaya

→ Lack of awareness about new places

→ Attitude of not visiting local places

↳ Trips packages by companies and states

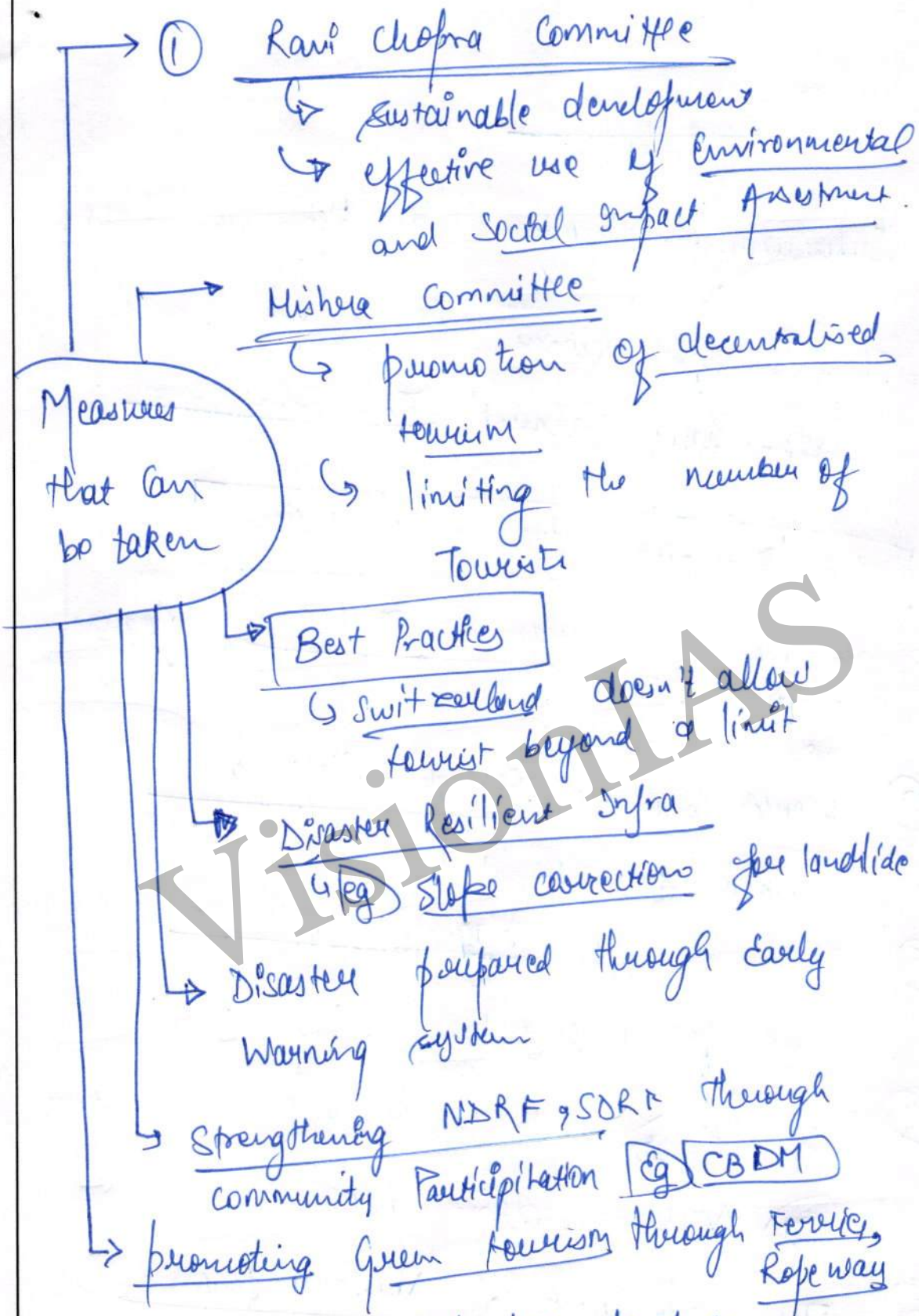
↳ Social Media influence.

This has breach ecological carrying capacity and leading to disasters.

1) Jashinath land subsidence due to

Rise in tourist from (1 lakh) (1960)
to (17 lakh) (2020)

- 2.) Leading to fast development and causing landslide (eg) Shinda landslide.
- 3.) Avalanches due to high pressure
(eg) 2012 - ~~in~~ Kashmir avalanches
- 4.) Forest fires due to abuse of ecosystem.
- 5.) Urban Heat Island effect in hilly areas causing cloud burst (eg) Chandi
- 6.) Stopping the flow of water and causing deplating (eg) Tapovan Vishnugadh Project
- 7.) GLOF (Glacial Lake outburst flood) in
Chonak lake in Sikkim.
- 8.) Has impacted the biodiversity.
(eg) Chowdhury project.
- 9.) Lead to pollution of rivers (eg) Ganga
River pollution in Brahmaputra.



India is considered to be a land of Environmental awareness and therefore, need is for balance between development and environment.

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)

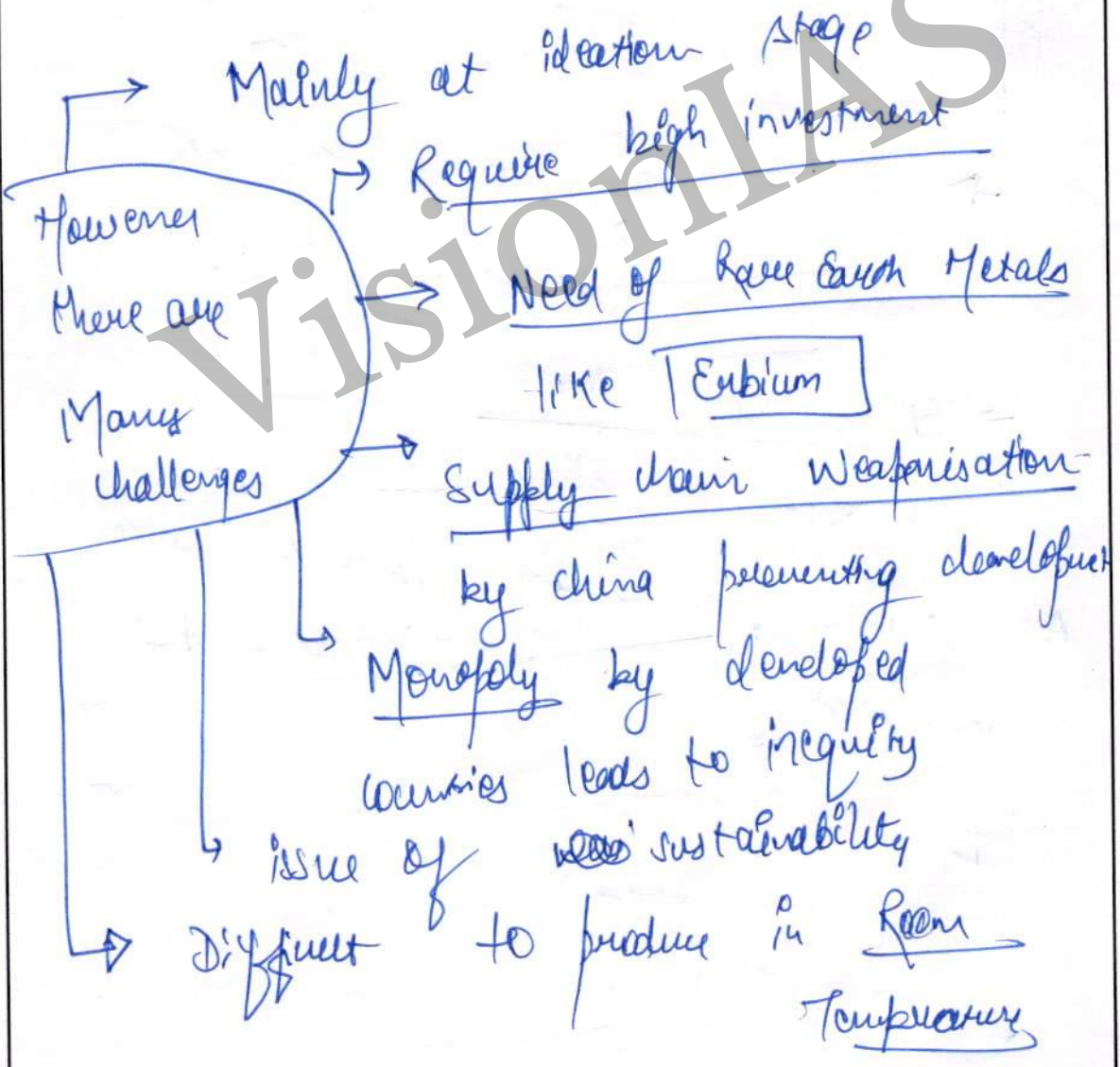
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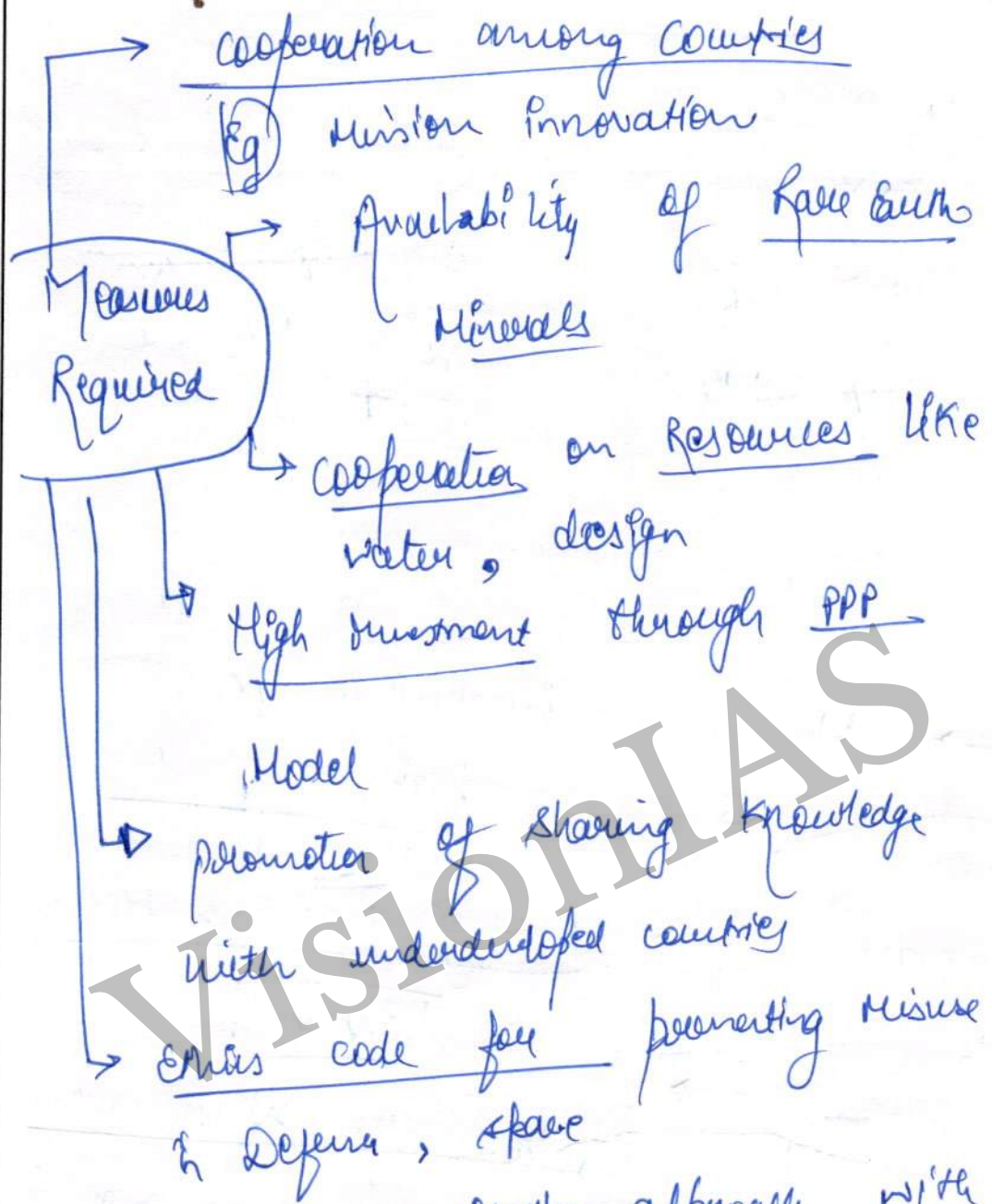
Superconductor refers to technology which conducts ~~the~~ electrons at a very high state with almost zero resistance.

Superconductors fueling innovation

- ① Useful ~~for~~ Magnetic trains (eg) Maglev trains
- ② would promote energy efficiency
since zero resistance
- ③ important ~~for~~ Magnetic Resonance
use for imaging
- ④ could be ~~for~~ used in room temperature
(eg) Nitrogen doped lithium
- ⑤ They are used in Nuclear fusion
due to high energy requirement

- ⑥ Relevance in the Semiconductor ~~and~~ industry for better efficiency.
- ⑦ Used for promotion of science experiment
- ⑧ could be used in IoT by ensuring efficiency in energy required





An ethical, equitable approach with a coordinated effort is required for super conductors.

18.

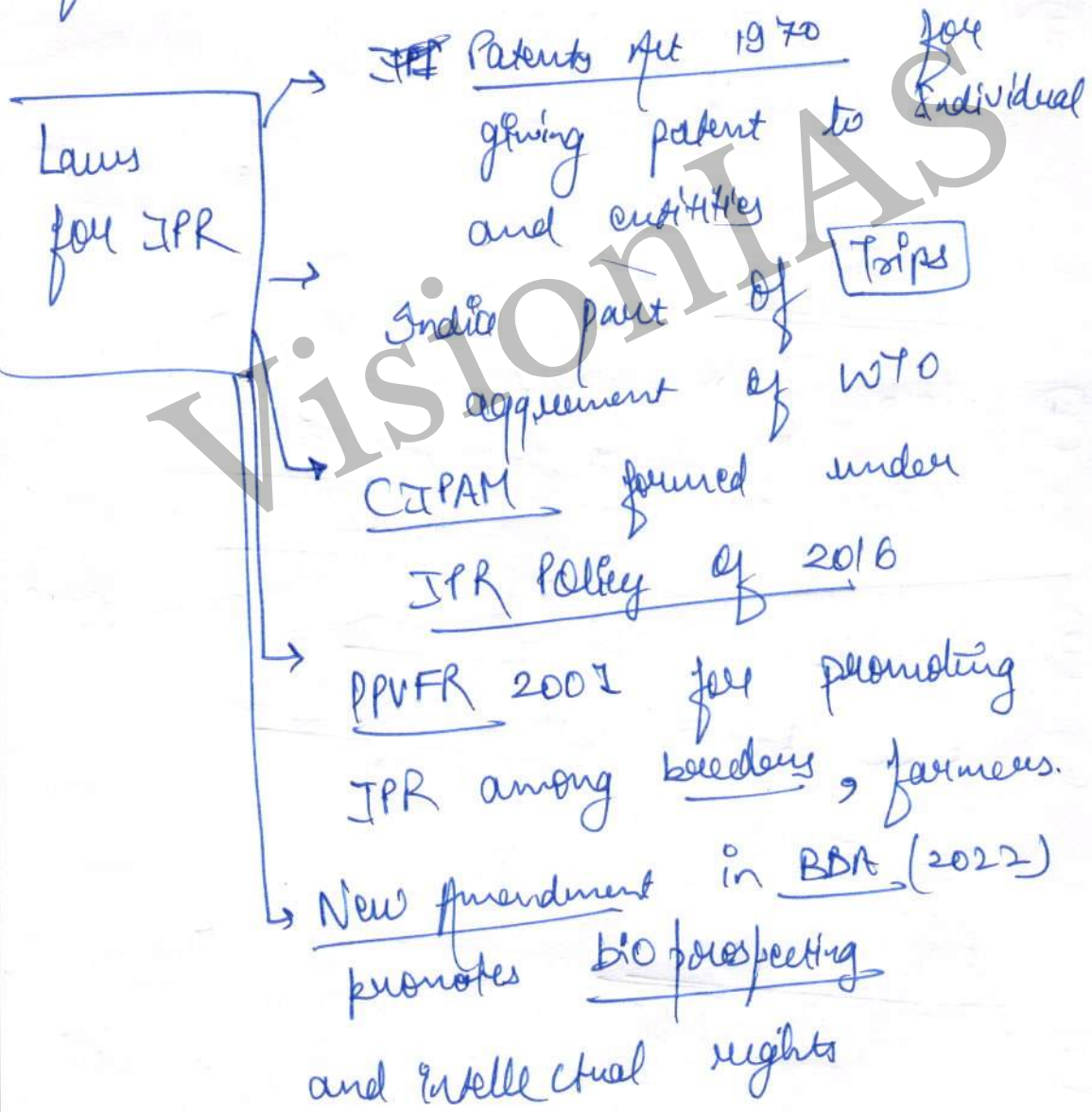
यद्यपि भारत में लगभग सभी प्रकार के बौद्धिक संपदा अधिकारों को कवर करने वाले कानून मौजूद हैं, फिर भी अनेक प्रवर्तन संबंधी, विनियामक और प्रशासनिक चुनौतियां भारत में बौद्धिक संपदा अधिकारों के व्यावसायीकरण में बाधा उत्पन्न करती हैं। सविस्तार वर्णन कीजिए। (उत्तर 250 शब्दों में दीजिए)

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

15

India ranks at 40 in Global Innovation Index of WIPO highlighting lack of focus on IPR in India.



However there are challenges

Enforcement

- ① ~~the~~ Violation of IPR through poor awareness of law - (eg) FL2027 peps?
- ② issue of product and process patent
- ③ Even enforcement agencies don't understand difference between patents

Regulatory

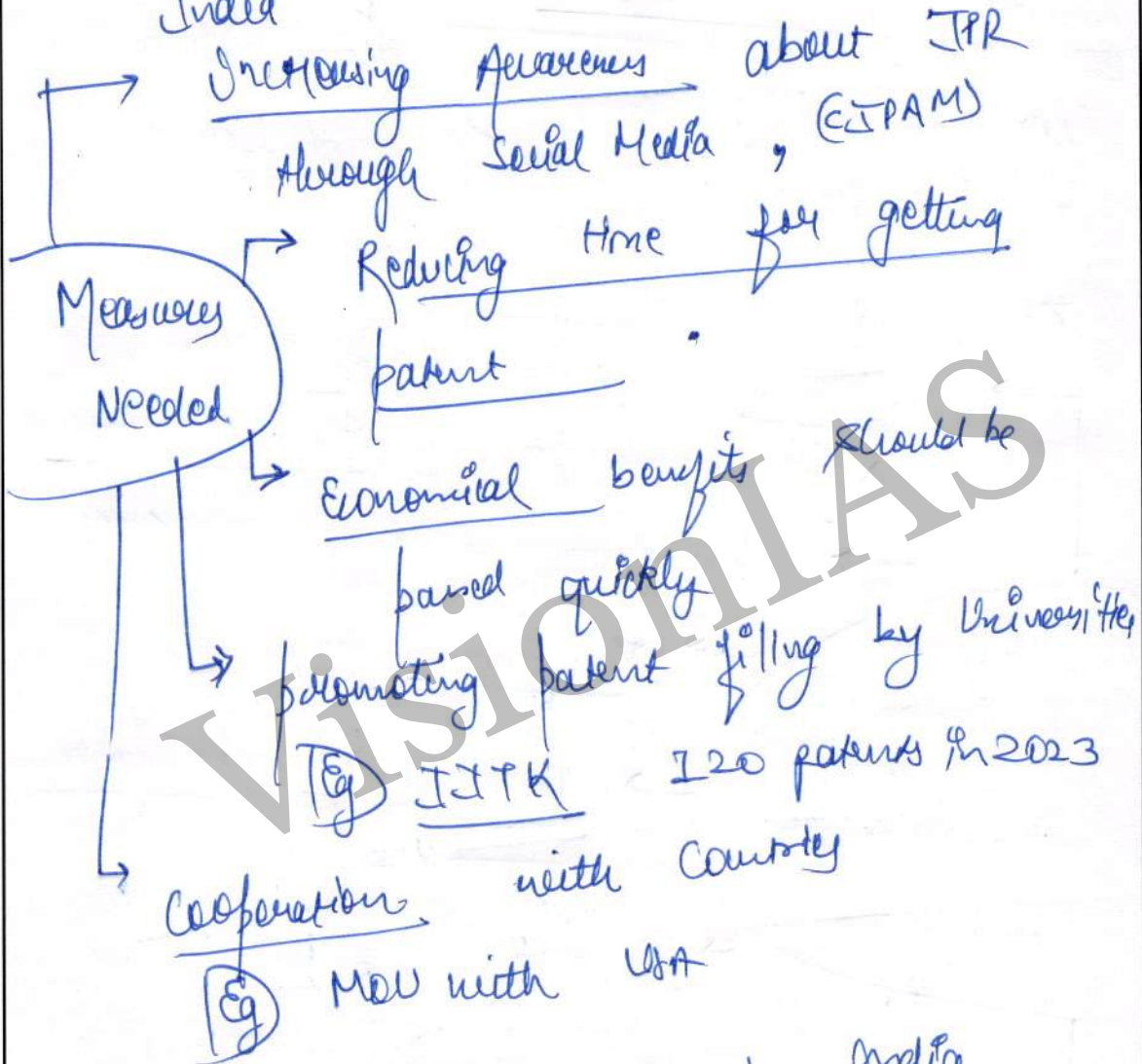
- ④ Lack of regulation hurting India's image (eg) US Trade report 201
India in watch list
- ⑤ violation through piracy (eg) cinematography
- ⑥ ~~given~~ patent enforcement done by foreign firms

Administration

- ⑦ issue of lack of capacity Building.

- ② compulsory patenting under 2005 Act hurts graduate image.
- ③ lack of zeal for patenting in

India



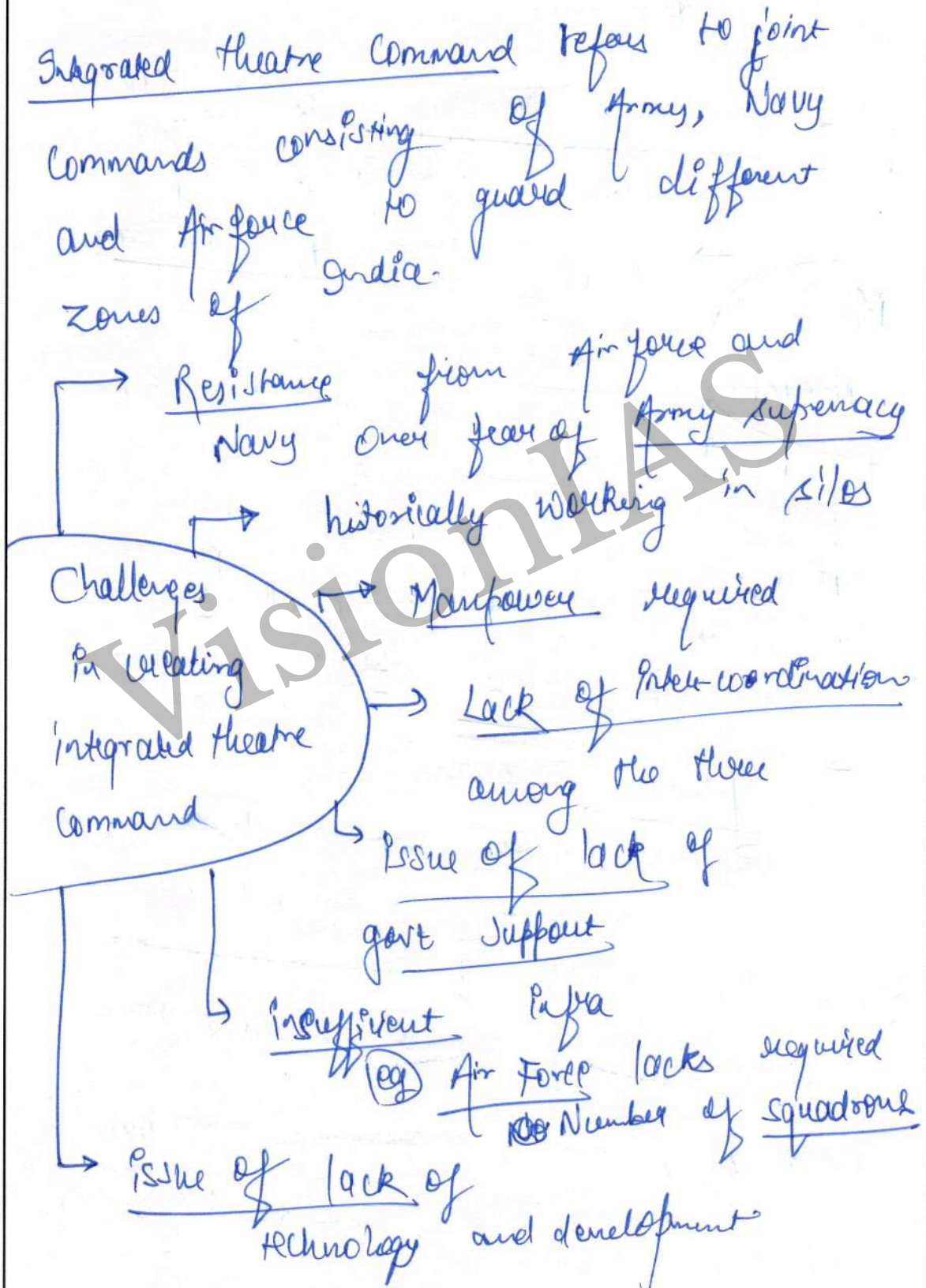
India has a tagline of Creative India, Innovative India and it should live by that spirit

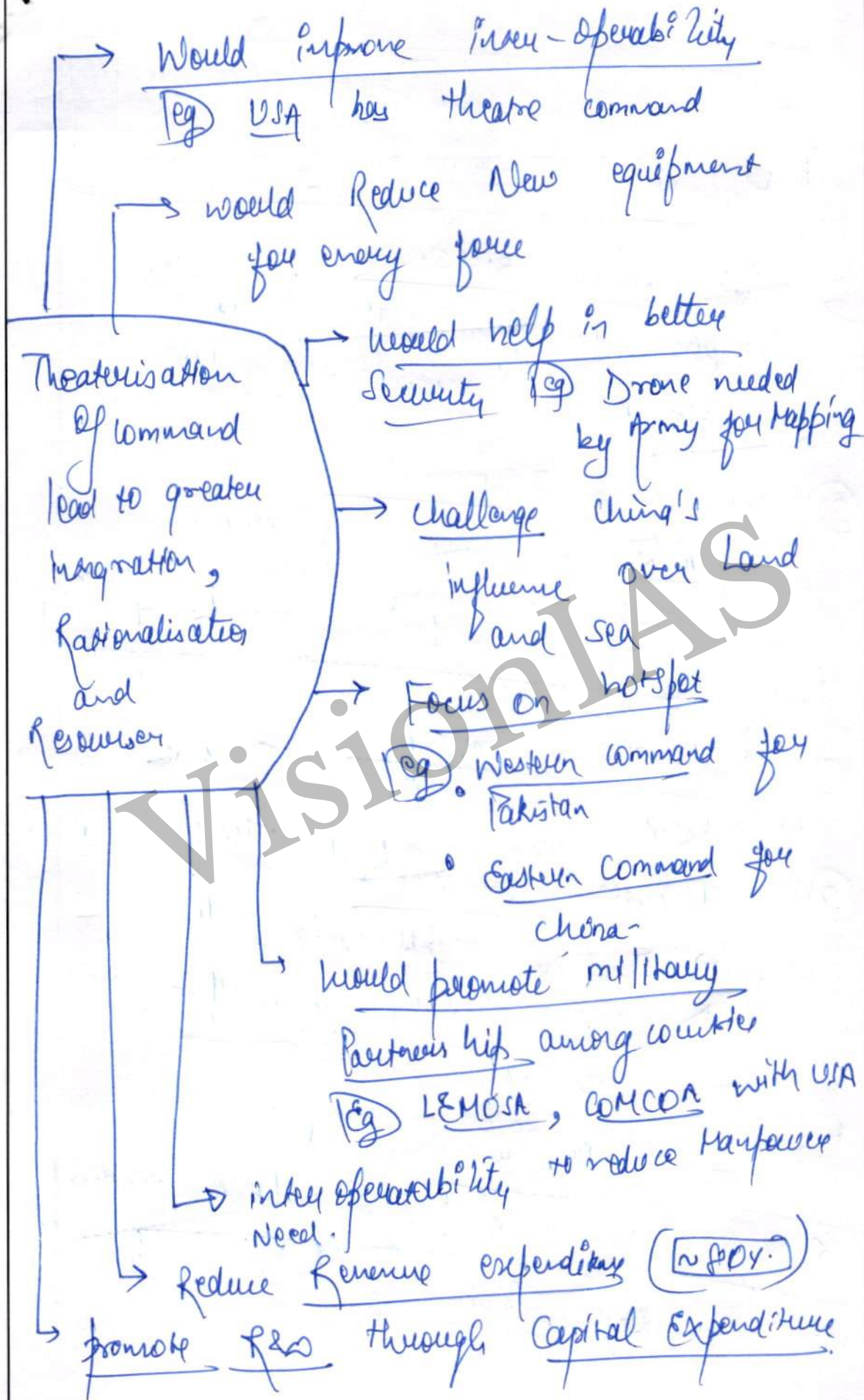
19.

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





In this Government has taken some Measures.

- ① Take- Services Bill 2023
 - ↳ for in-operation
 - ↳ for holding accountable serviceman

- ② Setting up 5 commands
 - ↳ for coastal security

However further Measures can be taken like

- ① Inspiration from China
 - ↳ has different command for all borders

- ② Shekarkar committee
 - ↳ Focus on Tech upgradation
 - ↳ officers should serve other services also

Further for defence and enhanced security,

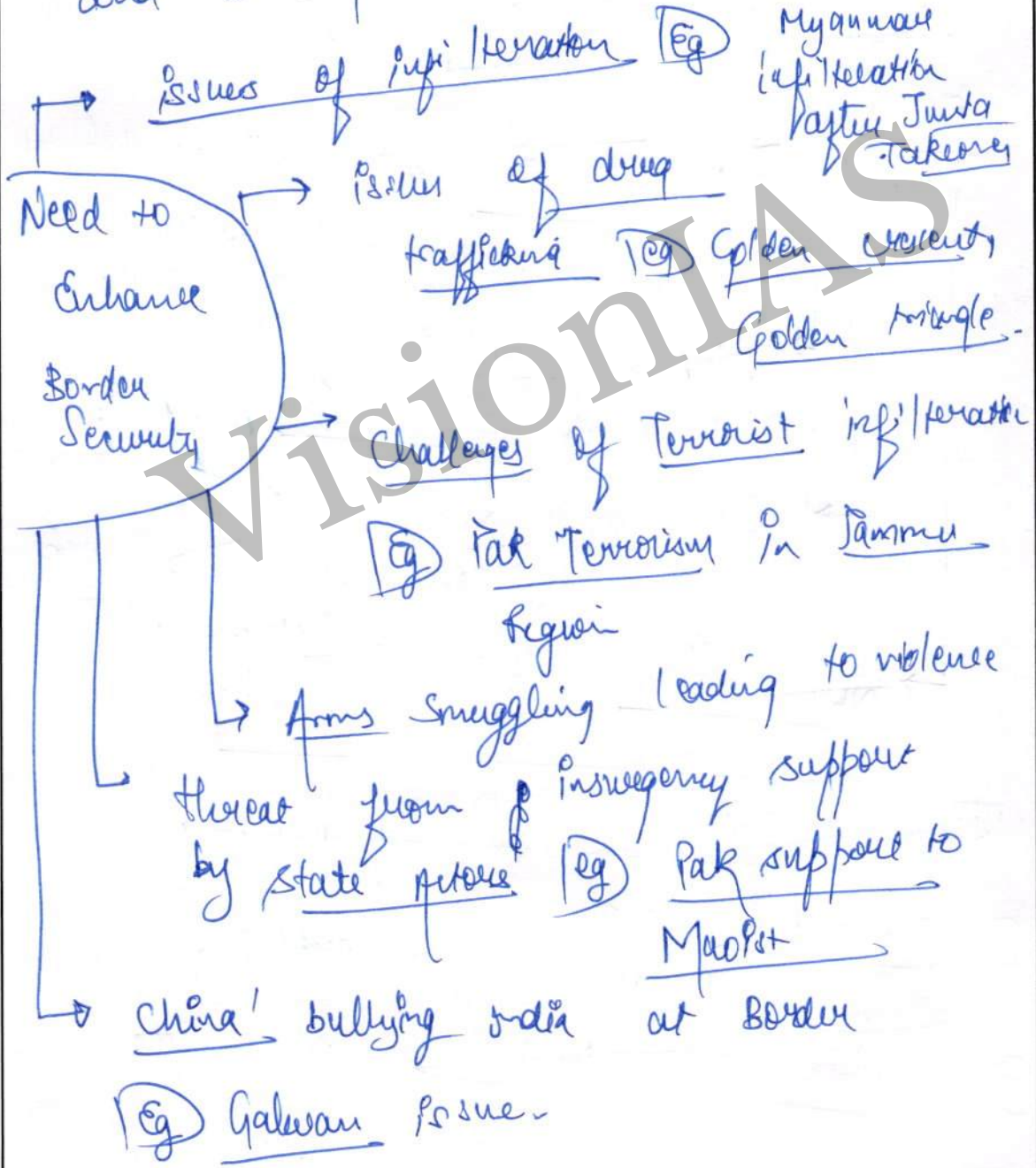
↳ Raghavan Committee recommended setting up of Defence Technology Council

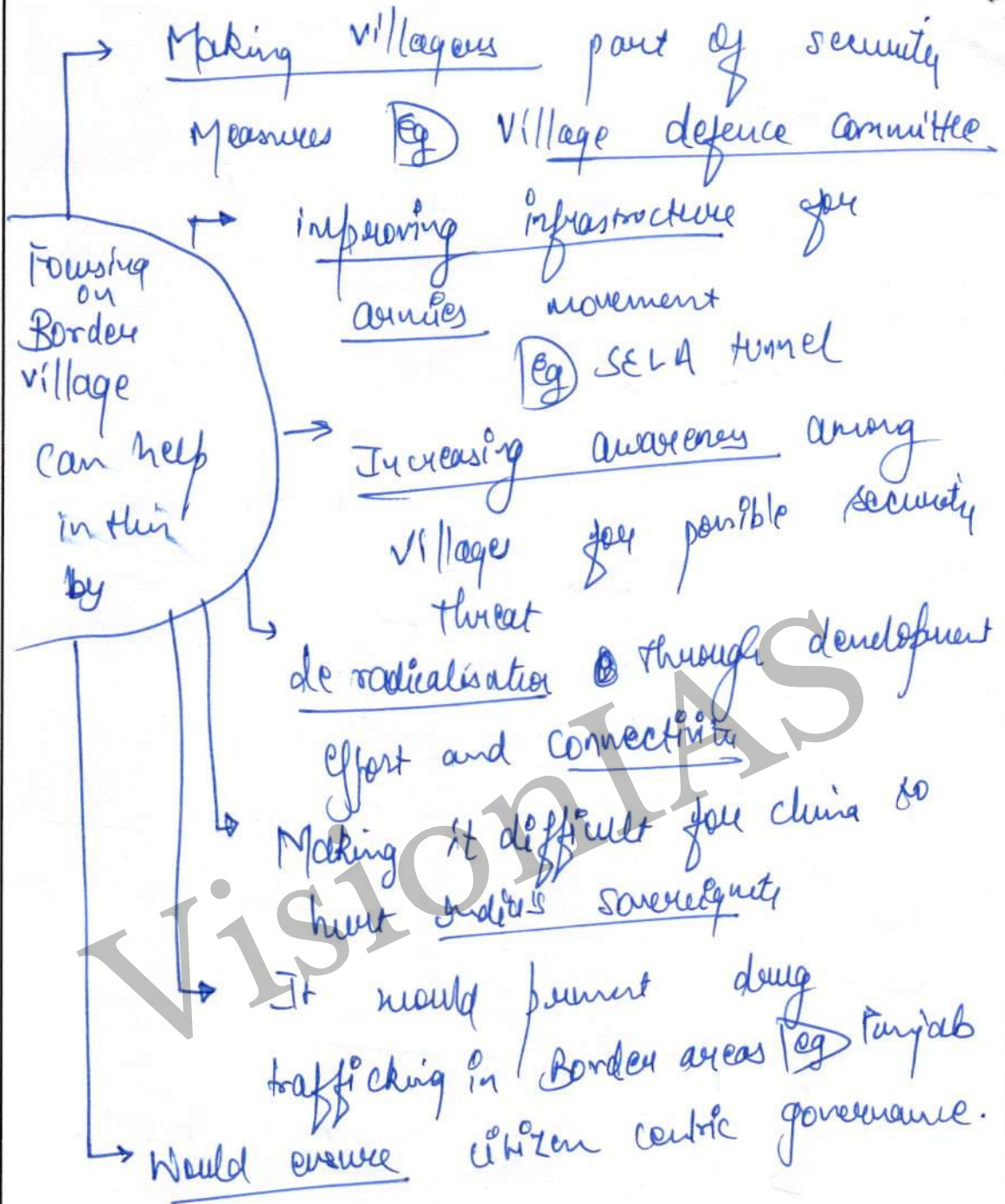
20. सीमावर्ती गांवों को न केवल भौगोलिक दृष्टि से बल्कि सुविधाओं के मामले में भी प्रथम गांव मानना, सीमा सुरक्षा बढ़ाने की एक प्रमुख रणनीति हो सकती है। विवेचना कीजिए। साथ ही, इस संबंध में सरकार द्वारा किए जा रहे उपायों पर भी प्रकाश डालिए। (उत्तर 250 शब्दों में दीजिए)

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

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

India has border of 15000 km with neighbouring countries which provides lot advantage and challenges.





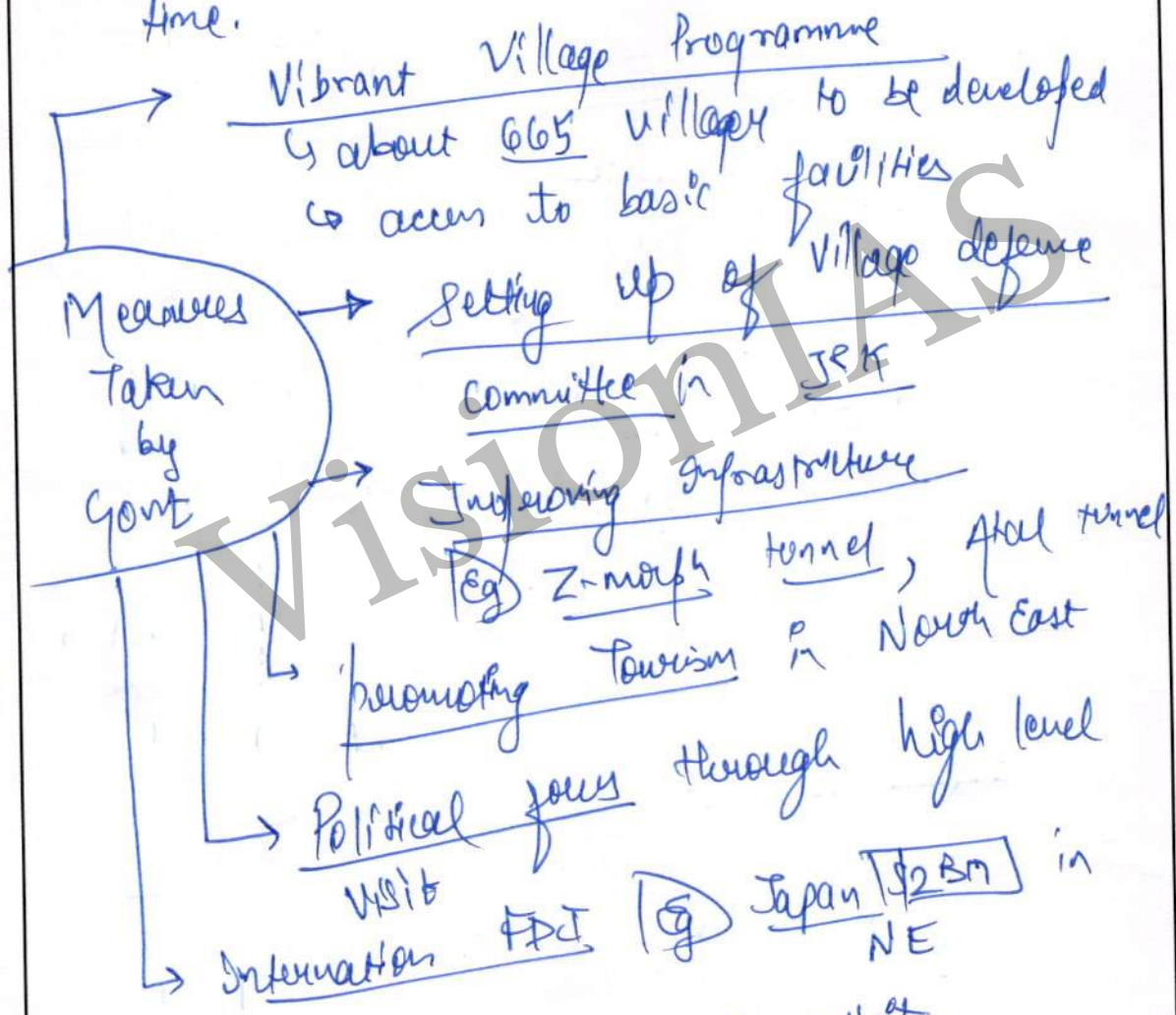
However there are some issues

- ① Topography disadvantage due to higher elevation
- ② Cross border Relation prevents effective

Security Measures (eg) Support to Myanmar immigrants in Mizoram

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

- ③ Radicalisation by Pakistan ISI
- ④ High cost of project implementation
- ⑤ Historically jostled less, so taking more time.



Thus India's approach of connectivity, communication and citizen centricity will help in tackling border challenges.

SPACE FOR ROUGH WORK

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