



VISIONIAS
INSPIRING INNOVATION
ABHYAAS MAINS

सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2424)

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. : 0468073

अभ्यर्थी का नाम/Name of Student : Aditi Upadhyay

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

English

तारीख
Date

27 Aug 2023

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

केंद्र

Centre

Bhai Joga
School
New Delhi

निरीक्षक के हस्ताक्षर
Invigilator's Signature

Ashu

	<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>

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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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.

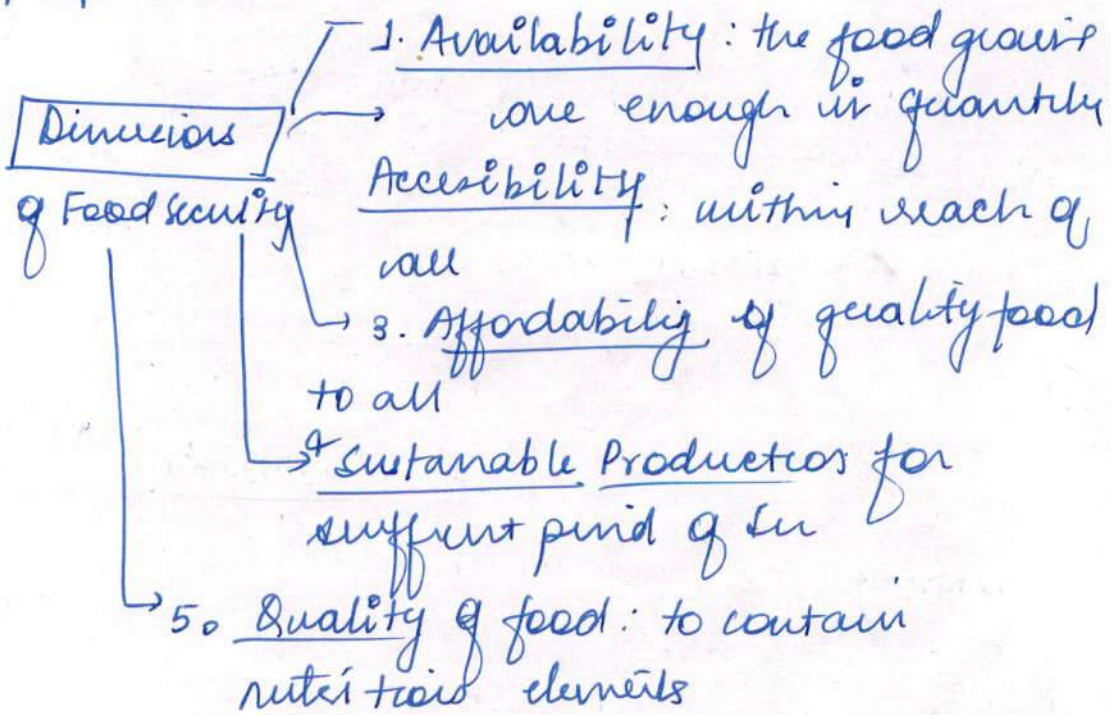
खाद्य सुरक्षा के विभिन्न आयाम क्या हैं? इन आयामों के मद्देनजर खाद्य सुरक्षा सुनिश्चित करने के संदर्भ में भारत की स्थिति का परीक्षण कीजिए। (उत्तर 150 शब्दों में दीजिए)

What are the different dimensions of food security? Examine India's status in terms of ensuring food security with regard to these dimensions. (Answer in 150 words)

10

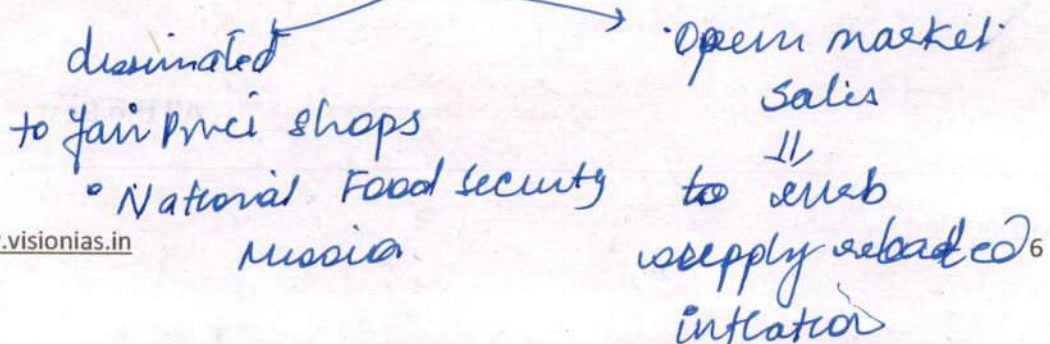
उम्मीदवारों को इस कक्ष में नहीं लिखना चाहिए
Candidates must not write on this margin

Food security refers to sufficient production, accessibility and affordability of food grains to the people.



India's status in above indicators

1. Availability: the food grains produced are stored by PDS - Buffer



2. Accessibility schemes + Affordability like

PM Karnub Kalyani
Anna Yojana
(PMGKY)
Antyodaya
Anna Yojana

Status

• Hungers prevails

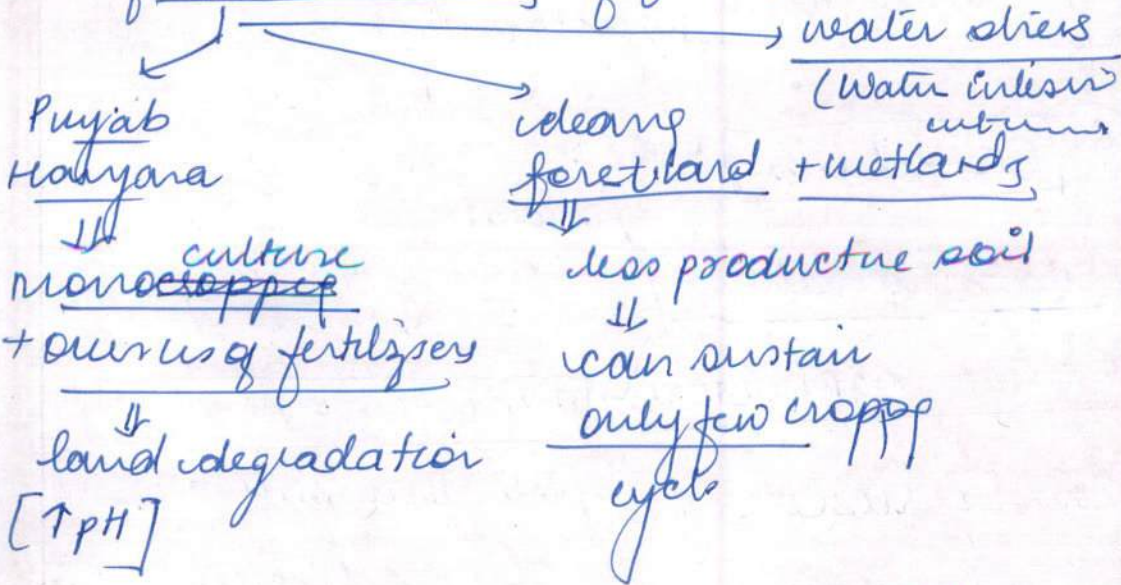
[GHI Rank 107]

as the implemtn is poor

↓
for basic food
available to all
(last mile delivery)

• Only 30% of the meat food grains under PMGKY reached Beneficiary

3. Sustainability of food production



4. Quality: Rice wheat dominated

— diversity of food basket is lacking

— PDS — First in First out model } quality of food grains impacted
Cover and Profit

Thus, food security is yet to be achieved — to reach SDG 2 aim

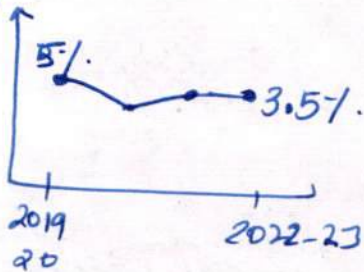
2.

ब्लॉकचेन और चैटजीपीटी जैसी आधुनिक प्रौद्योगिकियां कृषि को अधिक कुशल और संधारणीय क्षेत्र में बदलने की अपार क्षमता वाले शक्तिशाली साधन हैं। भारत के संदर्भ में चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)
 Modern technologies such as blockchain and ChatGPT are powerful tools with immense potential to transform agriculture into a more efficient and sustainable sector. Discuss in the context of India. (Answer in 150 words)

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

10

New Emerging Technologies can be disruptors in the Agriculture Industry → and can help



Agriculture Growth

tackle the non remunerative nature of Agriculture and make it sustainable

① Blockchain

1. data analysis

→ data driven policy making

PRECISION AGRICULTURE

prediction models

2. can be used in early warning system

② weather patterns, soil productivity

③ flood, cloudburst, cyclone EWS

→ alert fishermen of the area

3. decentralisation of data

⇓
 Better Agriculture enterprise service

• can be used at customs hiring centre to check availability of farm machinery

4. Database of { farmer, labourers, women labourers } beneficiary identification

5. Better service delivery

Chat GPT



targetted action in schemes like Antyodaya Anna Yojana

2. Farmers can ask any question

- PM KISAN

↓
Agriculture extension services

2. Attract youth : expose them to new innovative methods

Farmer $\xrightarrow{\text{to}}$ Agripreneurs

3. Learn about best practices, weather, soil quality, etc

Thus, the technology can positively impact Agriculture.

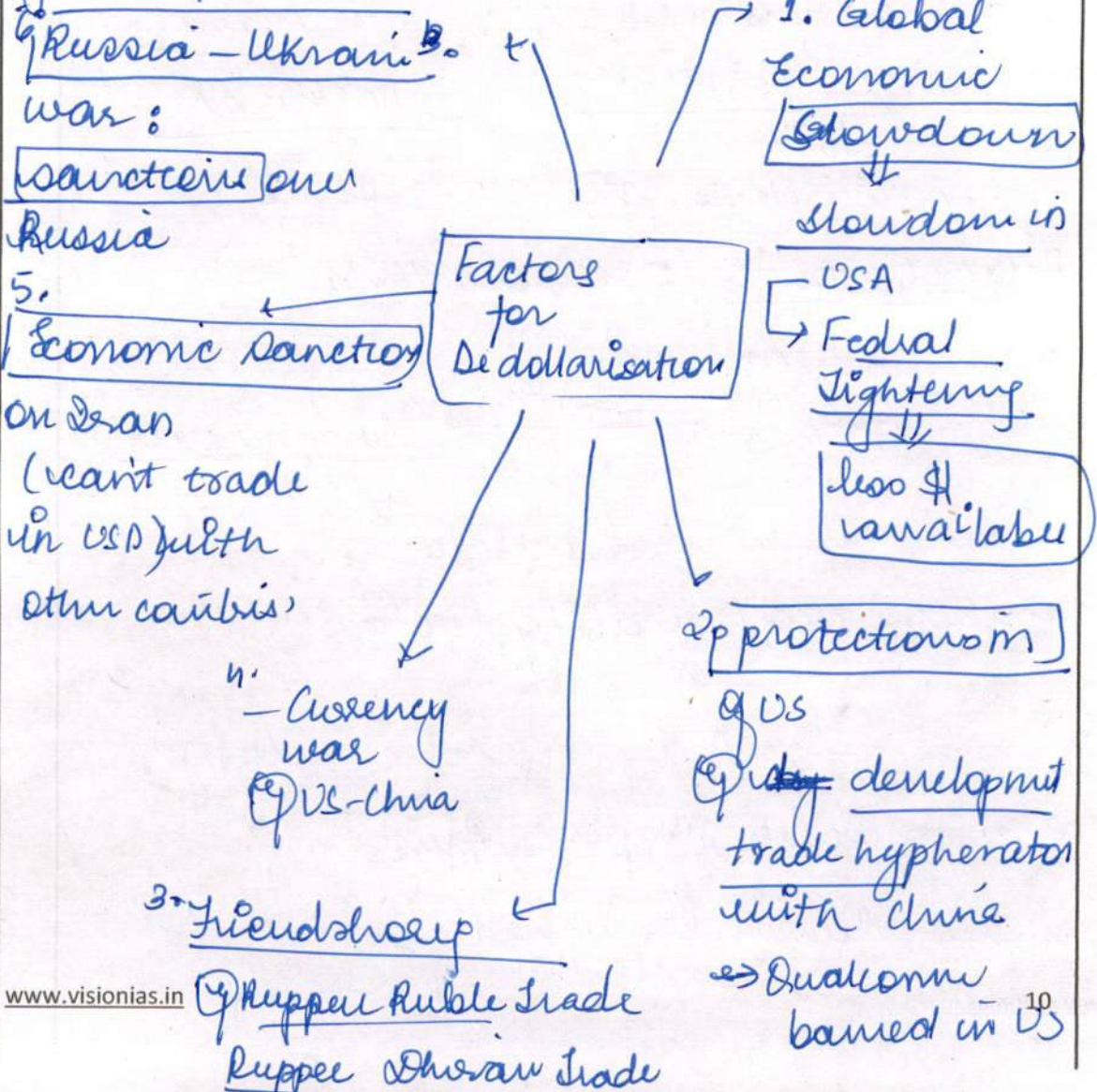
'This decade is Techade'

3.

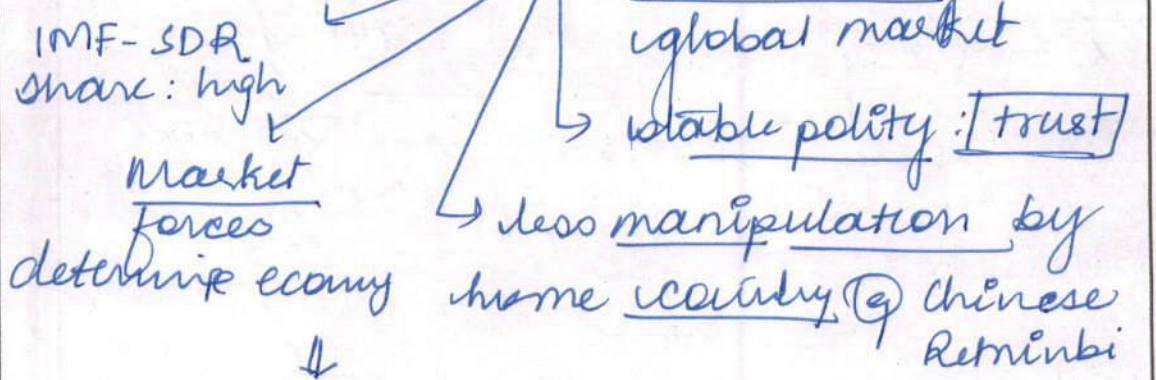
वैश्विक अर्थव्यवस्था में वि-डॉलरीकरण की प्रवृत्ति में हालिया तेजी के लिए कौन-से कारक उत्तरदायी हैं? क्या आपको लगता है कि डॉलर का प्रभुत्व जल्द ही समाप्त हो जाएगा? (उत्तर 150 शब्दों में दीजिए)
 What factors have led to the recent acceleration in the trend towards de-dollarization of the global economy? Do you think the dollar will lose its dominance anytime soon? (Answer in 150 words)

उम्मीदवारों को इस दृष्टि में नहीं लिखना चाहिए
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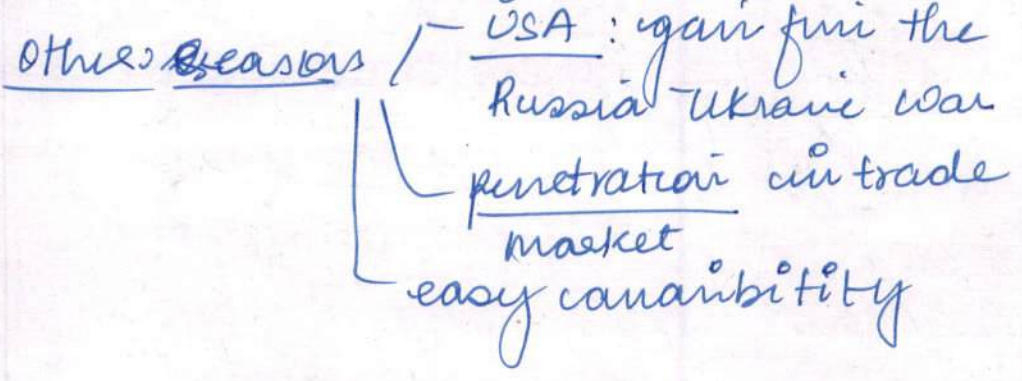
On the ruins of weaker pound sterling, ^{US} Dollar emerged as new hard currency after the world war. The recent polycrisis, the debates on de-dollarisation have gained prominence



For any currency to become a hard currency it is required to have



Since, no currency is currently in a state to have all the above qualities, it is unlikely that USD will lose dominance in near future.



However, BR1 has led to spread of Chinese Rmbinbi. — ~~but~~ i

The recent proposed BRICS currency or lines of SDR can be a possible alternation

4.

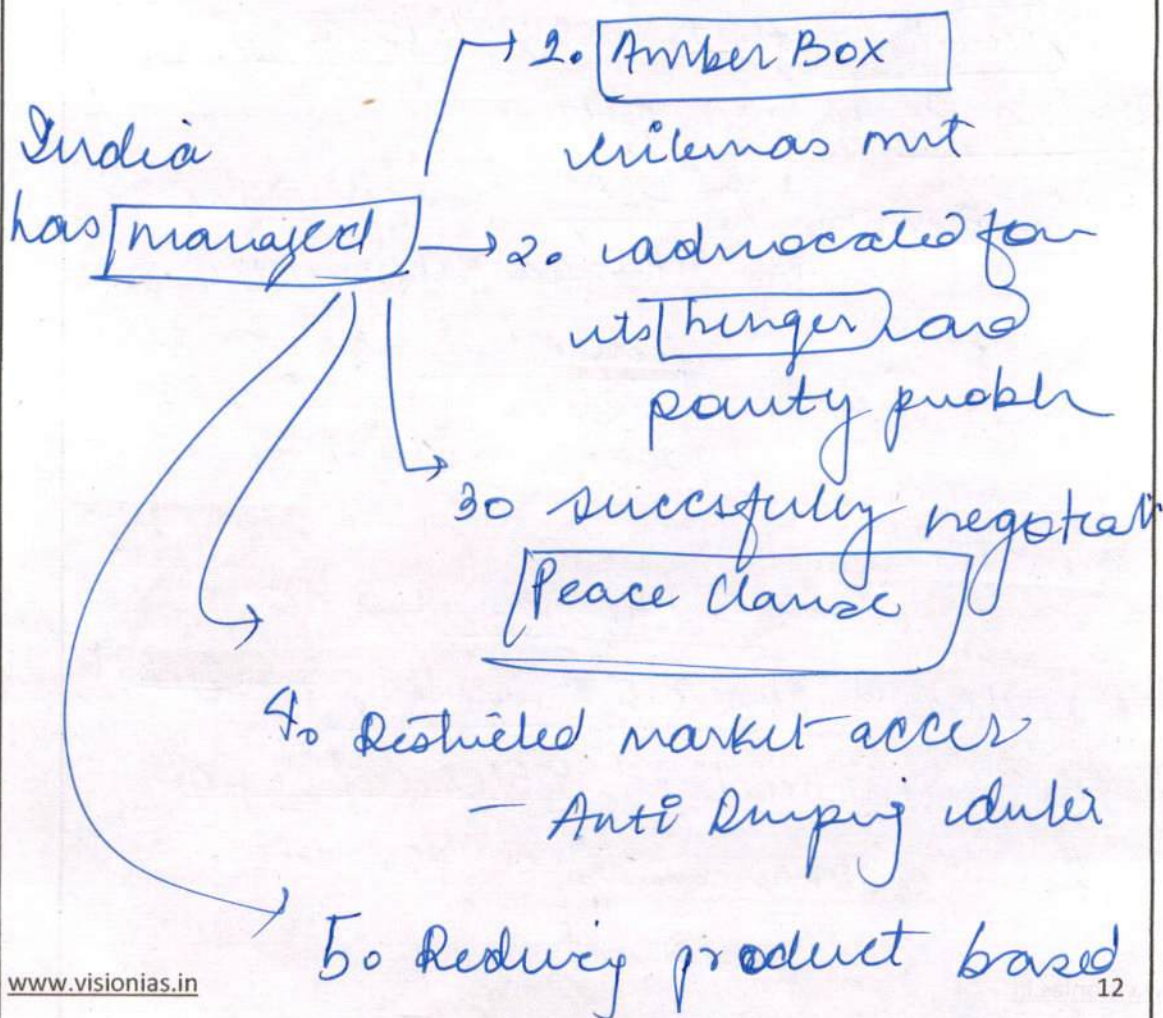
विकसित देशों द्वारा भारत पर खाद्य सस्मिडी व्यवस्था में बदलाव करने के अत्यधिक दबाव के बावजूद, भारत के लिए निर्धन व्यक्तियों हेतु अपना नीतिगत समर्थन बनाए रखना एक उचित कदम होगा। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

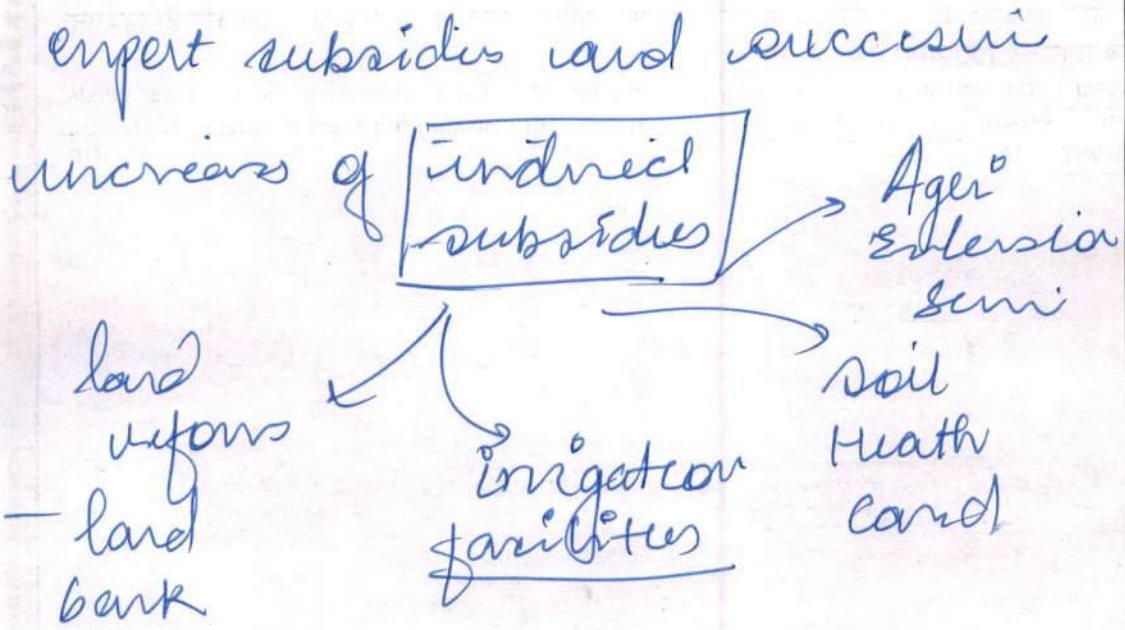
Despite significant pressure from the developed countries to alter its food subsidy regime, there is merit in India trying to retain its policy support for the poor in the country. Discuss. (Answer in 150 words)

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

10

India has faced challenges in the WTO from developing countries in effective running of its food security program (by National Food Security Act 2013)





So opted out of RCEP - protecting dairy industries



Thus, negotiation from act to trade demands reformed multilateralism and economic

5.

भारत की जल संबंधी जरूरतों को पूरा करने की दिशा में सरकार द्वारा कई पहलों की शुरुआत की गई है, परंतु जल की उपलब्धता और जल की गुणवत्ता जैसे मुद्दों पर अभी भी नीतिगत हस्तक्षेप की आवश्यकता है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

Several initiatives have been taken by the government towards addressing India's water needs, but the issues of water availability and water quality still warrant prioritised intervention. Discuss. (Answer in 150 words)

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

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Government recent creation and expansion of Jal Shakti Mantralaya shows its focus towards water management

Steps taken :

1. Surface water : Command Area Development Programs
IA Canal (Kadlagar) : DVC, Dams

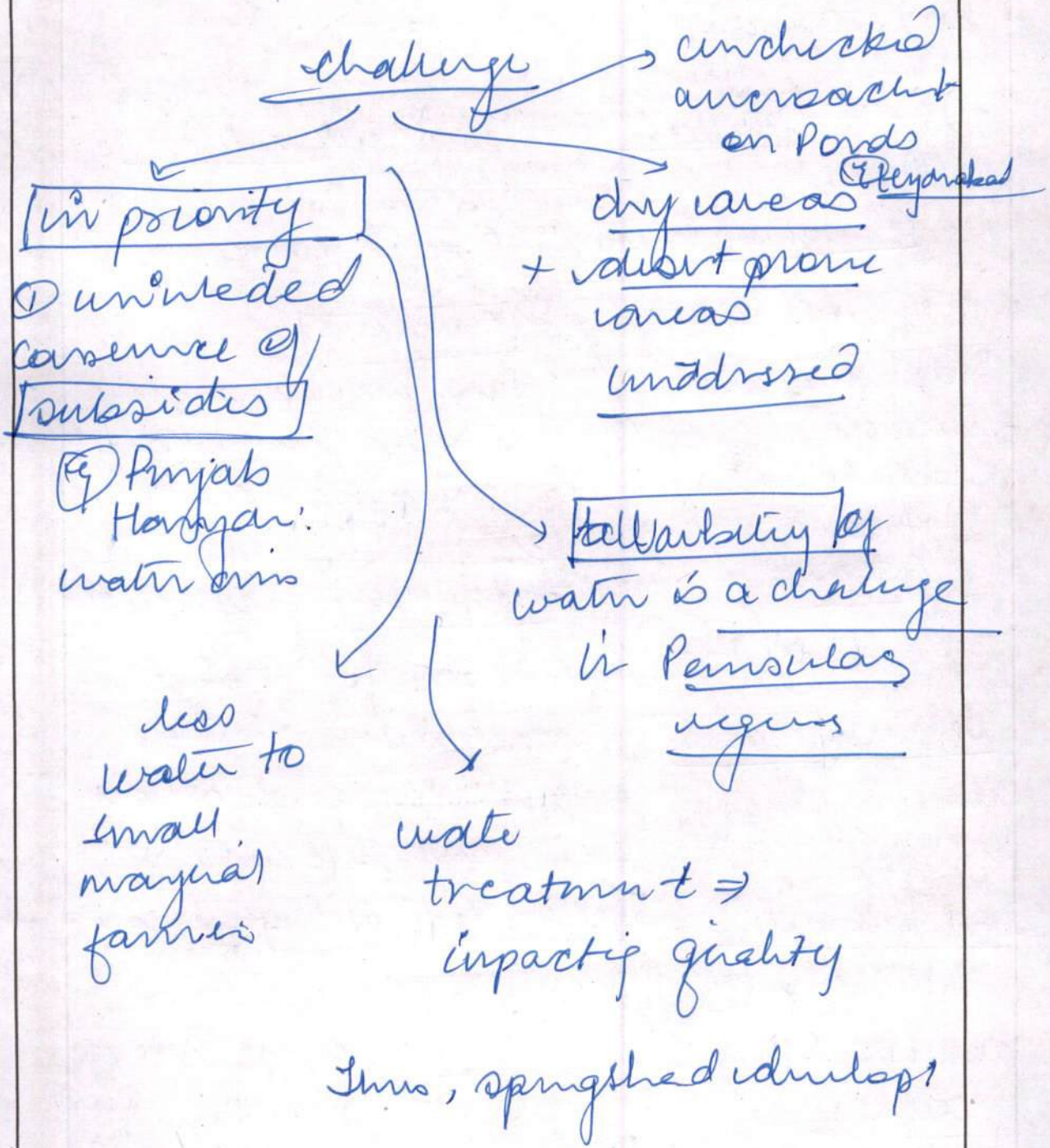
2. Subsidies → on electricity → facilities pumping

3. Har Ghar Jal → tap water connection to all rural households

4. Aquifer Management
Atal Bihari

50 Smart Cities IT to check water

62 Proposed Inter River Linking Project
(eg) Kumbhina



6.

आर्कटिक में हिमनदों के पिघल कर संकुचित होने के लिए उत्तरदायी कारक क्या हैं? पारिस्थितिकी तंत्र पर आर्कटिक हिमनदों के पिघलने के संभावित प्रभाव का वर्णन कीजिए। (उत्तर 150 शब्दों में दीजिए)

What are the major drivers of glacial retreat in the Arctic? Describe the potential impact of the retreat of Arctic glaciers on the ecosystem. (Answer in 150 words)

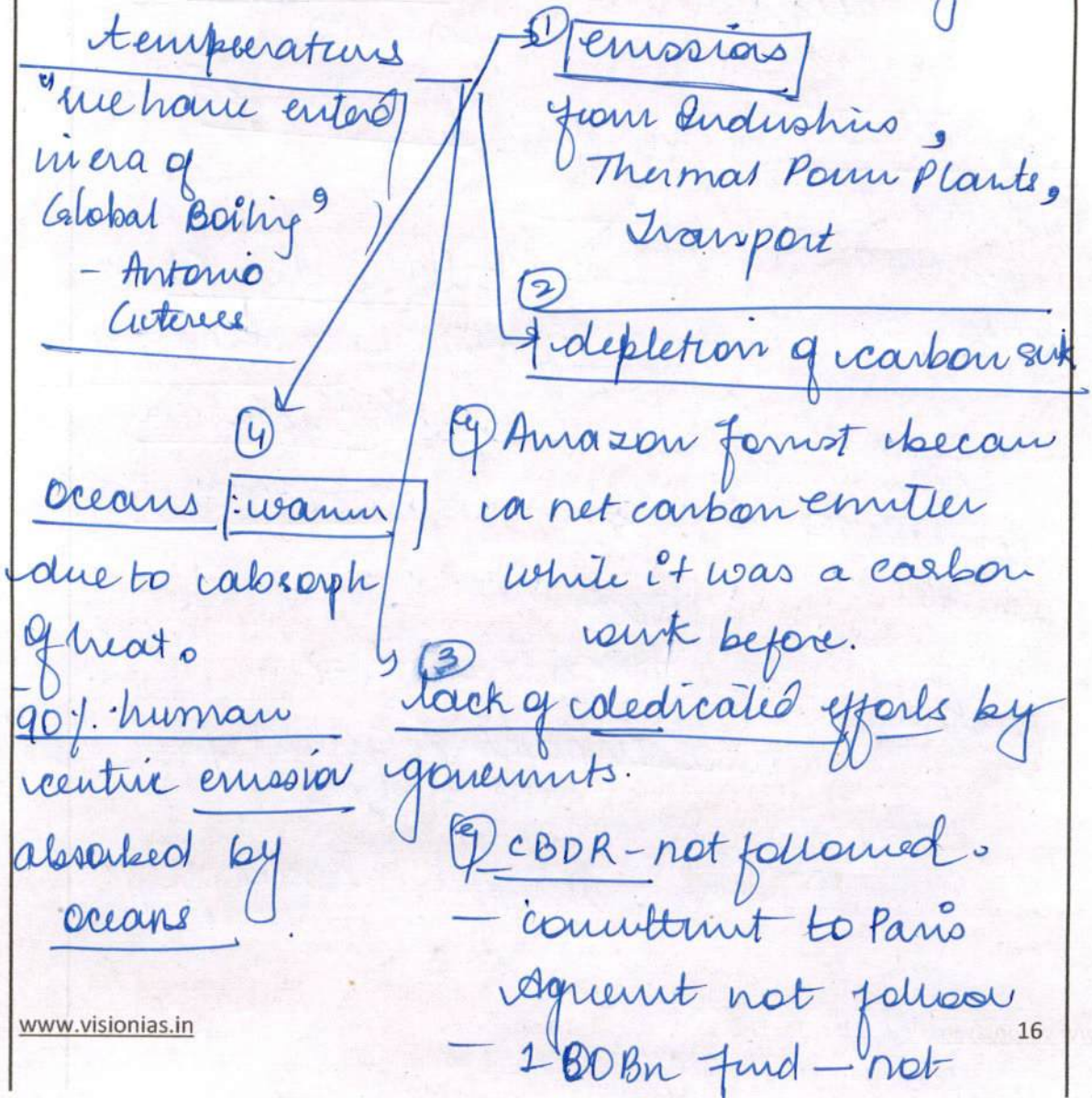
10

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

Arctic Region is predicted to have 'Ice free summers' by 2050.

Major drivers of this glacial retreat:

1. Global warming : Rise in average



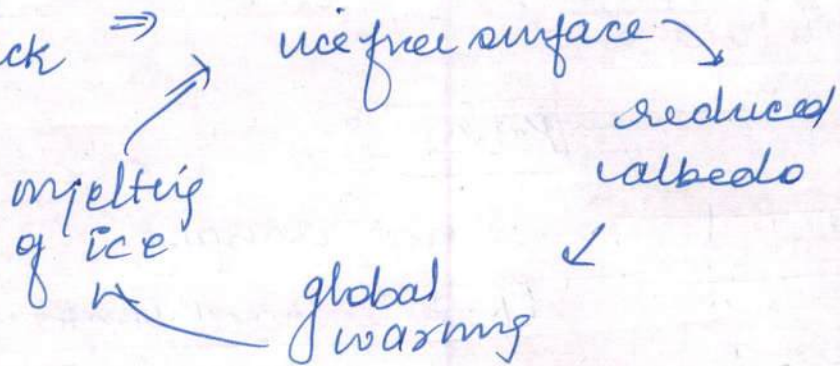
The impact on ecology

1. shifting of tue line - northwards

the species of polar habitat pushed polewards (e.g. Polar Bear)

remains } ⇒ threat is arising

2. positive feedback



This will ensure - Tipping Point is crossed: irreversible

damage to biodiversity and ecology

3. Ecological balance → disturbed due to increased anthropogenic activities - shipping lane, gas extraction, etc

4. Release of dormant ~~the~~ bacteria / viruses ⇒ disease
methane hydrates
 ↓
 net carbon emission.

7.

अंतरिक्ष पर्यटन, जिसे सीधे तौर पर एक साइंस फिक्शन फिल्म के रूप में देखा जाता था, अब बिना किसी बाधा के वास्तविकता बन रहा है। अंतरिक्ष पर्यटन से संबंधित चुनौतियां क्या हैं? इन चुनौतियों से निपटने के लिए क्या उपाय किए जा सकते हैं? (उत्तर 150 शब्दों में दीजिए)

Space tourism, which was viewed as something straight out of a science fiction movie, is now becoming a reality albeit not without hindrances. What are the challenges associated with space tourism? What measures can be taken to address these challenges? (Answer in 150 words) 10

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

with Low Earth Orbit

mission of private players - space tourism is becoming a possibility in near future.

Challenges → Policy on use of outer space is not robust

① Outer Space Treaty 1967

b. No rules on space colonisation

↳ developed countries may exploit

↳ lack of regulatory mechanism as most private players miss

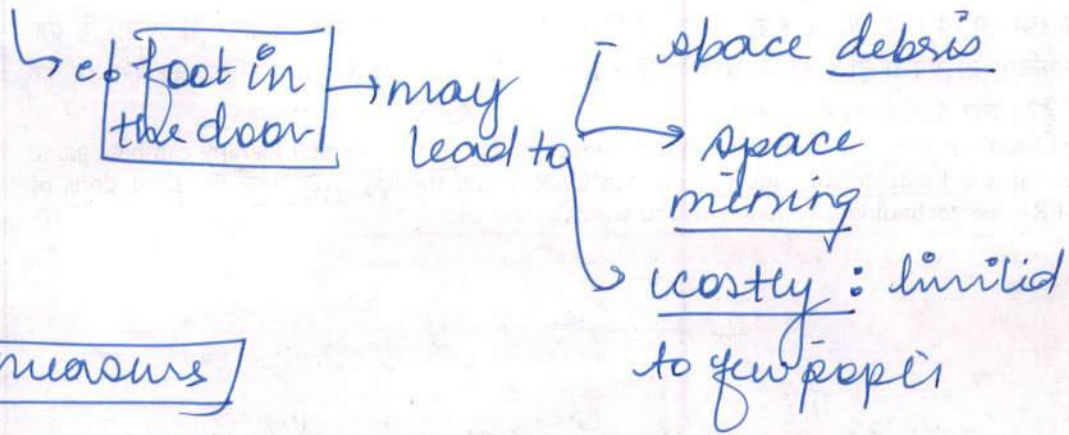
① Sinking of submarine recently

do Health → effect of micro gravity

- bones
- hand eye coordi

Radiation Exposure

① 300 times more than on Earth



measures

1. coming up with robust policy
 - consensus approach
 - ↳ private players
 - ↳ governments
 - ↳ civil society
2. Boosting private sector capabilities to tackle challenges
 - ↳ fund
 - ↳ training
 - ↳ collaboration with ~~state~~ govt space agencies
3. Peaceful use of resources
4. clear cut stance on colonisation, mining etc

Thus space tourism has potential for revenue generation however, its impact on humankind earth and beyond makes it necessary for countries to endorse a consensus on policy

8.

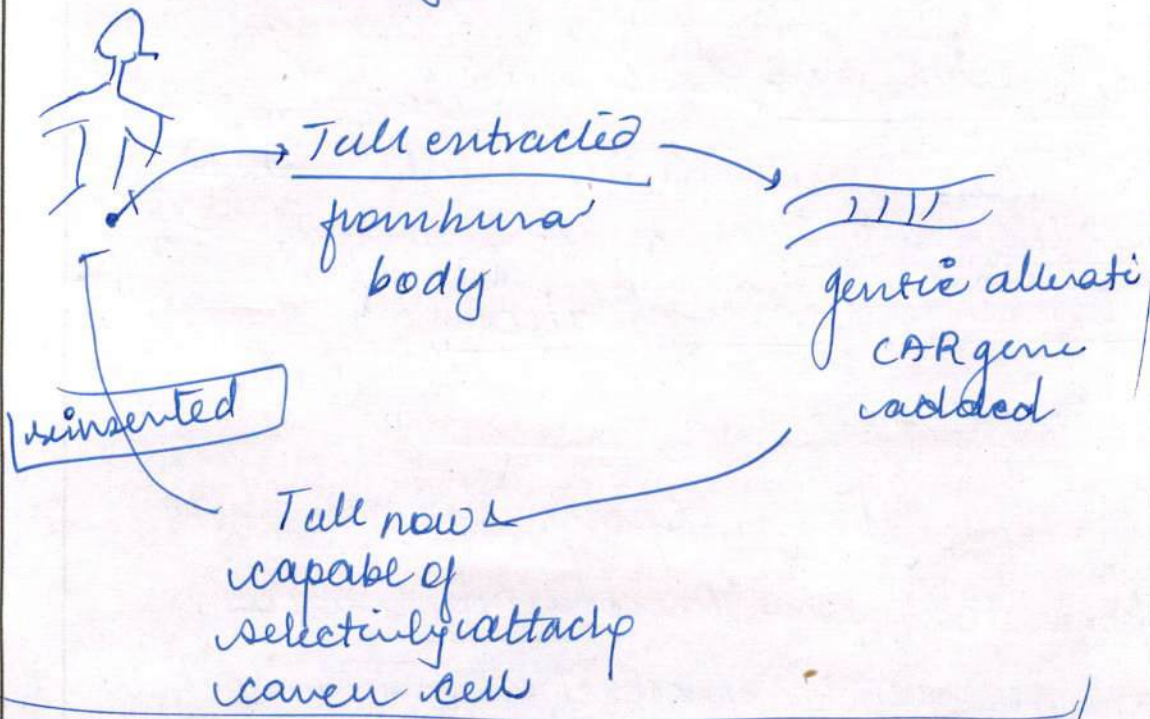
वैश्विक स्वास्थ्य विशेषज्ञ व्यापक रूप से मानते हैं कि CAR-T सेल थेरेपी का विकास कैंसर के उपचार में एक बड़ी सफलता हो सकता है। CAR-T सेल थेरेपी, CRISPR-Cas9 तकनीक में व्याप्त कमियों को कैसे दूर कर सकती है? (उत्तर 150 शब्दों में दीजिए)

Global health experts widely believe that the development of CAR-T cell therapy can be a game changer in the treatment of cancer. How can CAR-T cell therapy overcome the limitations of CRISPR-Cas9 technology? (Answer in 150 words) 10

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

CAR-T cell therapy is a bioengineering method of treating the T cell of an individual and modifying it to selectively target cancerous cells - leaving behind healthy cells

CAR-T therapy



This has overcome limitation of ~~Cancer~~
CRISPR - Cas9

1. the specificity improvement :

(a) T cells are that of own body → less
Immune
response

(b) CAR gene helps better
targeting
↓
leave behind healthy cells

2. T cells property in immune system
is used.

→ self replication ⇒ improve the
outcome

(c) Reduce morbidity
due to killing of healthy cells.

(d) Cell mediated immunity of an organism
has long lasting effects

(e) T cells
↓
Memory

↓
Better attack
capacity in future

CAR-T therapy is
becoming a boon
for cancer treatment

while reducing discomfort to the patient
and improving longevity.

9.

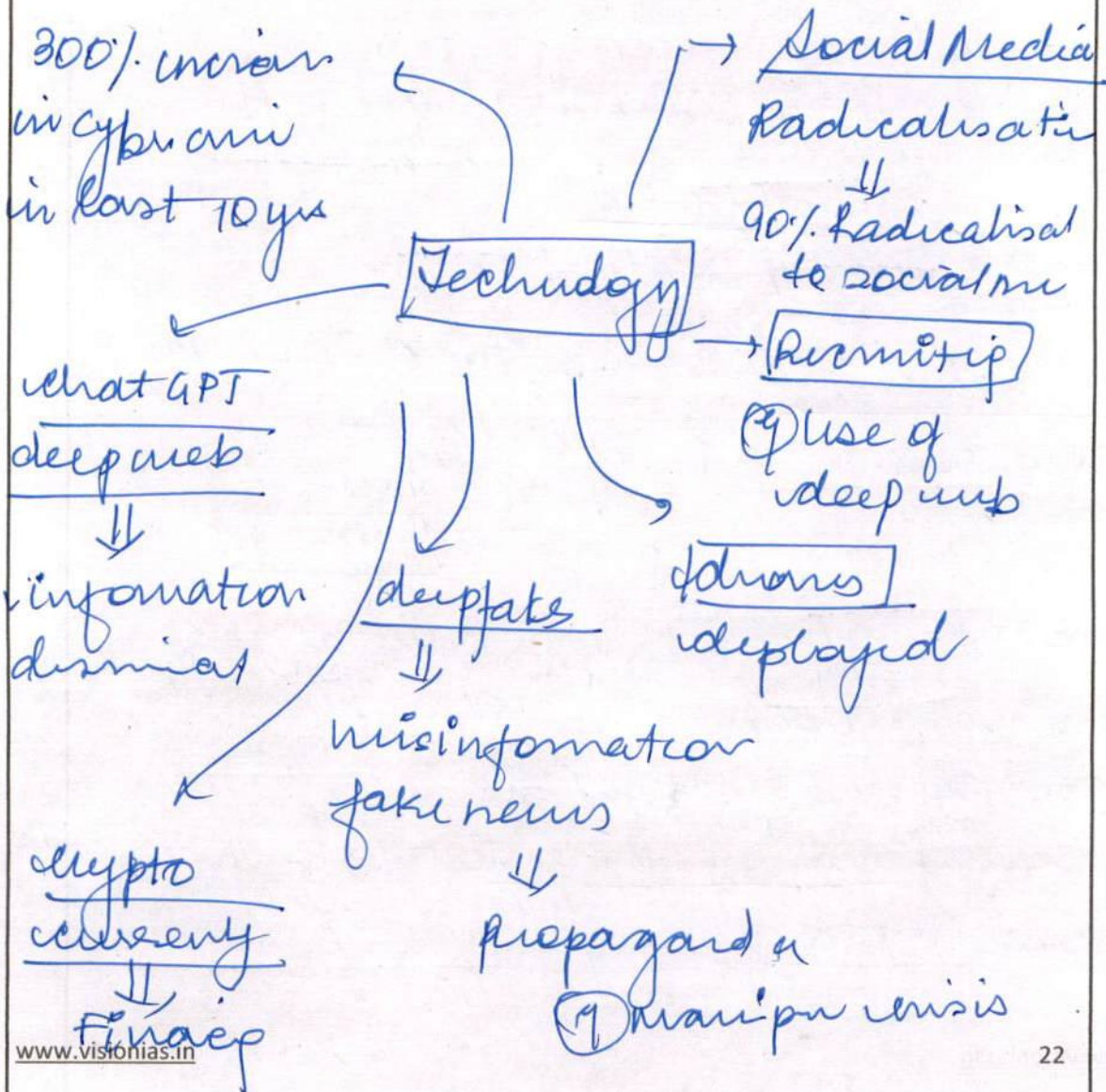
चर्चा कीजिए कि प्रमुख हिंसक चरमपंथी संगठनों द्वारा नई और उभरती प्रौद्योगिकियों के बढ़ते इस्तेमाल के विरुद्ध संगठित एवं ठोस वैश्विक प्रयासों की आवश्यकता क्यों है। (उत्तर 150 शब्दों में दीजिए)

Discuss why the rising deployment of new and emerging technologies by prominent violent extremist organizations demand concerted global efforts. (Answer in 150 words)

10

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

Technology has made actions against extremist organisation difficult in the era where India has to deal with 2.05 Front war



Demand global efforts as

- ① Internet - has no borders
 - ① Thalotian protest in Canada
affecting youth in Punjab
- ② Social media Intermediary - to be
made responsible → for misinformative
radicalised content
↓
biggie and ~~controversial~~ more powerful
than most countries
- ③ Technological → surveillance
admirable
- ④ Entsdition initiatives to be
streamlined
- ⑤ Information sharing updates
collecting action
of hurry by Myanmar

Cyber warriors has

increased radicalisation 23

10.

गलवान और यांगस्ते की घटनाओं के बाद वास्तविक नियंत्रण रेखा (LAC) पर तनाव बना हुआ है तथा भारत एवं चीन दोनों सीमावर्ती क्षेत्रों में अपने बुनियादी ढांचों को सुदृढ़ कर रहे हैं। इस क्षेत्र में ITBP द्वारा निभाई जाने वाली भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

With the Line of Actual Control (LAC) remaining tense after the Galwan and Yangste incidents and both India and China ramping up infrastructure in the border areas, discuss the role that ITBP plays in the region. (Answer in 150 words)

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

10



Recent LAC standoff between India and China and resultant change of status quo
↓
can be seen as

India

- Vibrant Villages
Scheme
- Def Min 6 people of villages - strategic resources
- Infrastructure:
BRD - roads, bridges
- Deployment of Border Area
forces

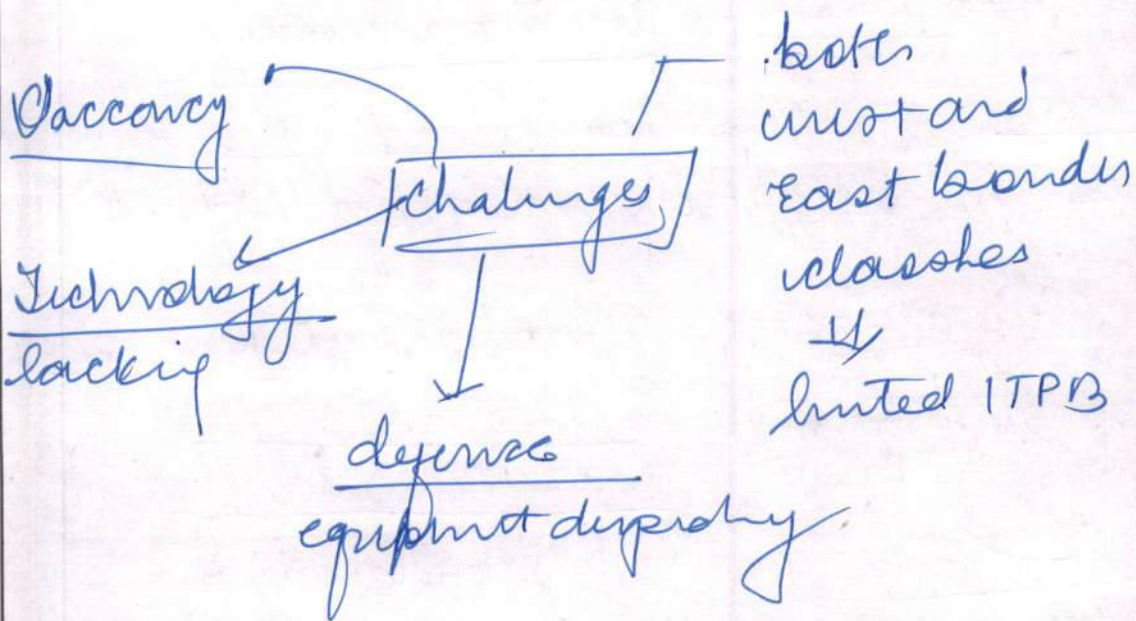
China

- dual use
villages - PLA
- unit
- Increased PLA
deployment
- Dam creation
accelerated
↓
Roads built

Role of ITBP

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

- ① Indo Tibetan Borderforce - is the Border Guarding Force of Indo China Border
- ② First line of defence
- ③ Trained to survive in rugged terrain



Need for one Border one Force strengthening and integration of Technology

11.

क्या आपको लगता है कि भारत को 'भूमि उत्पादकता' के सिद्धांत को छोड़कर 'सिंचाई जल उत्पादकता' के सिद्धांत को अपनाने की आवश्यकता है? अपने उत्तर का औचित्य सिद्ध कीजिए। यह बदलाव करने में कौन-सी चुनौतियां विद्यमान हैं? व्याख्या कीजिए। (उत्तर 250 शब्दों में दीजिए)

Do you think there is a need for a shift from 'land productivity' to 'irrigation water productivity' in India? Justify your answer. What are the challenges in making this shift? Explain. (Answer in 250 words)

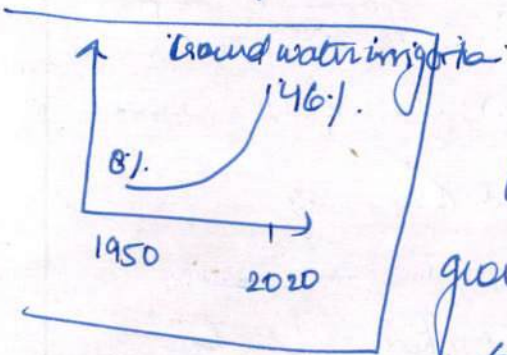
उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
Candidates must not write on this margin

15

India is 2nd largest producer and one of the largest exporters of rice. Since, gallons of water is used for paddy cultivation \Rightarrow India effectively exports Virtual Water

Need to shift to land productivity model as the following challenges exist in 'Irrigation water productivity'

1. Overexploitation of Groundwater Resource



Green Revolution

In Punjab-Haryana growing paddy from Groundwater irrigation

2. Subsidies \rightarrow of power and no regulation on ground water

Over extraction
 \downarrow
aquifers depleting

3. most area is rainfed 25%. ∴ mostly
belonging to poor small and marginal
farmers ⇒ reduced productivity

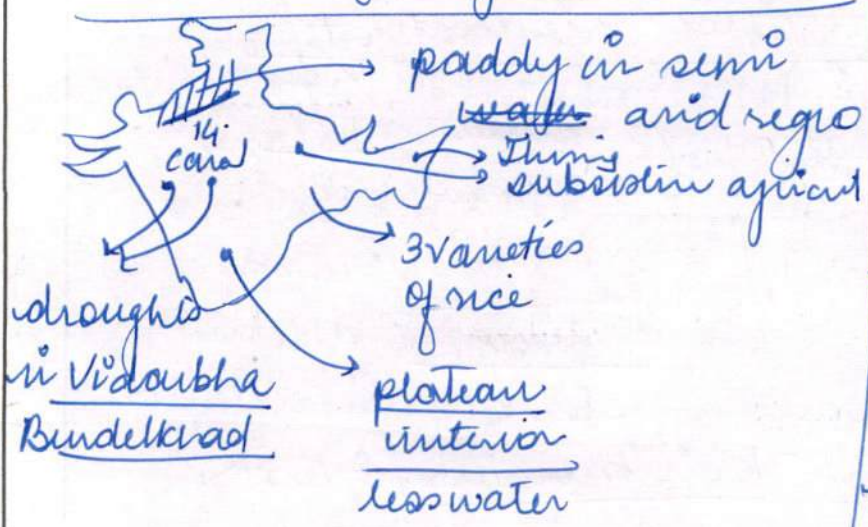
↳ no land degradation → raise in pH
① Punjab Haryana
UP west
fertilizers - depleting
soil organic carbon
↳ soil moisture is lost

Advantages of land productivity model:

1. focus on
soil characteristics ⇒ precision
agriculture
① Soil Health Card
2. Use of conservative methods like
mulching, zero tillage → retain soil moisture
3. climate smart agriculture ⇒
growing climate sensitive crops
① Shri Anna Millet by
Millet Sifter Network
4. Zero Budget Natural Farming: focus on
natural resource ① Bijamitra + Waphsa
[lowing]
⇓
reduce input cost

challenges

1. Nature of agri. land use : makes it difficult to hedge



20 MSP to wheat and rice
↓
encourages farmers to monoculture

3. Regulation : no usufruct on ground water

① The water below the land : owner can claim it

4. Subsidies like : free electricity → more pumping

5. slow adaptation of inputs

6. low productivity + shelf life of

- organic farms
- ① to sanitation
- 2 BNF
- vertical agriculture
- Key seedling of rice
- Technique

Need for
multiproxyed
approach to

shift our agricultural

model and bring engineers, R&D

12.

भारत की ऊर्जा सुरक्षा प्राप्त करने में हरित हाइड्रोजन की भूमिका का परीक्षण कीजिए। राष्ट्रीय हरित हाइड्रोजन मिशन, भारत की अपने ऊर्जा लक्ष्यों को प्राप्त करने में किस प्रकार मदद कर सकता है? (उत्तर 250 शब्दों में दीजिए)

Examine the role that green hydrogen can play in unlocking the energy security of India. How can the National Green Hydrogen Mission help India in achieving its energy goals? (Answer in 250 words)

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

15

Green hydrogen is obtained from the electrolysis of water using renewable energy source. It is a clean fuel which has caught focus of government.

Road towards Energy Security with Green H₂

1. Rising demand -
 → population
 → extreme weather event
 → spring up of economy

2. Clean fuel

↓
 help reduce pollution + emission by transport sector

② H₂ fuel cell
 → Hybrid Batteries

} Electric Vehicles + Mass Transport

3. aim of INDC

- 500GW by renewable energy
- 50% by non fossil fuel

4. Abundance of H₂ in atmosphere.

5. Presence of skilled labour,

venture capitalists to fund small

entrepreneurs \Rightarrow advancement in
Green Hydrogen Technology

Challenges

1. less capability to store — Renewable Energy
2. Dependent on di for china
semiconductors fabs — China + Taiwan
 \rightarrow Korea \Rightarrow import dependency
3. lack of scalability
due to costly technology
4. High Initial Cost
5. Presence of more abundant RE sources (eg)
Solar, Waste to Energy, Biofuels
(cheaper)
6. Grid stability — fair transmission of
non RE + RE
7. RnD — 0.6% of GDP to RnD sector.
Thus, efficient technologies still not
developed.

These can be overcome by

1. Incentivisation to private players to setup green Hz plants
2. Behavioural change \Rightarrow demand to be increased
via - awareness campaigns, Mission LiFE (lifestyle for environment)
3. R&D - recent NRF focus to Tier 2, Tier 3 cities
4. skill development @ AICTE changing syllabus to include clean energy
5. Developing Semiconductor fabs - recent pact with USA
6. Self reliant raw materials: quick assessment of lithium reserves under Residist of JnK.

This green Hz is a hope for a greener and sustainable future and ~~we~~ keeping our commitment of Panchpran

13.

हाल के दिनों में, सरकार न्यूनतम पारिश्रमिक की जगह जीवन निर्वाह पारिश्रमिक को अपनाने पर विचार कर रही है। भारत में जीवन निर्वाह पारिश्रमिक को अपनाने के लाभ और इसमें विद्यमान बाधाएं कौन-सी हैं? (उत्तर 250 शब्दों में दीजिए)

The government has been weighing a transition from minimum wage to living wage in recent times. What are the benefits and constraints in the adoption of living wage in India? (Answer in 250 words)

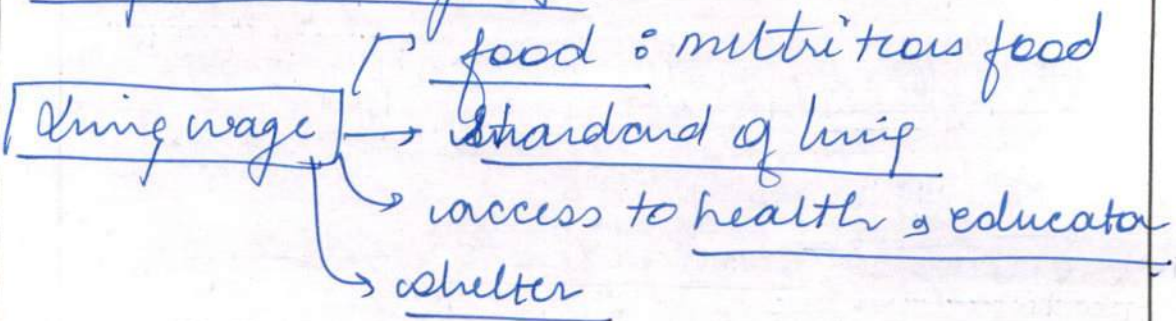
उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
Candidates must not write on this margin

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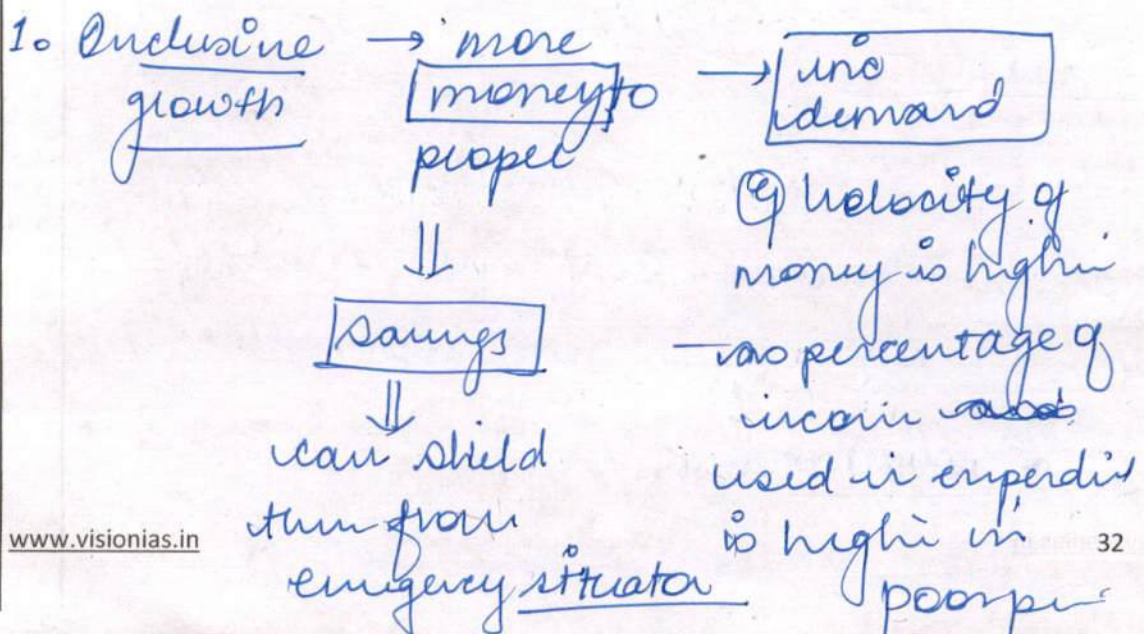
~~Living~~ Minimum Wage -

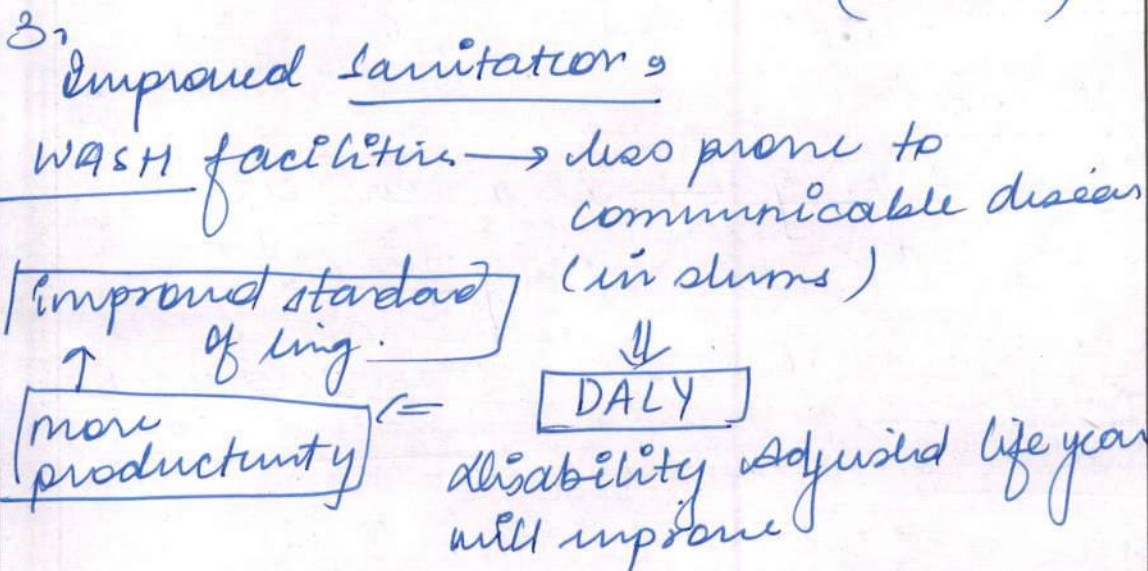
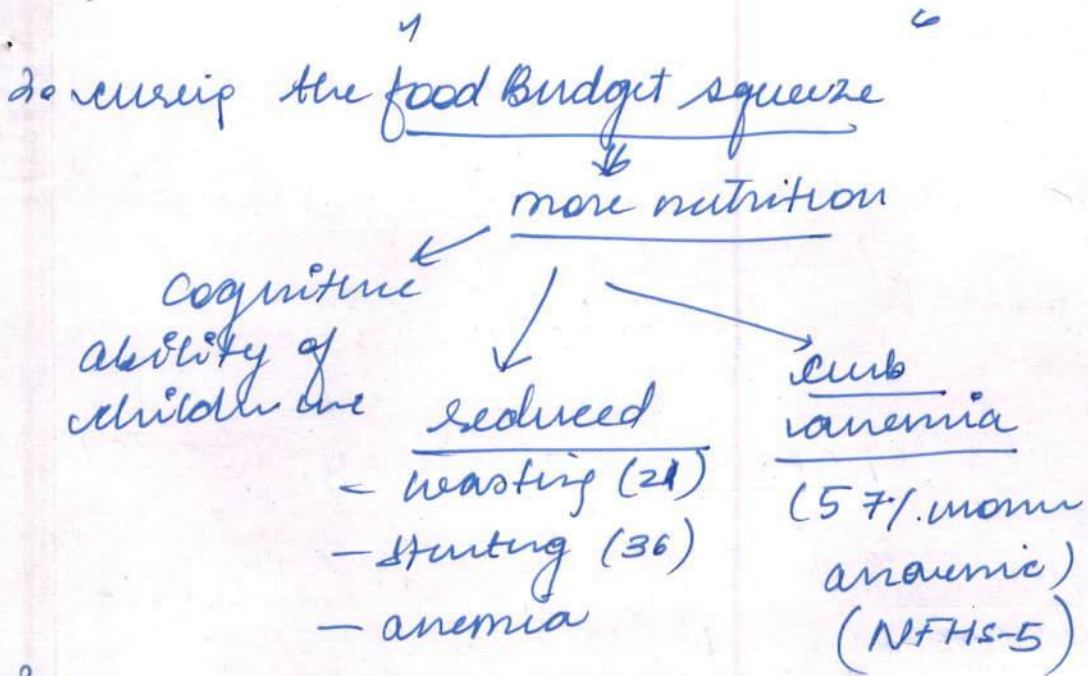
is the wage required for bare necessities for human ^{survival} - food, shelter, clothes.

Living wage - is higher than minimum wage as it includes the element of living with dignity.



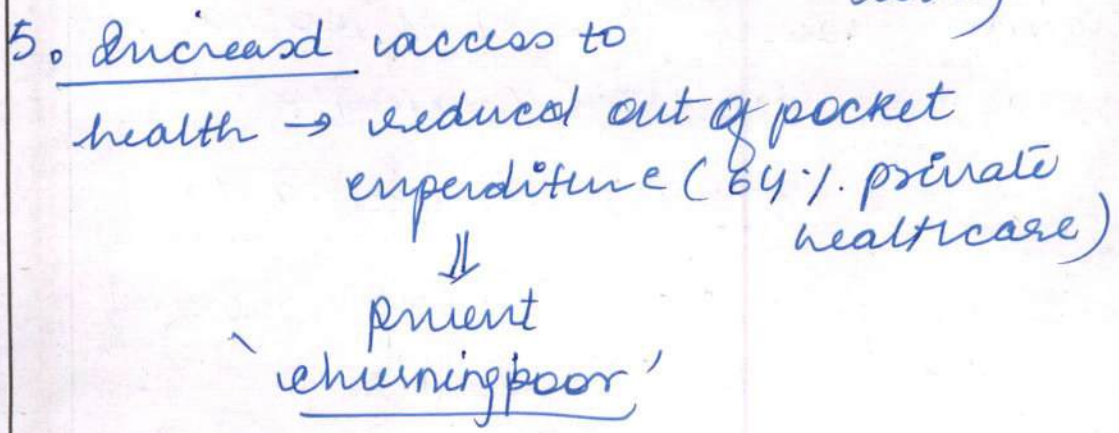
Benefits to moving to living wage:





4. Bring people out from poverty

~ 21% of population poor (Below poverty line)



Challenges

1. One size fits all approach - may not be suitable - diverse geographic diverse needs
2. mostly informal sector labor (~90%) thus surveillance or regulatory compliance will be a challenge.
3. Reduced capacity to pay living wage → small employers may fire excess workers ↓ unemployment
4. Federalism challenges: need concurrence of states
5. lack of skills → impact productivity of business
6. The main issue of lack of social security services - still remain

Assessment and data

driver approach can help reconcil with state and balance living wage with unemployment

14.

केंद्रीय बजट भारतीय अर्थव्यवस्था के लगभग हर क्षेत्रक को प्रभावित करता है, फिर भी न तो बजटीय प्रक्रियाएं पर्याप्त सार्वजनिक जांच के दायरे में आती हैं और न ही बजट नीतियां। क्या आप इस कथन से सहमत हैं? अपने उत्तर का औचित्य सिद्ध कीजिए। (उत्तर 250 शब्दों में दीजिए)

The Union Budget affects almost every sector of the Indian economy, yet neither the budgetary processes nor the budget policies come under substantial public scrutiny. Do you agree? Justify your answer. (Answer in 250 words)

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

15

The Budget is produced by the executive in the parliament Art 110 as Annual Financial Statement.

It impacts almost every sector of the economy ↓

lack of public scrutiny

1. public consultation is lacking because separate ministers draw their demands.

2. CAG Report → highlighting fiscal discipline → delayed

↳ not discussed in parliament wisely
↳ only recommendatory in nature

3. Lack of consultation → discontent → protests
↓
delay in passage of Bill³⁵

4. The break after Budget speech is too less for in depth expert analysis or gauging public sentiment

5. lack of debates, } ⇒ reducing
guilt-free closure } the democratic
nature of Budget

6. A ~~part~~ significant portion is under 'Charged Expenditure'

(#)

However, these are measures to ensure public scrutiny ⇒ Limited Government

1. break after Finance Minister Budget Speech : to assess the issues

2. people's representative → if people are unhappy
↓
the govt. may not get elected in next ten

3. Media debates — capture public Opinion → resonated in parliamentary

15.

भारत स्वयं को दूध की कमी वाले देश से दुनिया के सबसे बड़े दूध उत्पादक देश के रूप में बदलने में सक्षम हो गया है, लेकिन देश में डेयरी पशुओं की उत्पादकता चिंता का विषय बनी हुई है। विवेचना कीजिए। (उत्तर 250 शब्दों में दीजिए)

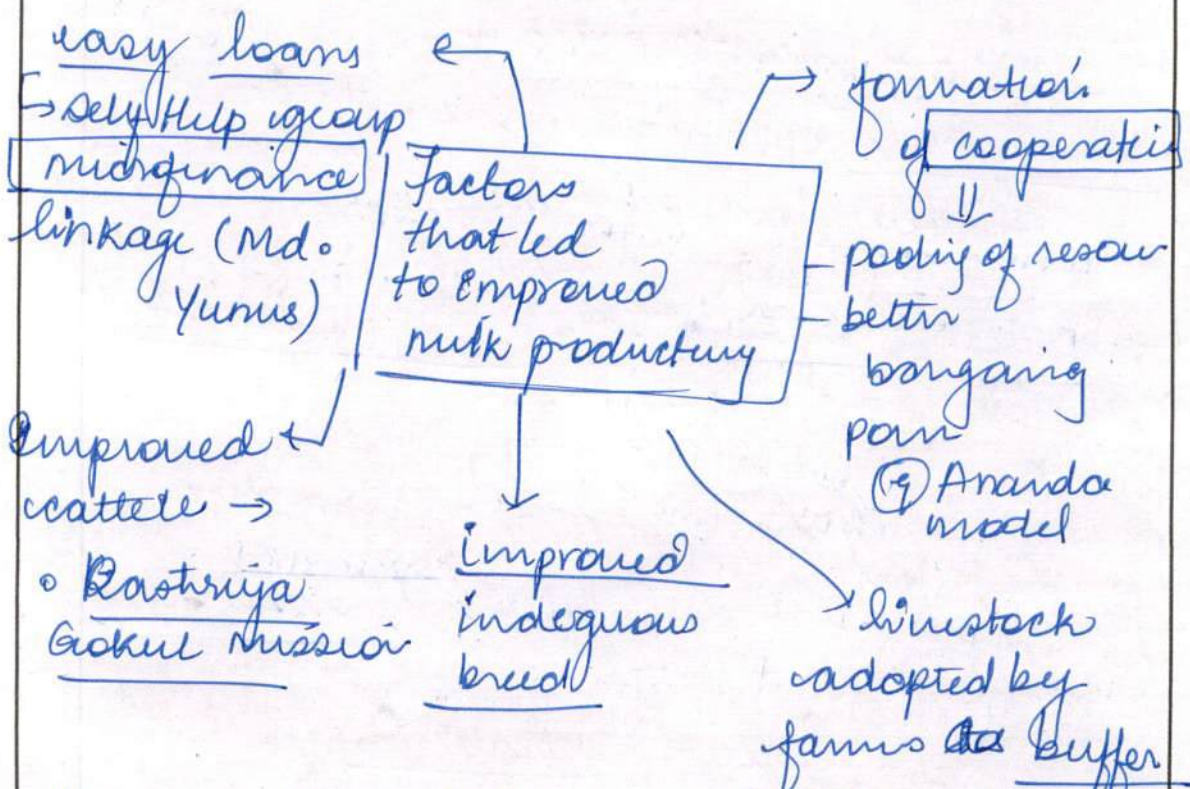
India has been able to transform itself from a milk deficit country to the world's biggest milk producer, but the productivity of dairy animals in the country remains a concern. Discuss. (Answer in 250 words)

उम्मीदवारों को इस हार्जिन में नहीं लिखना चाहिए
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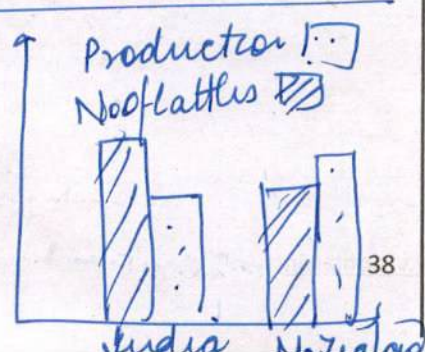
The operation Flood

led by Varghese Kurien made India move from milk deficit country to now longest milk producer in the world



However, India has a huge gap in terms of milk production and dairy production

① Kisan Credit Card.



Reasons for low productivity

1. Climate → tropical climate / that → humidity
↳ diseases
↳ dampy skin duff
↳ reduced productivity

2. Fodder crops → lack nutrition → Indy regions
↳ bioaccumulation of chemicals from pesticide
↓
↳ impact health

3. Indiscriminate use of Antibiotics, lactation inducing hormones eg Oxytocin
↓
↳ reduce long term benefits

4. lack of infrastructure → smart shades, cooling systems, supply chain, etc.

5. Small and marginal Farms
majority in livestock production
↓
↳ less capital ⇒ less mechanisation
↳ scientific knowledge

6. Emphasis on foreign high yielding breeds
↓
unable to adjust in India's climate

7. Extreme weather events
↳ heat waves
↳ droughts
↳ flood - waterborne diseases

8. Epidemics

⊕ Foot and Mouth Disease
- Brucellosis

- recent dumpy skin disease outbreak

↓
less motility
more vulnerability

⊕ lack of veterinary health services

↳ GM technology for fortification of fodder

↳ fodder distribution to small marginal farmers

Steps to improve

↳ focus on draught resistant indigenous varieties

↓
improved focus on veterinary science

↳ impetus to Rashtriya Gokul mission

↳ colleges
↳ R&D fund.

16.

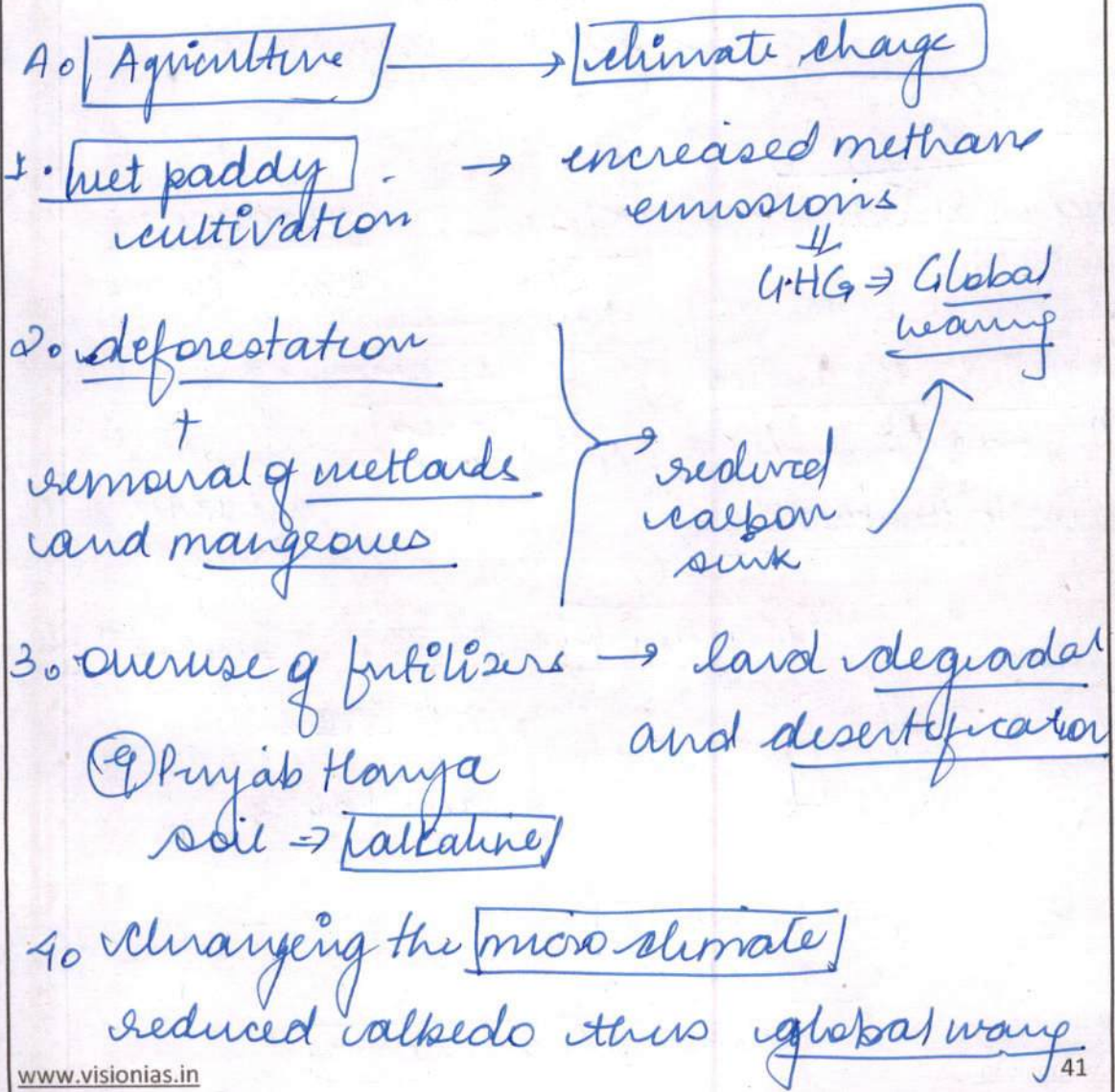
उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

जहाँ एक तरफ जलवायु परिवर्तन, फसल की विफलता के लिए जिम्मेदार है, वहीं दूसरी तरफ चरम मौसमी घटनाओं के लिए कृषि क्षेत्रक स्वयं आंशिक रूप से जिम्मेदार है। विवेचना कीजिए। भारत में कृषक समुदाय की प्रत्यास्थता को सुदृढ़ करने के लिए राष्ट्रीय कृषि आपदा प्रबंधन योजना के तहत क्या रणनीति अपनाई गई है? (उत्तर 250 शब्दों में दीजिए)

While climate change is responsible for crop failures, the agricultural sector itself is partly responsible for extreme weather events. Discuss. What strategy has been adopted under National Agriculture Disaster Management Plan to strengthen the resilience of the farming community in India? (Answer in 250 words)

15

Agriculture is becoming the victim of its own success. It is now a ^{two way} relationship with climate change - creating a micro cycle

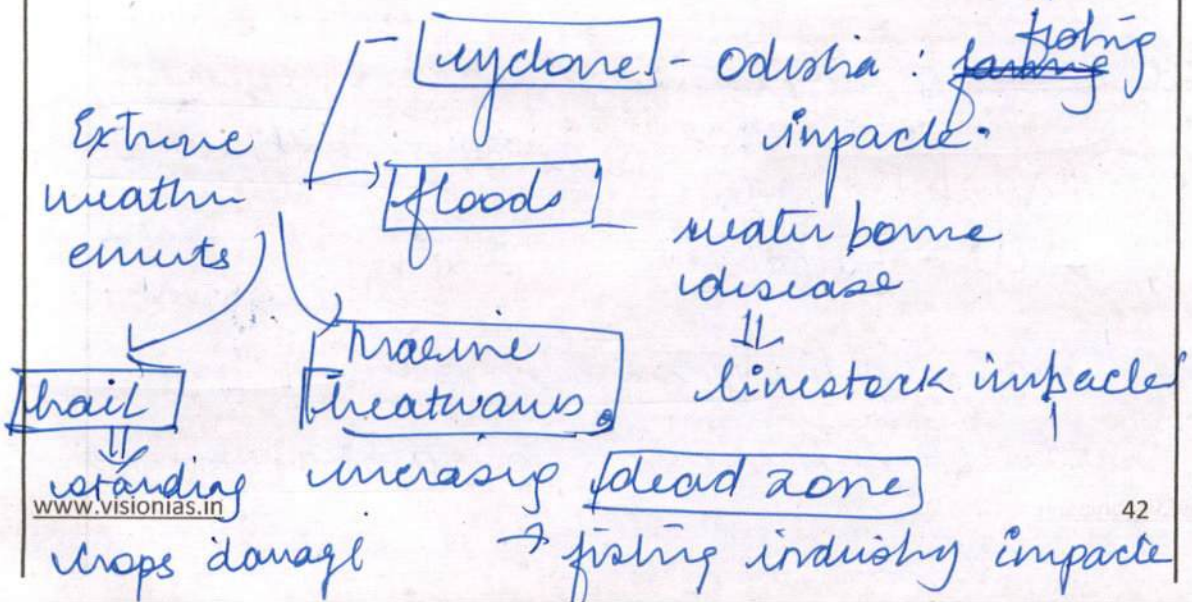
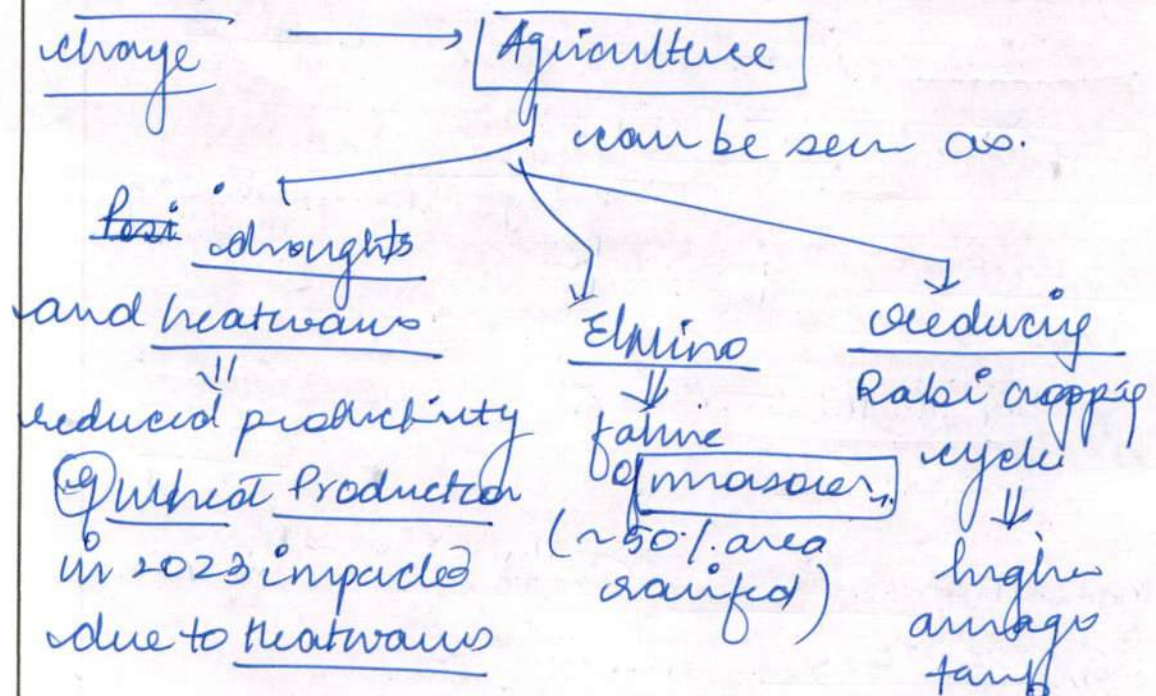


unsustainable agriculture

- monoculture
- water intensive crops in semi arid region
- over use of urea
- NPK Ratio 4:2:1
- India : 30:8:1 (Copper)

change in micro climate

Climate change



The National Agriculture Disaster Management Plan includes following strategies

- ① Early warning system - for farmers
IMD + ISRO → many and alert about cyclones, rain, etc
- ② Bufferstock → to curb supply side shocks
- ③ Technological input
 - precision agriculture
 - climate appropriate crops (eg) millets in dry areas
 - soil assessment
- ④ Promoting 'low cost' strategies
 - ZBMF
 - indigenous varieties
 - Direct Seeding of Rice
- ⑤ Social Forestry } mitigation
 agro forestry }

Two pronged approach
of improving mitigation against cc
and Extreme weather events alongwith
efficiency in agriculture is needed.

17.

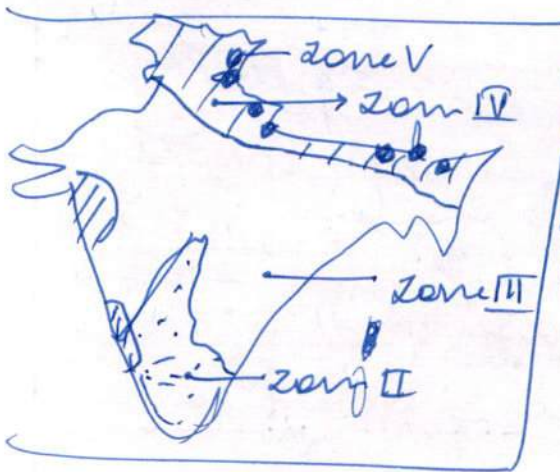
दिल्ली सहित भारत के कुछ क्षेत्र हिमालय में आने वाले भूकंपों के प्रभाव के प्रति अत्यधिक संवेदनशील हैं। विवेचना कीजिए। भारत में भूकंप से होने वाली हानि को कम करने के लिए कौन-से संस्थागत उपाय किए गए हैं? क्या आपको लगता है कि कुछ उल्लेखनीय कमियां अभी भी मौजूद हैं? (उत्तर 250 शब्दों में दीजिए)

Some regions in India, including Delhi, are highly vulnerable to the impact of earthquakes originating in the Himalayas. Discuss. What institutional measures have been taken to mitigate earthquake losses in India? Do you think there are significant gaps that still exist? (Answer in 250 words)

उम्मीदवारों को इस शीट में नहीं लिखना चाहिए
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15

Earthquakes are sudden release of stress along the faultline from an focus.



Earthquake sonation mapping reveals Himalayas to be under zone V
 ↓
 high vulnerability to Earthquake

Reasons:

1. Fault line: Himalayan Frontal Fault and other faults created during collision of Indian plate with Eurasian plate } tectonic active

↳ less carrying capacity → (e) Resonance Induced Earthquake

3. Active plate boundary → near foothills of shivaliks

4. The dom & conferake can higher in river and travel farther ⇒ impact nearby are

④ Earthquake swarms in Delhi in past year

5. Lack of EQ resistance design - due to rapid and unplanned urbanisation

Institutional measures

1. 5 tier institutional structure

NDMA: guide, policy design
SDMA
Distt DMA

2. allocation of funds
NDRF, SDR Fund

3. Design of Buildings: EQ resistant design mandatory to follow them ⇒ surveillance and enforcement to DDMA

4. Rock drills: mandated by NDMA

5. NDMA guidelines { structural
non structural

6. Difficult to predict → thus develop scientific capabilities

Gaps exist in preparedness due to

1. Rapid Unplanned Development
 - in hilly areas
 - Road construction
 - Char Dham Project
 - towns
 - Joshimath
 - urban areas
 - lack of applications of building codes
2. Difficult to predict
EWS not robust
3. Sundai framework : not internalised
 - still focus on rescue + rehab.
4. deficiency in conducting mock drills, implementing NDMA guidelines

Thus, the gaps need to be filled with technological advances and behavioural change in people -

18.

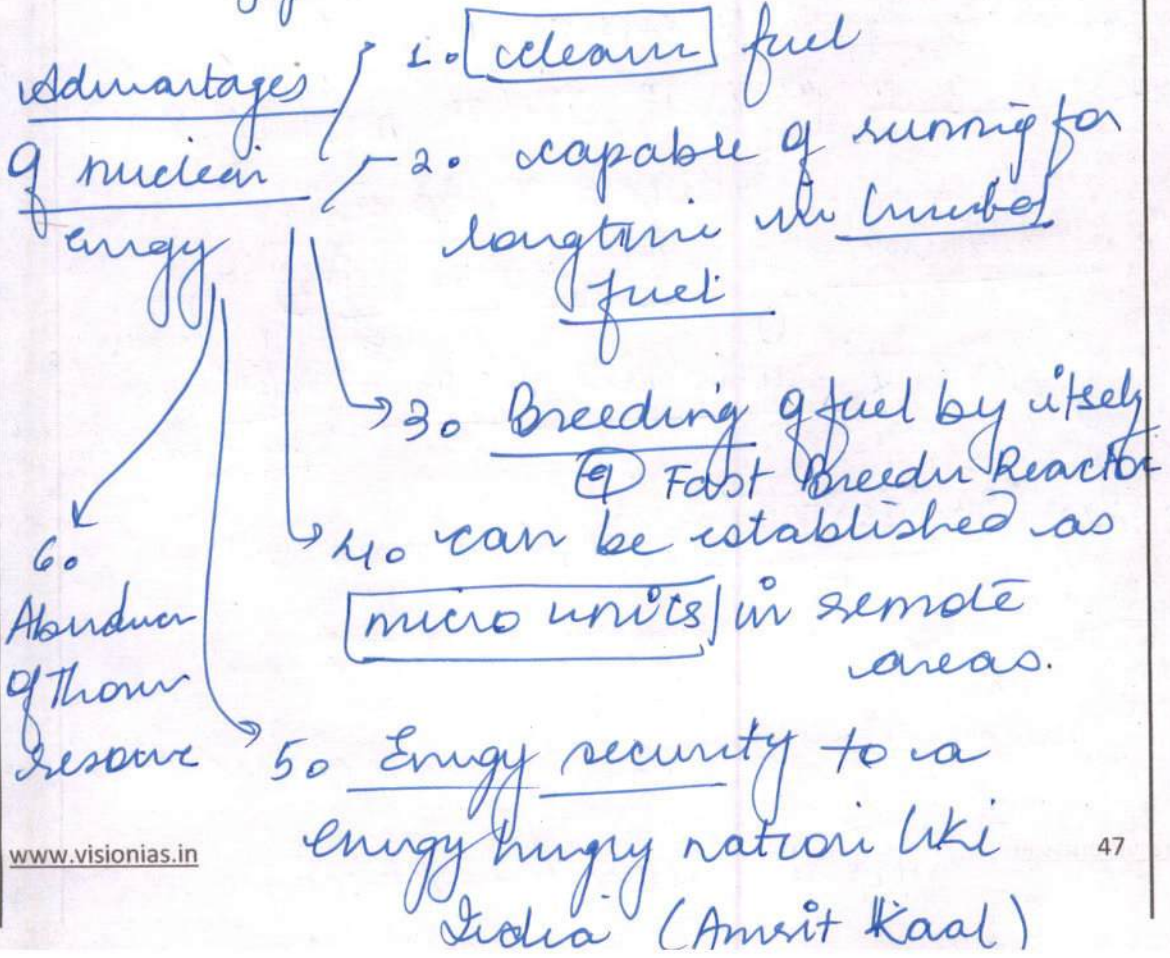
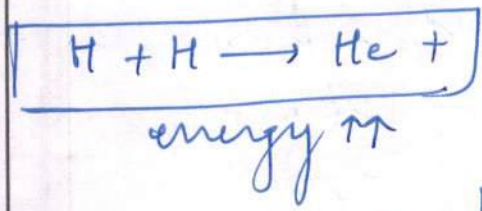
उम्मीदवारों को इस दृष्टि में नहीं लिखना चाहिए
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हाल ही में, वैज्ञानिकों ने परमाणु संलयन अभिक्रिया में निवल ऊर्जा लाभ की घोषणा की है, जिसे स्वच्छ ऊर्जा के भविष्य के लिए एक बड़ी वैज्ञानिक सफलता माना गया है। परमाणु संलयन आधारित विद्युत उत्पादन के क्या लाभ हैं? व्यावसायिक स्तर पर विद्युत उत्पन्न करने के लिए इसके उपयोग की क्या सीमाएं हैं? (उत्तर 250 शब्दों में दीजिए)

Recently, scientists announced net energy gain in nuclear fusion reaction, which is considered as a major scientific breakthrough for the future of clean energy. What are the advantages of nuclear fusion based power generation? What are the limitations in using it to generate electricity at a commercial scale? (Answer in 250 words)

15

'Nuclear Energy' naughty consists about 3% in the energy basket and is guided by the 3 stage Nuclear Program (Homij Bhabha). → India reached a net energy gain in fusion reaction



Limitations of using it on commercial scale:

1. ~~the~~ procurement of raw material

Uranium. : India not signatory to NPT → not member of NSG

2. Uranium reserves utilisation would require success of first 2 stages


monazite sand - Th

3. Accident @ Fukushima disaster

↓
apprehension in people

@ anti sterlite protest at Koodankulam

4. challenges by other countries

@ funding of advisory NGOs → stall development

5. require water - large amounts

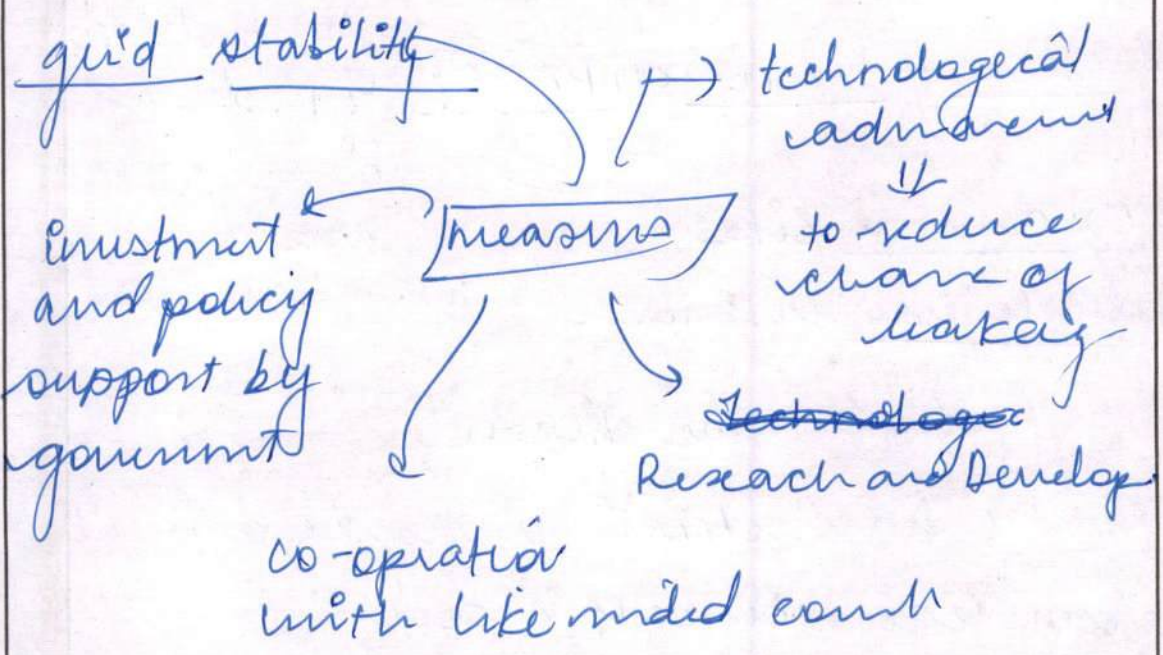
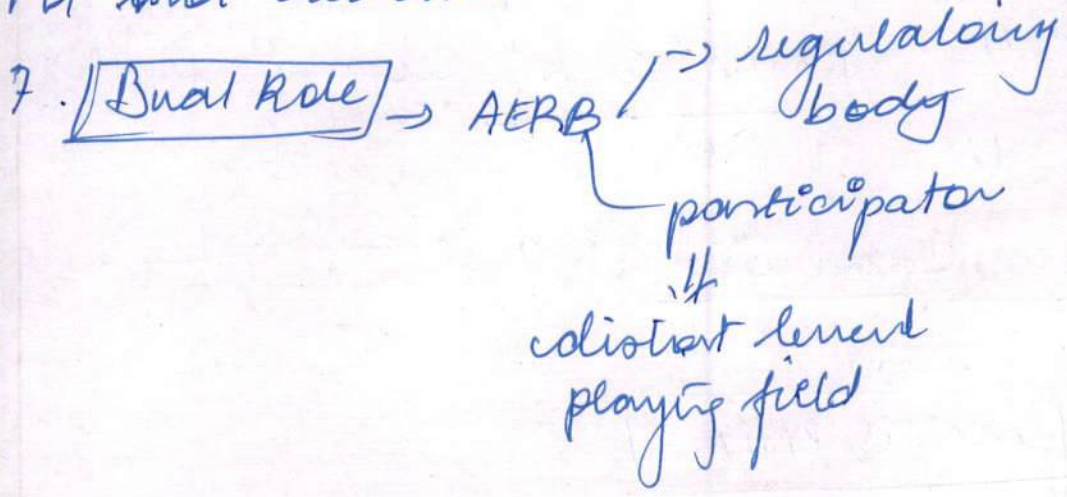
↓
that of contamination

if unchecked large scale production

↓
mostly located at coasts . . .

Low ocean ecology

6 - Huge initial capital cost ?
FDI not allowed



This will help India achieve its INDC targets.

19.

हालिया संशोधन को ध्यान में रखते हुए, भारत में धन शोधन (मनी लॉन्ड्रिंग) के खतरे से निपटने में धन शोधन रोकथाम अधिनियम, 2002 की प्रभावकारिता का परीक्षण कीजिए। (उत्तर 250 शब्दों में दीजिए)
 Keeping in view the recent amendment, examine the efficacy of the Prevention of Money Laundering Act, 2002, in tackling the menace of money laundering in India. (Answer in 250 words)

15

उत्तरों को इस कक्ष में नहीं लिखना चाहिए
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The recent amendment in the PMLA Rules were brought in to curb the menace of money laundering in India.

Efficacy of PMLA

1. source of tracing of PMLA confiscation of property brought for money laundering
(SED)
2. measures like disclosure incentives
↓
 proved to be effective
3. Digital transaction → made difficult to conceal source of money
4. Action of Trafficking networks & hawala transfers & para borders
5. MCOCA + KCOCA = lesser laws to check organised crime

still the PMLA has not achieved goals as per its potential

① Chronistic : amended only once before in 2005

② Law implementation → the Ministry of security agencies lack statutory status

③ Technological advancements → deep web
cryptocurrency
↓
difficult to track.

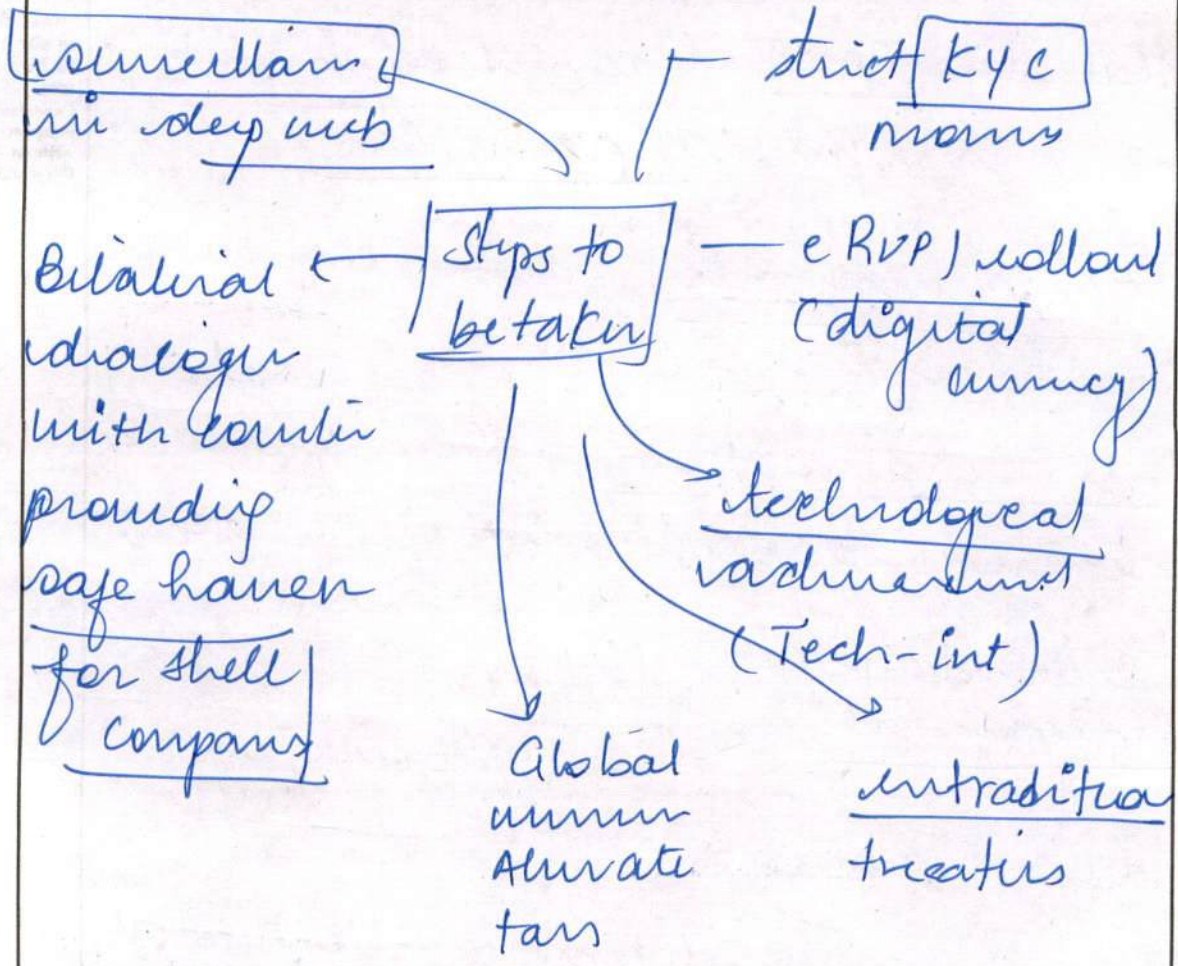
④ lack of extradition treaties with other countries

⑤ POEM - Place of effective manufacture
difficult to find out

⑥ Real estate assets } difficult to trace
Gold }
↓
lack of record

⑦ Organised crime networks
↓
facilitate
ML'

उम्मीदवारों को इस कक्ष में नहीं लिखना चाहिए
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The money laundering currency exists India → Swiss Banks, safe haven → threat to development (revenue loss) and security (terror funding)

20.

हिंद महासागर क्षेत्र (IOR) में मौजूद उन सुरक्षा खतरों पर चर्चा कीजिए, जिनका भारत के समुद्री सीमा संबंधी हितों पर सीधा असर पड़ता है। इन खतरों से निपटने के लिए एक मजबूत रणनीति सुझाइए। (उत्तर 250 शब्दों में दीजिए)

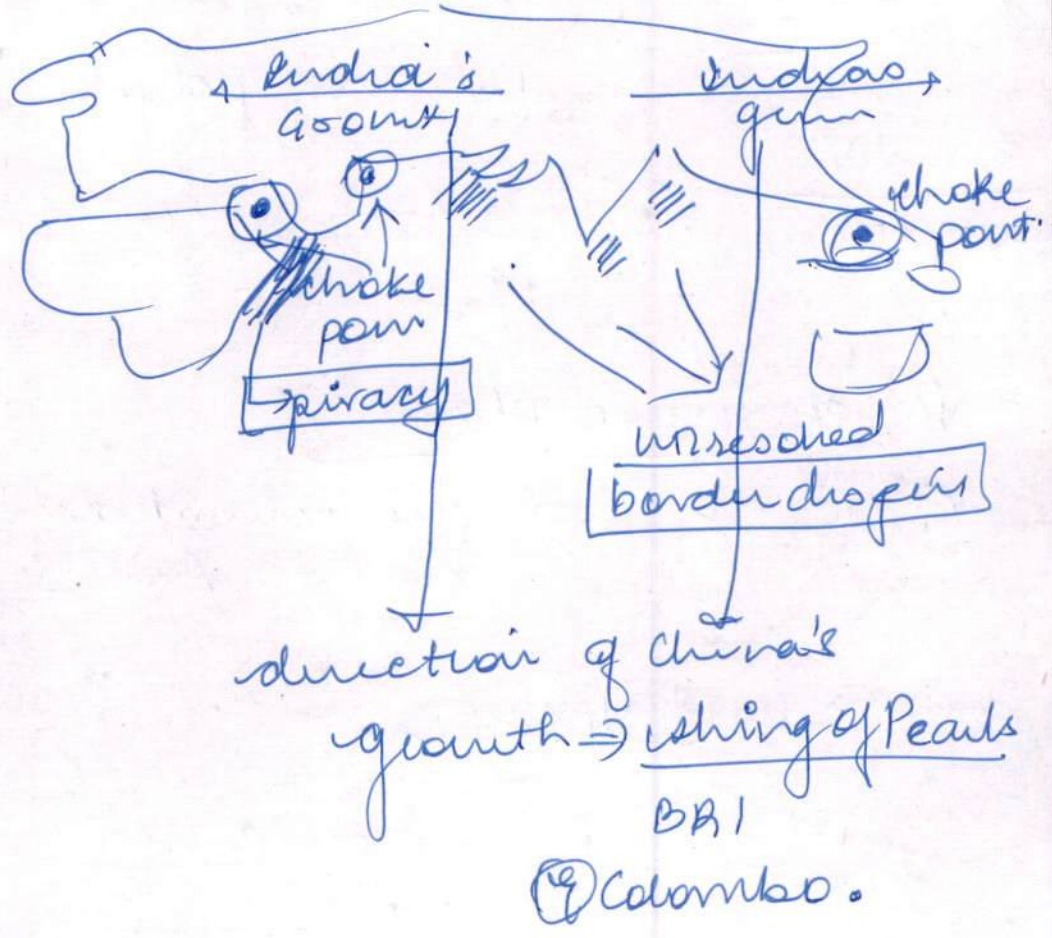
Discuss the security threats present in the Indian Ocean Region (IOR), which have a direct bearing on India's maritime border interests. Suggest a robust strategy to deal with these threats. (Answer in 250 words)

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
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Indian Ocean Region is gaining importance in the current geopolitical world order.

Security Threats in IOR

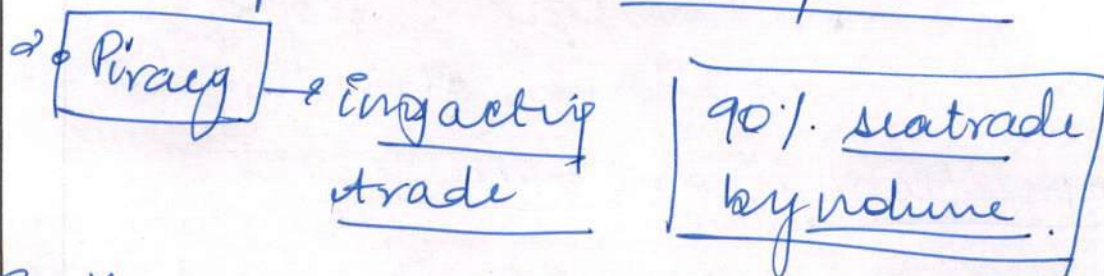


1. Chinese presence → impact of free sea lanes

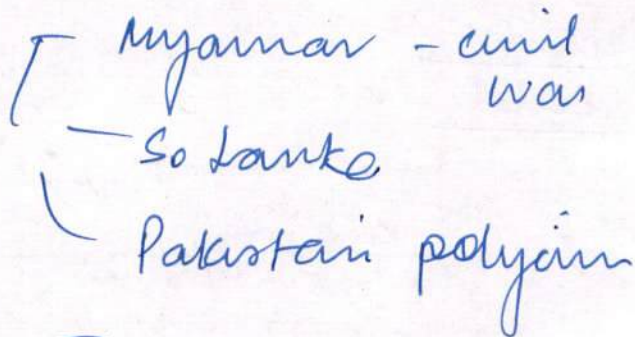
communication

→ neopositionation of supply chain.

① Development near choke points



3. Zone of uncertainty
Rajiv Sukri



4. Borders

not discussed

④ Six Creek with Pak

5. Entry of Foreign players

⑤ US, UK → neopositionation due to AUKUS

~~Shorab~~ 6. Traffickers

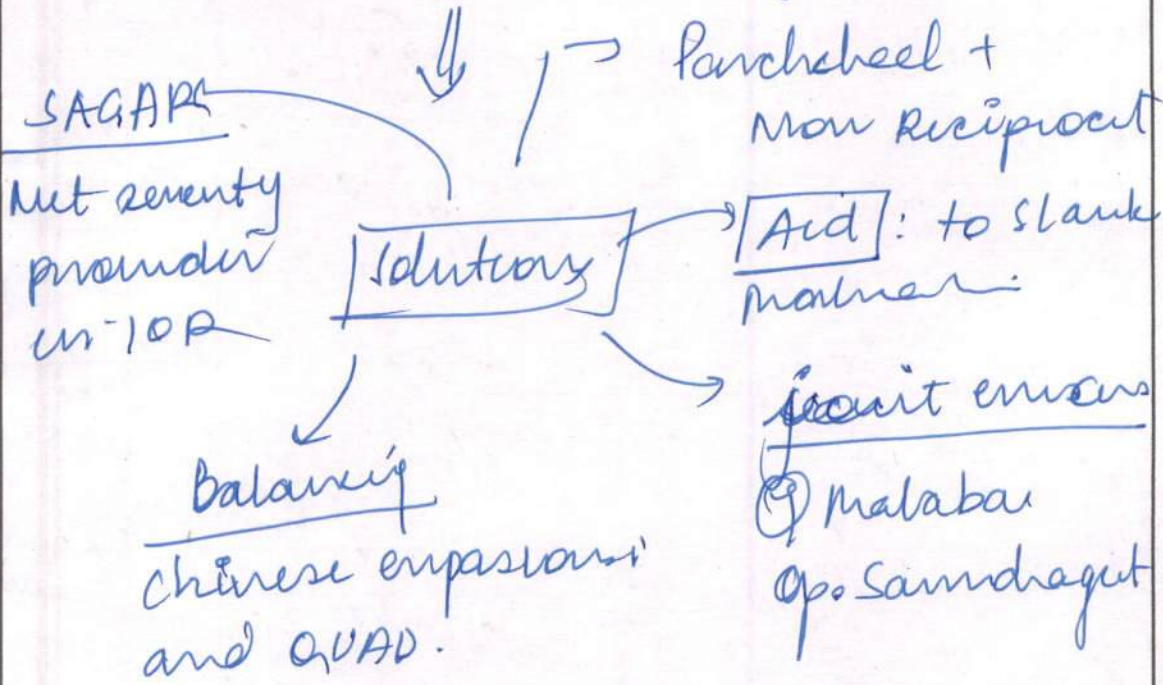
gold
Myanmar

FICN
Bangladesh

cattle
murders
↓
Bangladesh
Nepal

7. Perception of countries that India has Big Brother Attitude

Past - 'India Out Campaign' Maldives



Threat ~~and~~ to peace

anywhere - will be a threat to security in India.

SAGAR - Security and growth of all in the region.

SPACE FOR ROUGH WORK

AL