



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. : 0854 826

अभ्यर्थी का नाम/Name of Student : Tanuj Pattnaik

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

English

तारीख
Date

27/08/2023

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

केंद्र
Centre

Dehradun

निरीक्षक के हस्ताक्षर
Invigilator's Signature

	महत्वपूर्ण अनुदेश	Important Instructions
	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।	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.
1	(क) अपना पंजीकरण सं. एवं अन्य विवरण केवल प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) में उम्मीदवार के लिए निर्धारित स्थान पर ही लिखें। (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।	(a) Write your Registration Number and other details only in the space provided in the Question-Cum-Answer (QCA) Booklet for candidates. (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
2	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।	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.
3	परीक्षक को प्रत्यक्ष/अप्रत्यक्ष रूप से कोई भी प्रार्थना/धमकी भरी बातें न लिखें।	Do not make any direct/indirect appeal/threat to the examiner.
4	उत्तर अस्पष्ट अथवा गंदी लिखावट में न लिखें। इस प्रकार के उत्तर का मूल्यांकन नहीं भी किया जा सकता है।	Do not write answers in bad/illegible handwriting. Such answers may not be evaluated.
5	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।	Write answers in ink only. Do not use pencil for writing the answers. However, pencil may be used for drawing diagrams, sketches, etc.
6	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।	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.
7	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।	Write answer at the specific space (right below the question) only. Answers written elsewhere at unspecified places in the booklet shall not be evaluated.
8	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।	If you wish to cancel any work, draw your pen through it and write "Cancelled" across it, otherwise it may be valued.

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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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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.

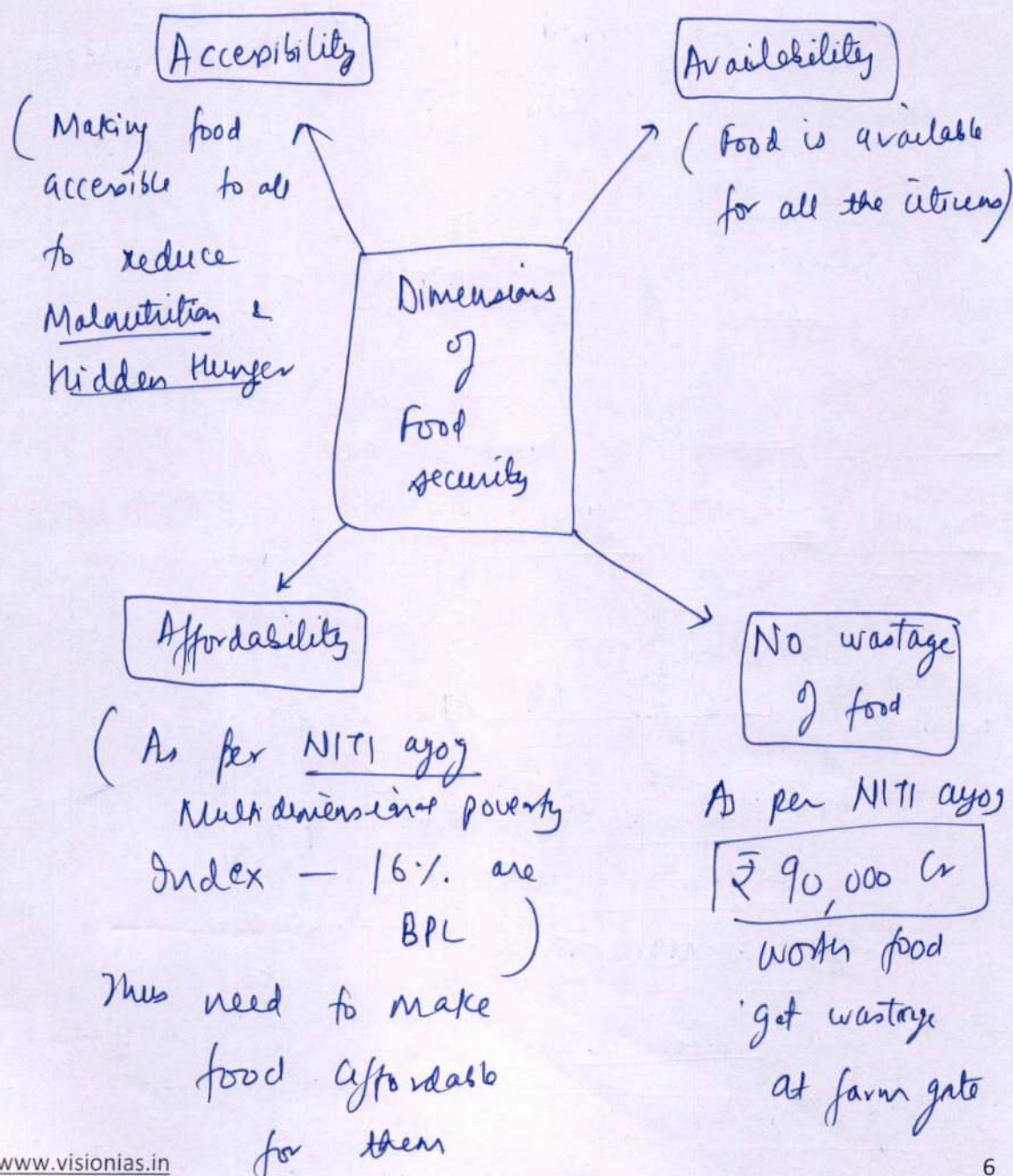
खाद्य सुरक्षा के विभिन्न आयाम क्या हैं? इन आयामों के मद्देनजर खाद्य सुरक्षा सुनिश्चित करने के संदर्भ में भारत की स्थिति का परीक्षण कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

India has 17% of world's population but only 4% of world's land. This raises an issue of food security in India.



India's status

Availability

→ Focus on Increasing Agriculture production.

Various schemes such as PM-Krishi Sinchai, PM-KISAN, fertiliser subsidies, etc to increase food production

Accessibility

→ Making food accessible via various schemes such as PDS, Mid-day meal, etc

Affordability

→ For this - National food security act has been enacted

Priority Households

Antyodaya

(35 kg grains / month / family)

Despite these efforts still there exists challenges with respect to food security in India.

Climate change, Increasing soil aridity makes food security even difficult. Need of hour is

to practice climate friendly agriculture, crop diversification as well as economic empowerment of citizens of India.

2.

ब्लॉकचेन और चैटजीपीटी जैसी आधुनिक प्रौद्योगिकियां कृषि को अधिक कुशल और संधारणीय क्षेत्रों में बदलने की अपार क्षमता वाले शक्तिशाली साधन हैं। भारत के संदर्भ में चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

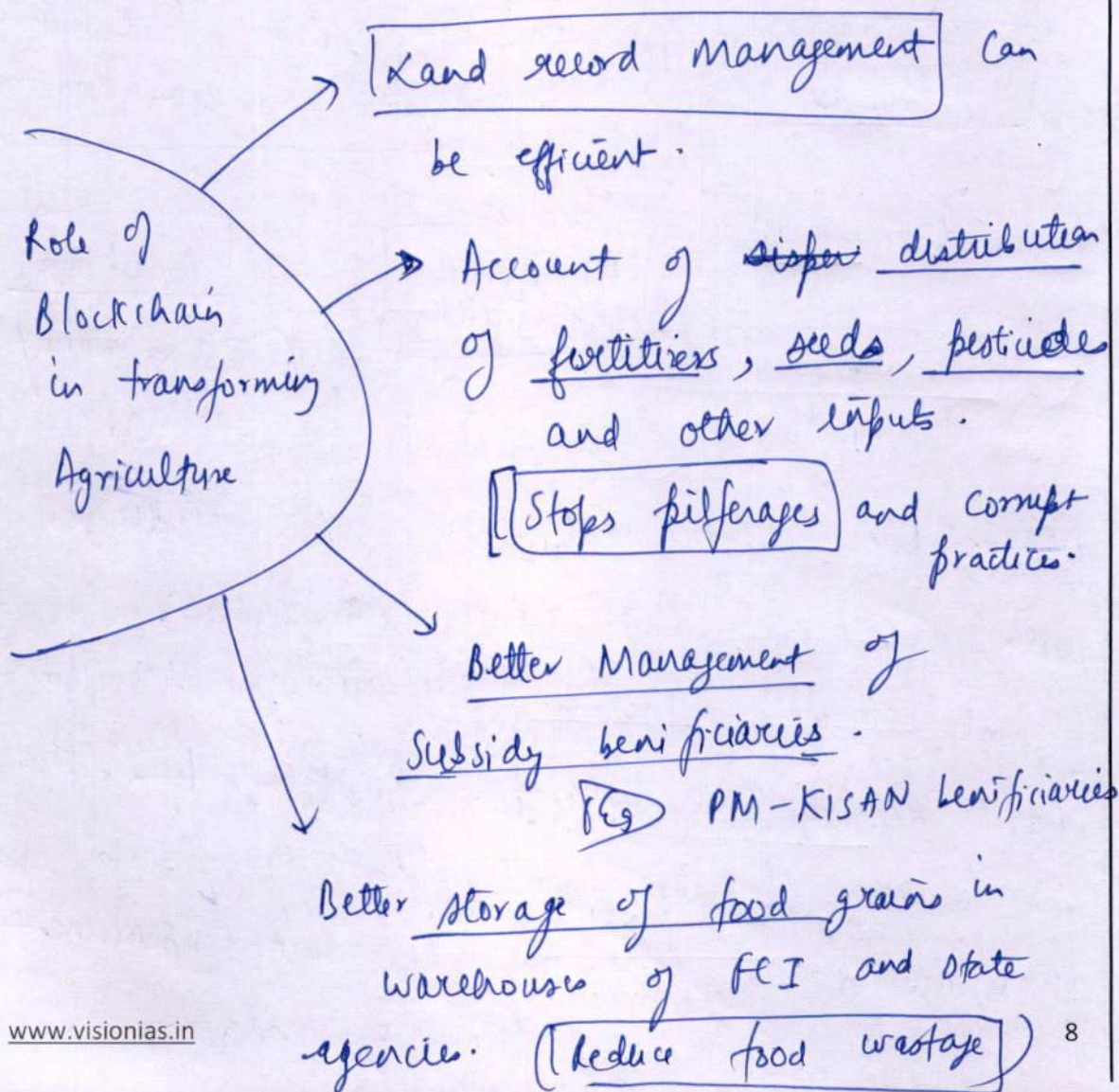
Modern technologies such as blockchain and ChatGPT are powerful tools with immense potential to transform agriculture into a more efficient and sustainable sector. Discuss in the context of India. (Answer in 150 words)

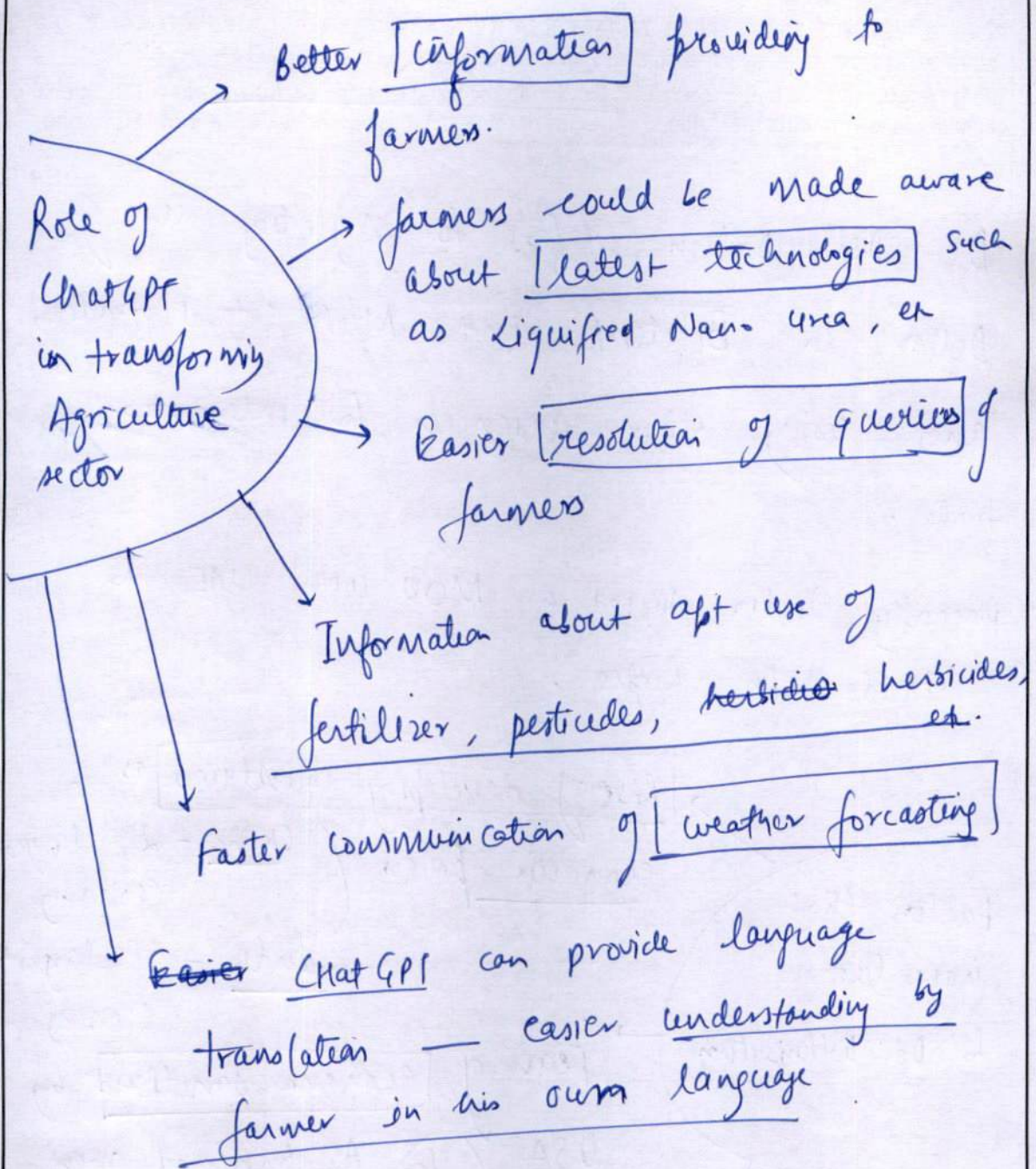
10

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

Blockchain is a public digital ledger that is immutable. It is used for effective database management.

ChatGPT is an interactive AI chatbot that uses Natural language processing and advanced AI model to generate human like responses.





However there exists challenges such as lack of digital literacy and cyber security issues. Thus need of Hour is to provide digital awareness (eg) by PM-GDSNA (Gramin Digital Saksharta Abhiyan) and build strong firewalls against cybersecurity issues. This will help in making India Agriculture sector sustainable.

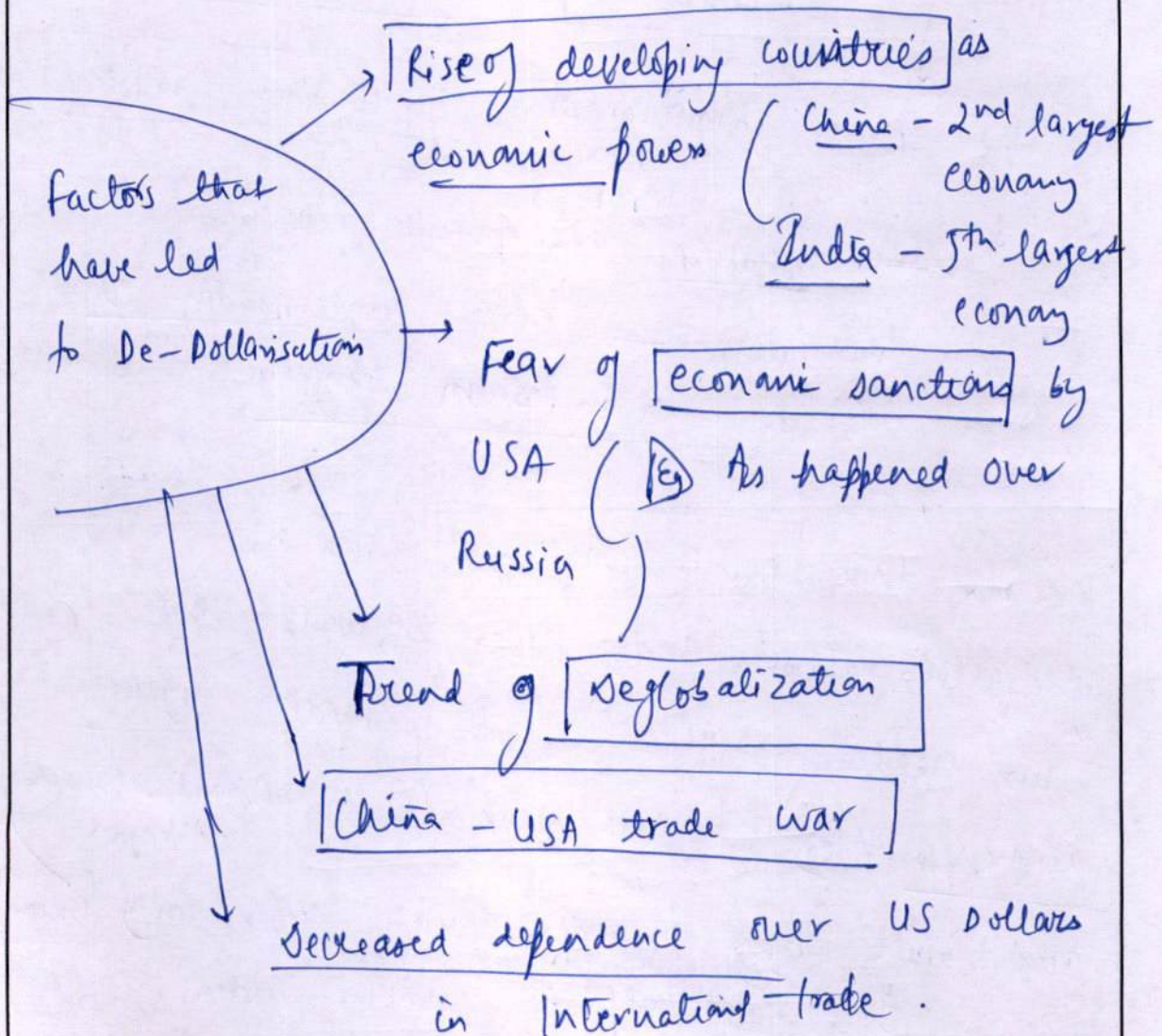
3.

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 हाशिए में नहीं लिखना चाहिए
Candidates not write on this margin

De-dollarisation refers to neglecting use of Dollar in Bilateral and Multilateral trade, and using other currencies for international trade.

Recently India signed a MOU with UAE to trade in Rupee.



It is difficult to move away from Dollar in near future because -

- (i) $> 80\%$ trade takes place in Dollars
- (ii) Most countries have their FOREX in \$
(e.g.) India - \$ 560 Bi as FOREX)
- (iii) It is most widely prevalent currency.
- (iv) Most stable currency at present.

However countries like China and India are pushing for de-dollarisation.

India has an MOU with Russia to exchange goods in Ruppee - and - Rouble.

China has ongoing trade in Yuan and Yuan with countries like Iran, UAE, etc.

Thus, in coming future De-dollarisation is a reality. It is also necessary for ~~our~~ reducing dependence over USA and

becoming Atmanirbhar.

4.

विकसित देशों द्वारा भारत पर खाद्य सस्ती 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)

10

In various WTO meetings developed countries have pressured India to alter its food subsidy. Amber Box subsidies, ban on fishing subsidies (recent WTO meeting), etc are few examples.

~~Merit for retaining~~

India spend around

₹ 3.75 lakh crore in food ~~subsidy~~ and Agriculture Subsidy.

in which around ₹ 2 lakh crore is food subsidy

Merit in India trying to retain its policy support

① Need to support 140 crore population — ensure food security for them.

② As per NITI aayog — 16% are Multidimensionally poor.

(To fulfill Social Contract) need to provide them adequate subsidy

③ High prevalence of IMR and MMR in India
as per NFHS-5 report - 30/1000 IMR

④ High prevalence of Malnutrition and hidden hunger.

NFHS - 5	undernutrition	32%	of total ^{total} children
	Stunting	35%	
	wasting	19%	

⑤ > 50% of Indian women are anemic.

Issues in food subsidies as per developed countries

- (i) consider it as trade distorting.
- (ii) Unfair market practices.
- (iii) Contribution to Climate issues.
(as CH₄ (methane) emission due to rice production)

However, for maintaining food security in India it is necessary to provide food subsidy.

It must be brought slowly and gradually down
when people are strengthened enough to
buy food of their own.

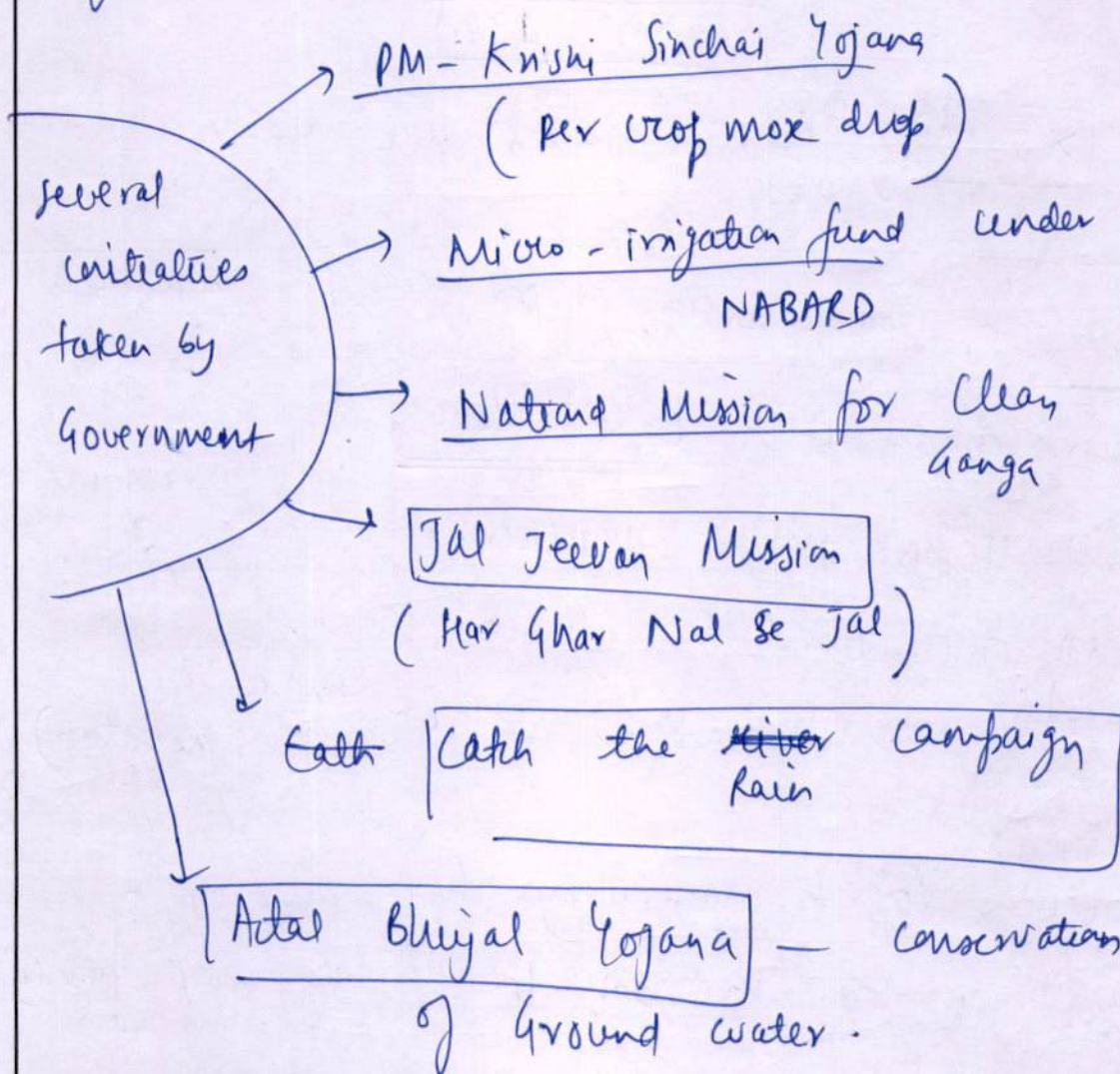
5.

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)

10

India has only 4% of fresh water resources but 17% population and 20% cattle population of the world.



However issues remain because →

① Agriculture sector — ~~uses~~ ^{used} > 90% of Groundwater by Agri sector

- ① Production of water guzzling crops.
(Rice, sugarcane, etc)
- ③ Use of fertilizers, pesticides, etc which require
(urea) huge amount of water
- ④ Power subsidies → unsustainable extraction of
to farmers groundwater.
- ⑤ Climate Change Impact — drying up of wells,
canals, tanks, wetlands, etc.
- ⑥ Industries → dumping of toxic chemicals
in rivers.
- ⑦ dumping of Household wastages in canals and
rivers
- ⑧ Agriculture — runoff from agricultural land
causes Eutrophication and toxification of
water body.

Need of hour is active behavioral change
by farmers, Industries and households.

Hefty penalties on Industries, and awareness
to farmers and household is the
way forward.

6.

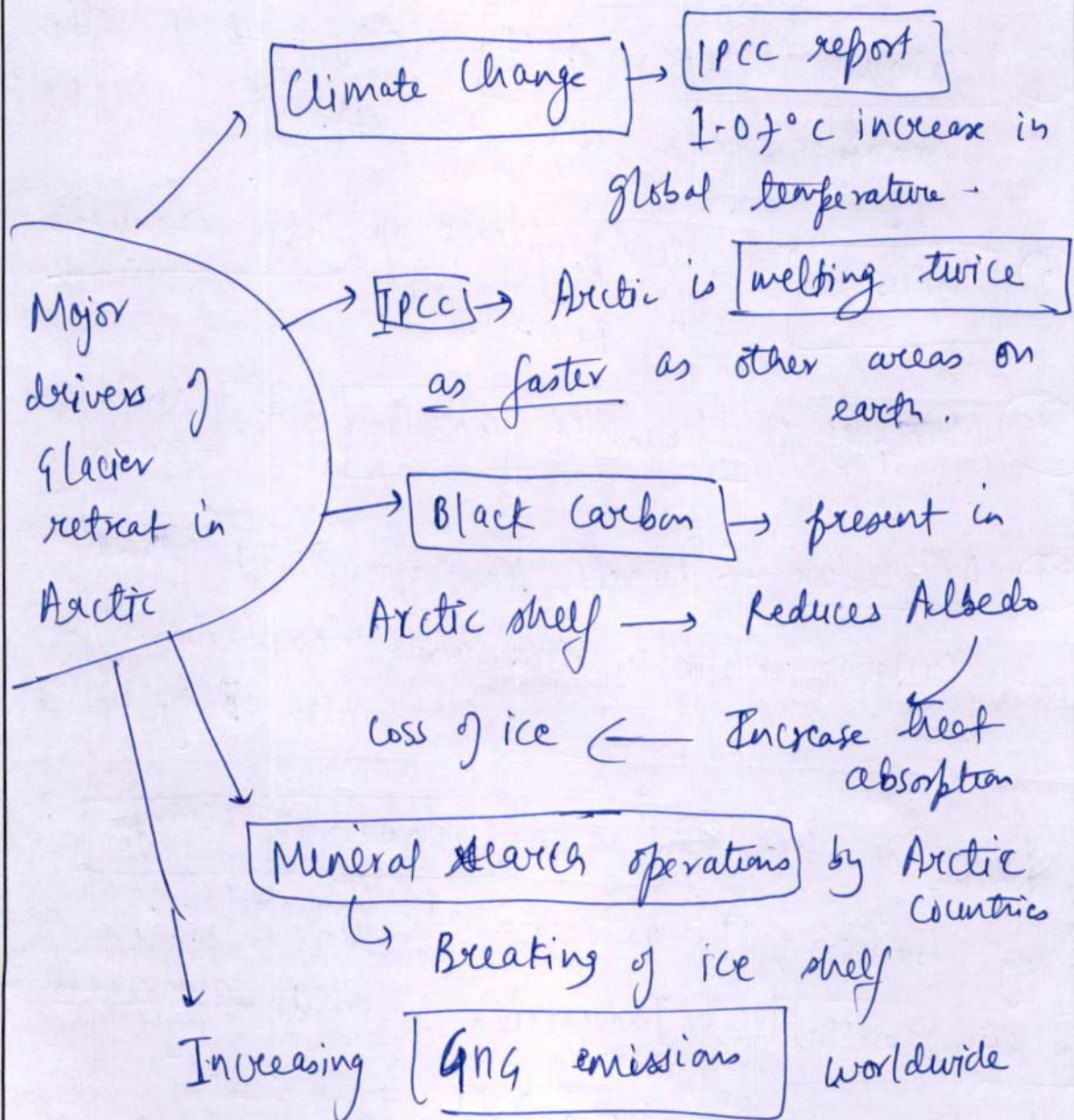
आर्कटिक में हिमनदों के पिघल कर संकुचित होने के लिए उत्तरदायी कारक क्या हैं? पारिस्थितिकी तंत्र पर आर्कटिक हिमनदों के पिघलने के संभावित प्रभाव का वर्णन कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

As per IPCC 6th assessment report
40% decline in Arctic ice during
Summer seasons is observed ~~than~~ 1900
in 2020 when compared to 1900s



Potential impact on the ecosystem →

① Sea water rise in Higher latitude Nations
Such as Norway, Russia, Canada.

② Bio diversity loss → polar bears, seals,
walrus, etc will become endangered &
extinct

③ tipping point - it will impact other
ecosystems throughout the world.
eg oceanic circulation will increase

④ Fishes which come for breeding in
Arctic region will decline

⑤ Impact on tribals living in Arctic region
like Inuits and Eskimos.
They will have to face displacement.

Hence, Need to achieve INDC targets
by all countries to cumulatively achieve
Paris treaty targets i.e. keeping earth's
temperature below 1.5°C increase.

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

Space tourism can be described as sending tourists to space especially at low earth orbits (in International space station), etc.

As per European Space agency → space tourism has a potential to become a \$300 Bn Industry.

Various private agencies such as SpaceX, Blue Origin, etc are trying to send space tourists to International space stations.

But there are various Challenges / Hindrances

(i) Issues of space debris → i.e. wastage of rockets / satellites, etc which are still revolving around the earth.

(ii) Higher initial cost to setup.

(iii) Space treaties such as Moon treaty,
outer space treaties have expired and
not yet revived.

(iv) Militarization of space can take place in
name of space tourism.

(v) May lead to Ecocide → destruction of
space ecosystem.

(vi) Inequality → only accessible to rich ^{section} ~~section~~
of society

Measures to take →

① Reduce Debris → Put them in a particular orbit
slowly bring back into
earth back (and dispose)

② Revive space treaties — for equitable sharing
of space sector. Rules and regulations for
space tourism.

③ Increase Expenditure on R&D

④ Bring in more private sector

space tourism can bring in economic opportunity
for public as well as private sector but it must
be conducted with Sustainability.

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

CRISPER - CAS 9 provided for

DNA recombinant technology -

Any portion of DNA could be

cut using CRISPER CAS 9.

CAR-T cell therapy in Cancer treatment

① Regenerate lost cells.

② Silence Oncogenes

③ Reduce tumours

④

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 कक्ष में नहीं लिखना चाहिए
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A various technologies have been acquired by violent extremist organizations who use it for destabilising the country.

Technologies used by extremist organizations

① Bio-technology → use of Bio-weapons,
i.e. viruses which can spread rapidly and cause mass mortality.

② Nano-technology → use of Nano-cameras for inspection
→ using Nano-particles which gets injected in human body and cause health issues.

③ Drone technology → for dropping explosives,
→ Also used for drug trafficking
Ex: In Punjab.

④ Latest ~~defence~~ high tech defence equipments
Machine Guns, Long range missiles etc

⑤ Blockchain - Cryptocurrencies for Moneylaundering

उम्मीदवारों को
इस हार्डिप में
नहीं लिखना
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The Countering these require Global efforts
because →

- ① These organisations work Cross-border.
- ② They have cross-border linkages with other groups.
- ③ Require Tech collaboration between various countries. (Tech transfers, etc)
- ④ Pooling expert resources to effectively counter such organizations.
- ⑤ use of Peacekeeping forces of UNSC to neutralise such organizations.
- ⑥ Rising organise criminals and terrorists linkages → require cumulative effort by all countries.
- ⑦ No policies regarding Blockchain, etc

Need of hour is to come together of various nations and chalk out effective mechanisms to combat tech savvy violent extremist organizations

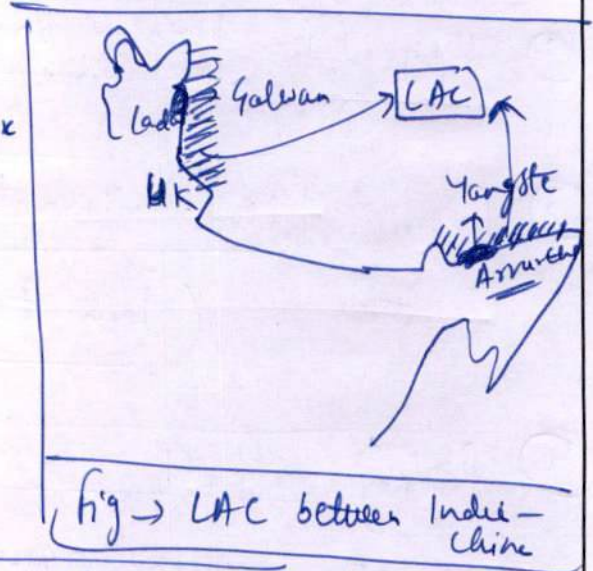
10.

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)

10

Recent instances of Chinese incursions in Galwan (2020) and Yangtse (2023) have pushed India to build robust infrastructure along LAC.



Some of the important initiatives are

- ① ~~Char-Dham~~ Char-Dham Mahamarg for effective Mobilization of troops at Uttarakhand borders.
- ② Dhola-Sadiya Bridge at Assam-Arunchal Pradesh
- ③ Vibrant Village Program → for building Border village infrastructure along LAC.

ITBP ~~has~~ also play important role in LAC

- ① Security of Indo-China Border

from Chinese PLA.

- ② Monitoring of illegal trafficking of electronic products, cheaper toys and other products
- ③ Help in Building infrastructure along LAC (~~Roads~~ Roads, Bridges, etc)
- ④ Disaster evacuation missions
- ⑤ Help in Building schools, Hospitals, etc along Border Villages.
- ⑥ Conduct Kailash - Mansarovar Yatra
- ⑦ Preservation of fragile Himalayan ecosystem

As per Recommendations of Shankar Kar

Committee — Need is to ~~use~~ ^{take} help

of Machinery to build infrastructure along borders.

Use PPP models to build Infrastructure and

Use of Modern technology to protect border.

More constant capacity building of

ITBP personnel should be the way forward.

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)

15

Land productivity is defined as producing higher amount of crops from a small piece of land. In India, > 86% of farmers are small and marginal (land < 2 Hectare). Hence Land productivity becomes important.

However, Today there has been a need to move towards Irrigation water productivity

This means utilization less water for producing higher amount of crops.

Need for this shift →

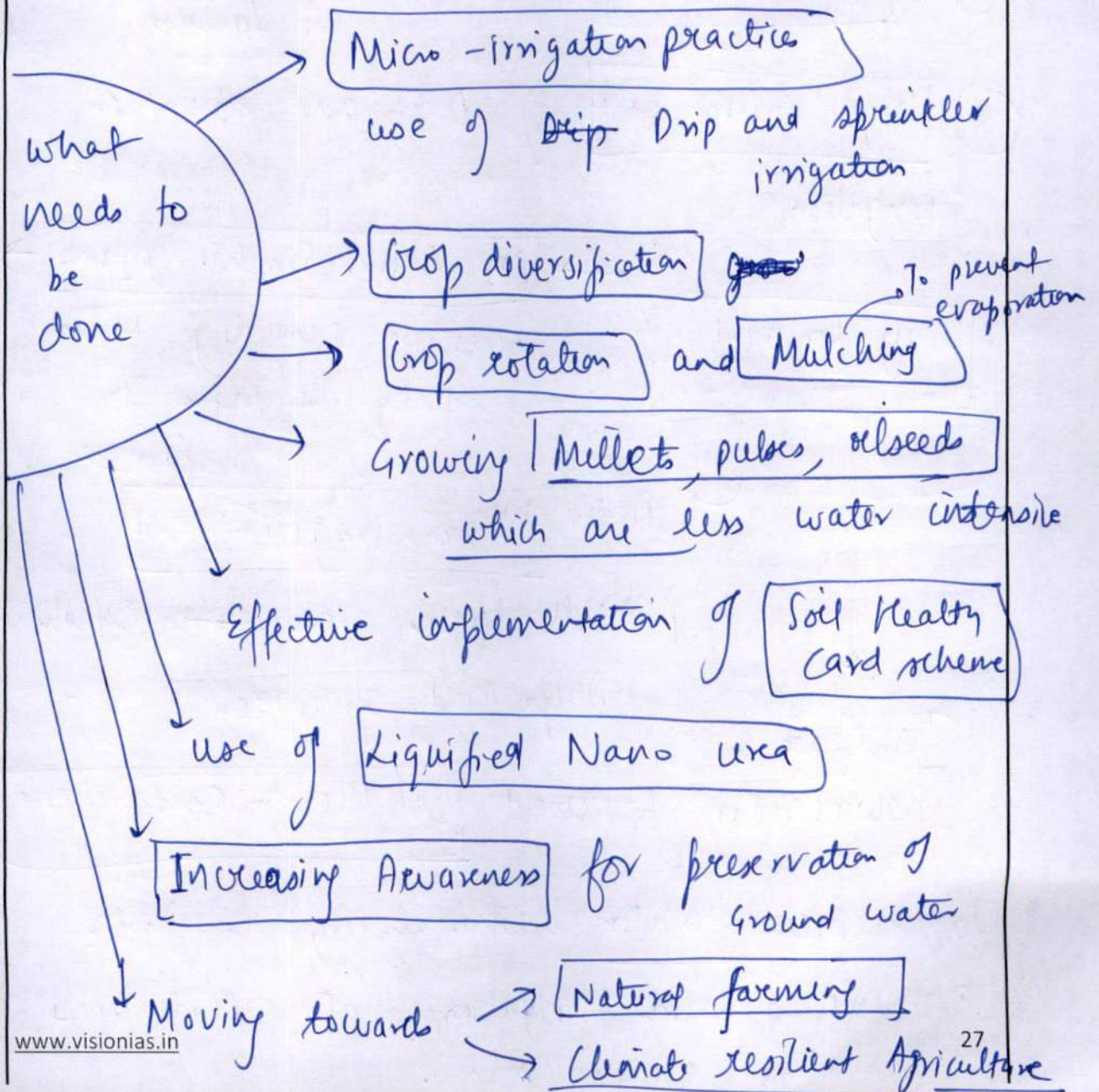
- ① Use of excess water for irrigation.
- ② > 90% of Ground water (GW) is used for agriculture purpose.

(As per NITI aayog 17% of GW blocks are over exploited)

③ Excess focus on Water guzzling crops like Rice, sugarcane, etc.

④ Post Green revolution — use of chemical fertilisers has increased. This has led to increase in use of water for irrigation.

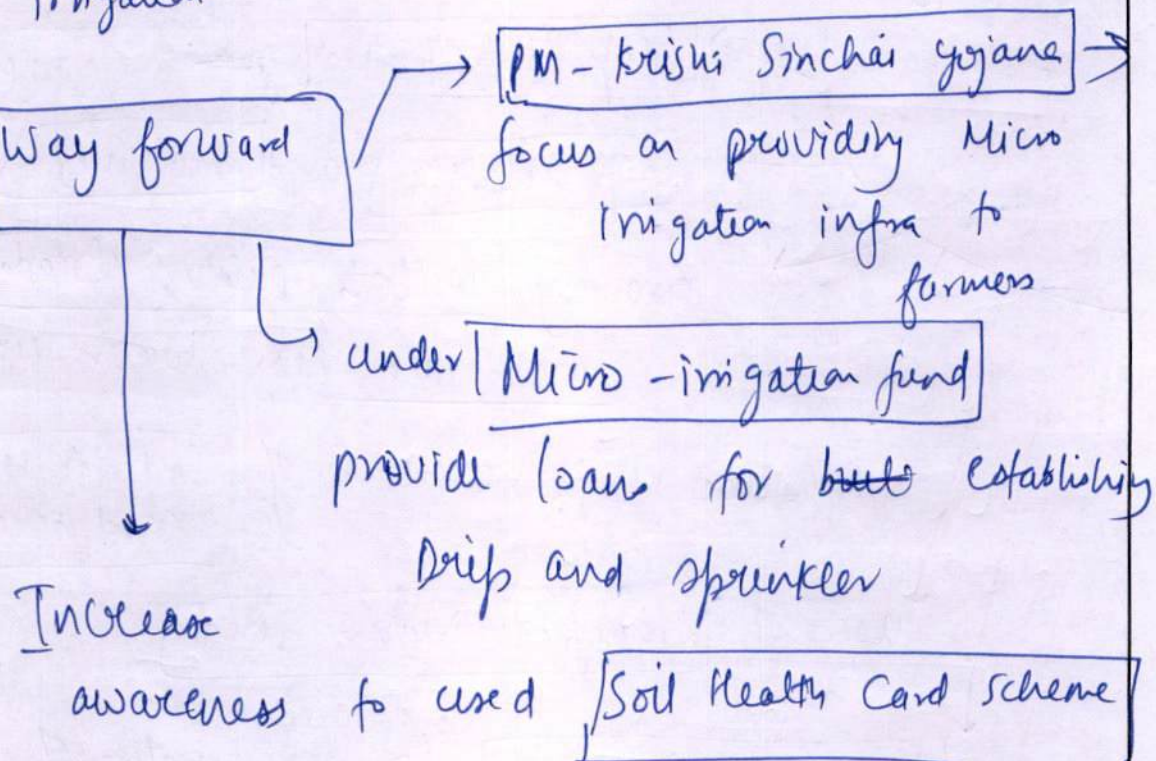
⑤ Power subsidies → irresponsible use of Ground water by farmers.



Challenges in Making this shift →

- ① MSP policy → focus more on crops like Rice, sugarcane, wheat → water guzzling (FRP)
- ② Fertilizer subsidies → irresponsible usage of Urea
- ③ Lack of awareness to farmers
- ④ Power subsidies provided — irresponsible extraction by farmers
- ⑤ High initial cost of Drip and sprinkler Irrigation

Way forward



To achieve water sustainability in India
a move towards irrigation water productivity
is *sin qua non*.

12.

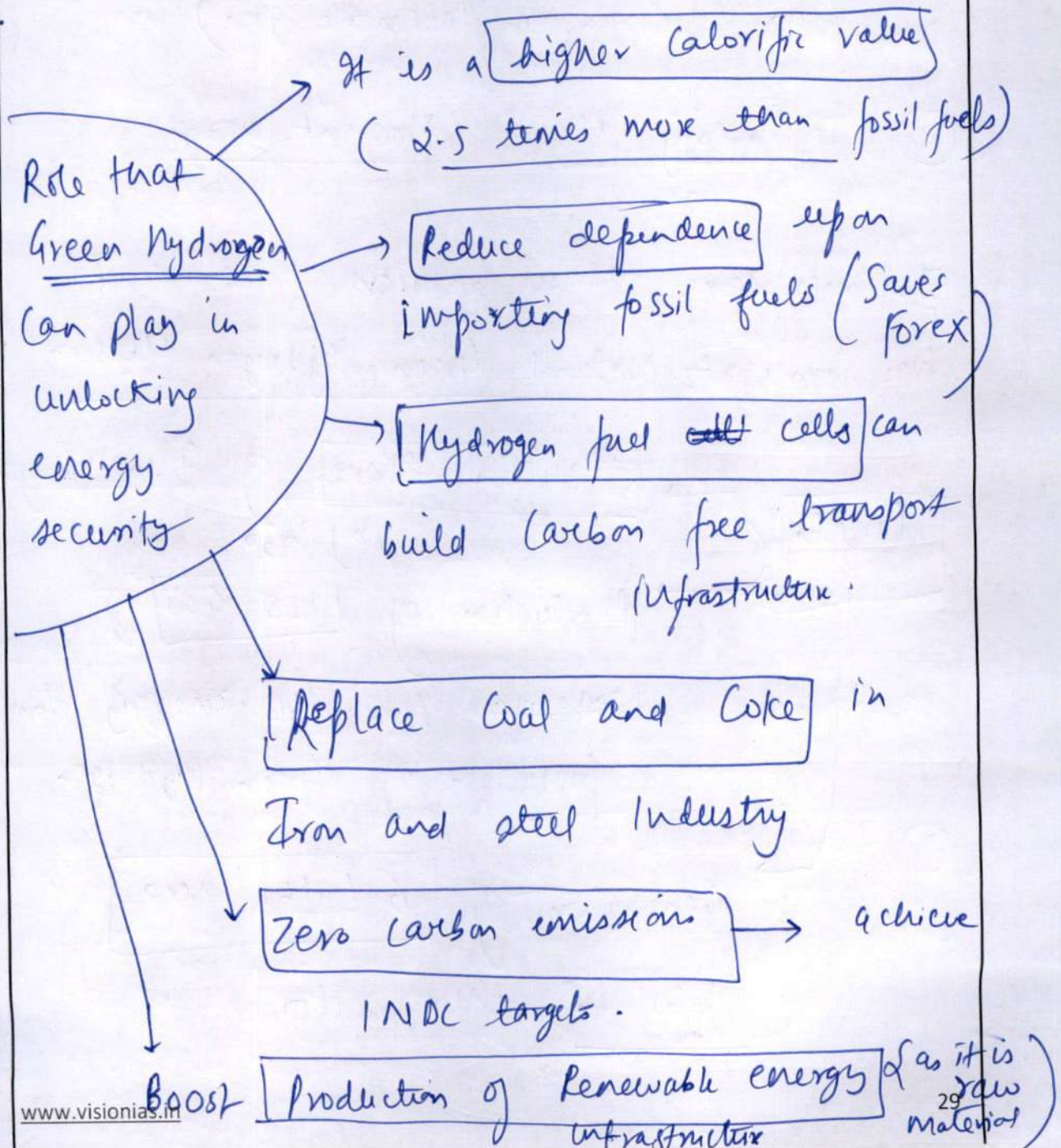
भारत की ऊर्जा सुरक्षा प्राप्त करने में हरित हाइड्रोजन की भूमिका का परीक्षण कीजिए। राष्ट्रीय हरित हाइड्रोजन मिशन, भारत की अपने ऊर्जा लक्ष्यों को प्राप्त करने में किस प्रकार मदद कर सकता है? (उत्तर 250 शब्दों में दीजिए)

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 हार्शिए में नहीं लिखना चाहिए
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15

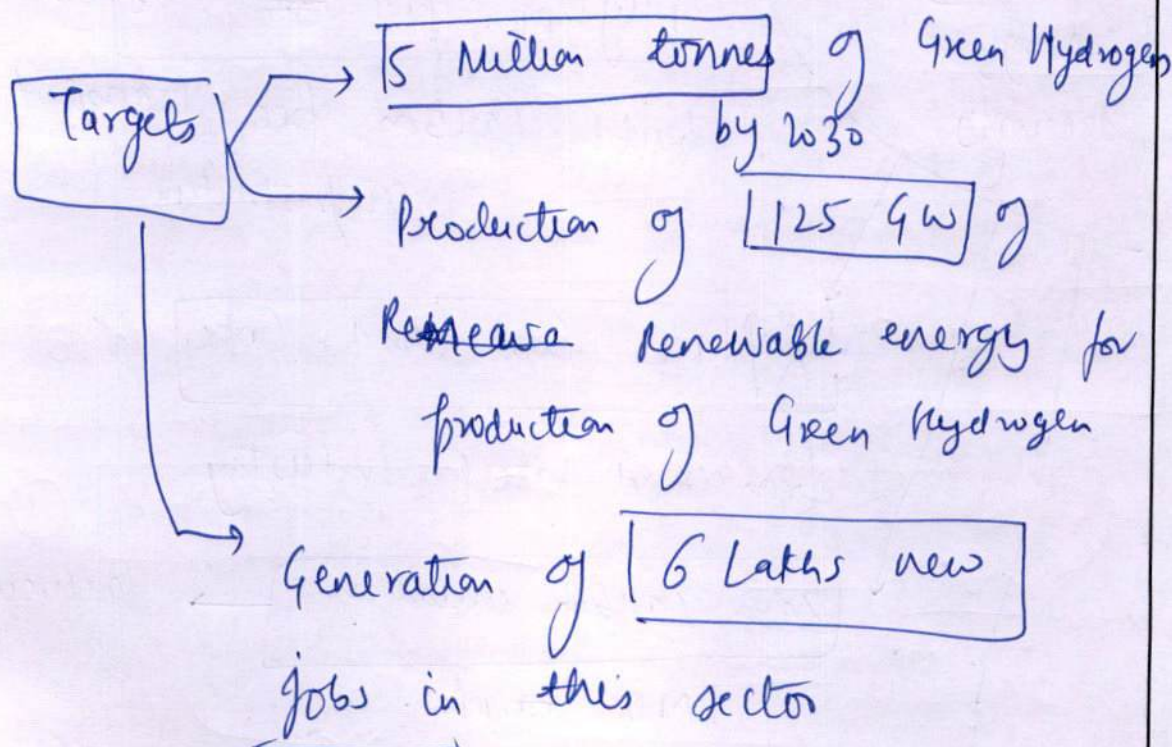
Green Hydrogen is defined as the
Hydrogen produced from Renewable energy
resources such as Solar and Wind.



Challenges in producing Green Hydrogen

- ① Higher initial cost
- ② Renewable energy being diverted for producing Green Hydrogen
- ③ issue of storage and transportation
(as Hydrogen is flammable gas)
- ④ Technology at a Nascent stage

To overcome these barriers Government has brought National Green Hydrogen Mission



It will help in achieving energy goals as :-

- ① Boost production of Green Hydrogen
- ② Boost production of Renewable energy
(especially Solar and Wind)
- ③ Develop a Hydrogen based economic infrastructure including provisions for storage and transport of Green Hydrogen
- ④ Invest in R & D of Green Hydrogen technology
- ⑤ Bring in private sector participation.

Boost to Green Hydrogen will help us
to become energy secure on one hand and
on another help us to achieve our
Panchsheel Goals. It is also a step
towards Atmanirbhar India

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)

15

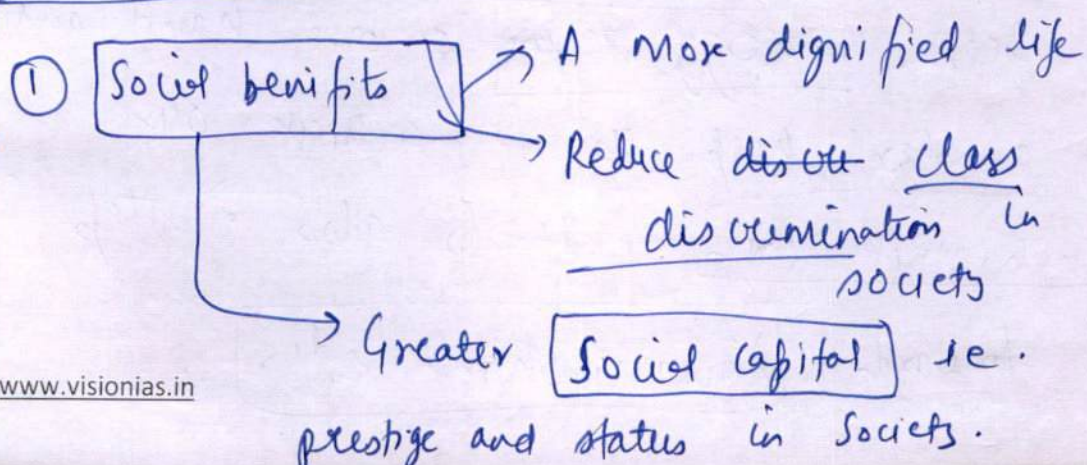
Article 43 of Indian Constitution directs State to provide living wage to all the citizens of India.

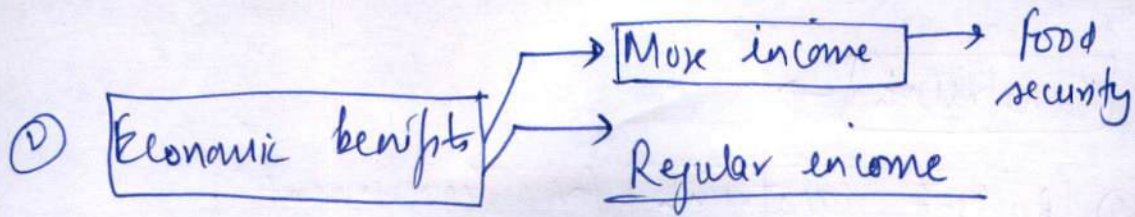
Minimum wage was set to fulfill basic needs of individuals including food and water security.

Living wage is provided so that the person can live a dignified life.

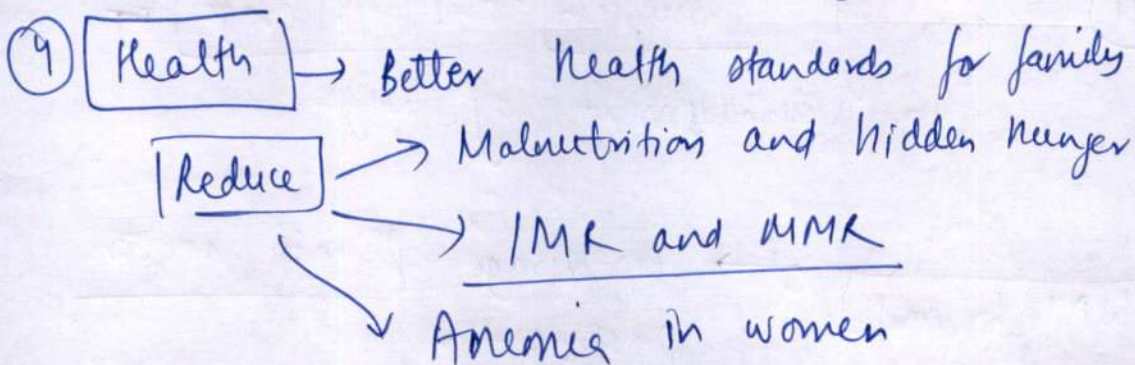
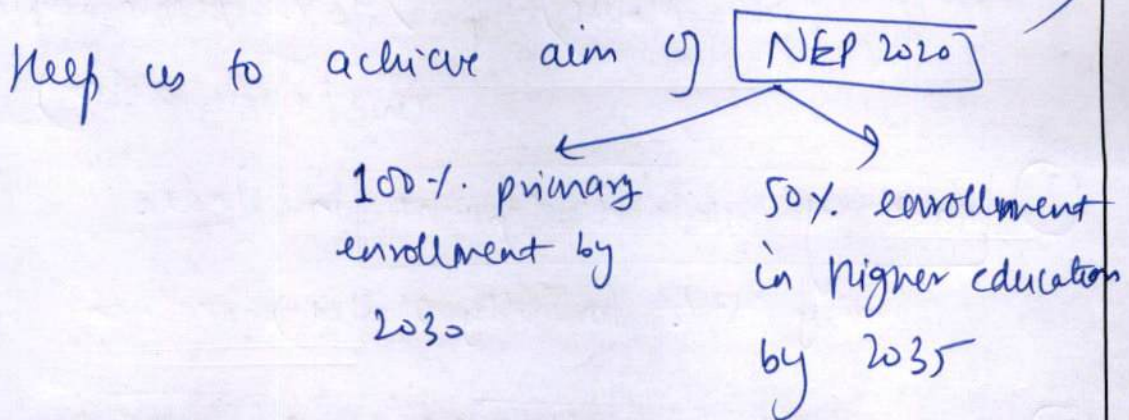
He/she could afford quality education, Medical treatment, etc for himself and family.

BENEFITS OF ADOPTION of living wage





③ Education — provide effective education to family
(current literacy rate is 74% → this will increase)



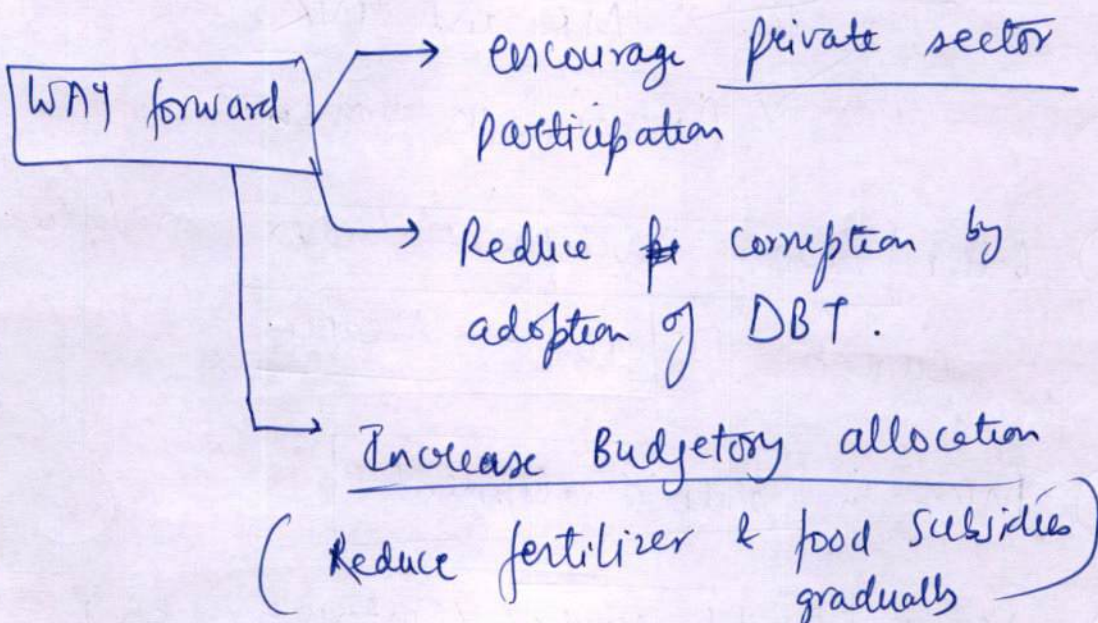
⑤ Better Human development Index for India
current 132/191 — Medium

⑥ Invest in skill development

⑦ Afford Digital services (internet, etc)
(help in capacity building and skill development)

Constraints →

- ① Budget constraints for Government.
(6.4% fiscal deficit in 2021-23)
- ② Lack of participation from private sector
(profit Motive) [$> 90\%$ people employed in private sector]
- ③ Lack of skill development in India
(only 5% formally skilled)
- ④ cases of Corruption and pilferage by
in disbursement of wages.



To fulfil directives of Art. 43, Need to provide living wage. This will ensure

केंद्रीय बजट भारतीय अर्थव्यवस्था के लगभग हर क्षेत्र 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)

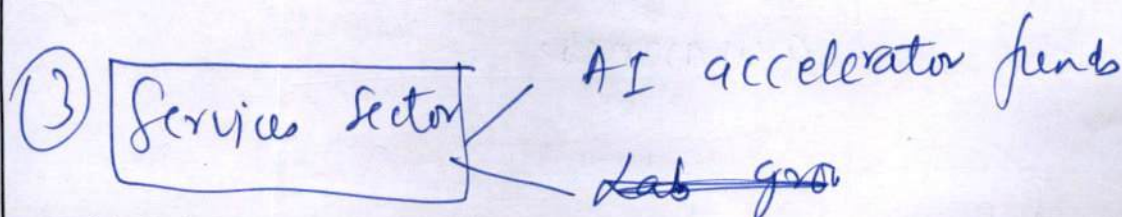
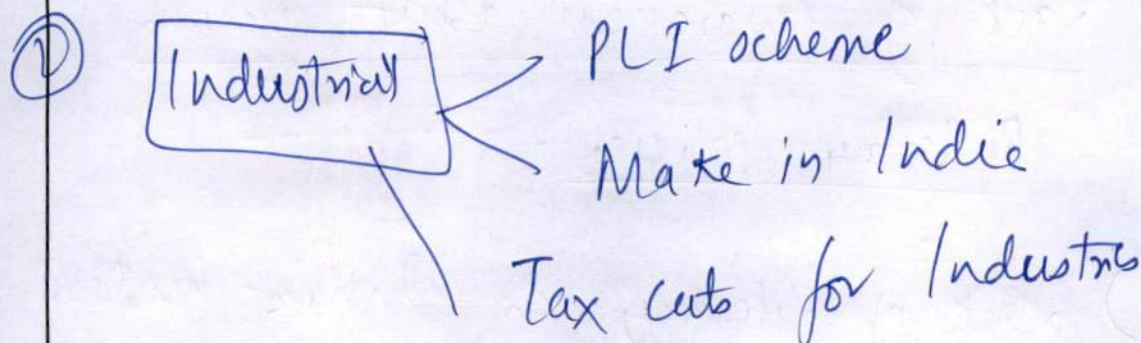
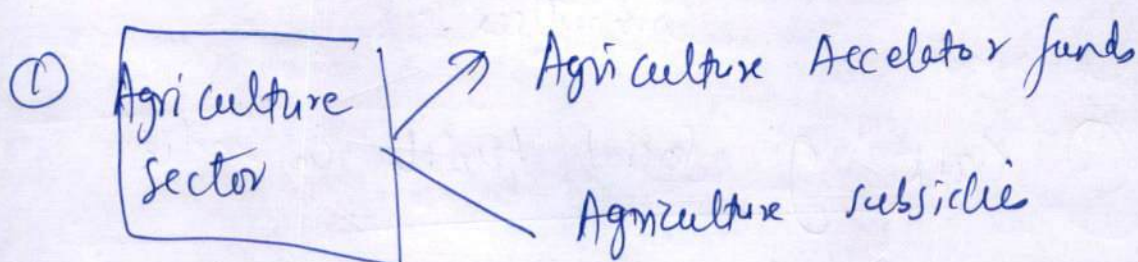
The Union Budget affects almost every sector of the Indian economy, yet neither the budgetary processes nor the budget policies come under substantial public scrutiny. Do you agree? Justify your answer. (Answer in 250 words)

15

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Article 112 provide for Annual financial statement aka Budget providing Income and Expenditure of Govt for the coming fiscal year.

Budget impacting every sector



④ Skill development — PM - Kaushal Vikas Yojana

⑧ Inclusive Growth → various schemes
Beti Bachho Beti Padhao

Lack of Public Scrutiny

- ① Not ~~read~~ effective examination of
Demand for grants by Parliamentary
Committees.
- ② Lack of Social Audits in India
- ③ Lack of Awareness about various
Budgetary policies -
- ④ Lack of Literacy in India - hinders
awareness.

उम्मीदवारों को
इस हार्गिर में
नहीं लिखना
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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)

(by Verghese Kurian)

15

The Cooperative Revolution in Milk sector in India has enable it to become largest milk producer in the world.
Currently India has 20% of world's cattle resources.

Reasons for low productivity of Dairy Animals

- ① Lack of nutritious feed and fodder
- ② Lack of Adequate Number of Veterinary doctors and Veterinary Hospitals
- ③ Increasing cases of Diseases of Cattle.
 (Eg) Foot and Mouth disease, Brucelliosis, etc.
- ④ Lack of Agriculture extension service

in dairy sector.

⑧ Use of Foreign breeds of cattle which are prone to diseases and cannot bear high temperatures and water stresses.

⑨ Lack of Use of Indigenous breeds

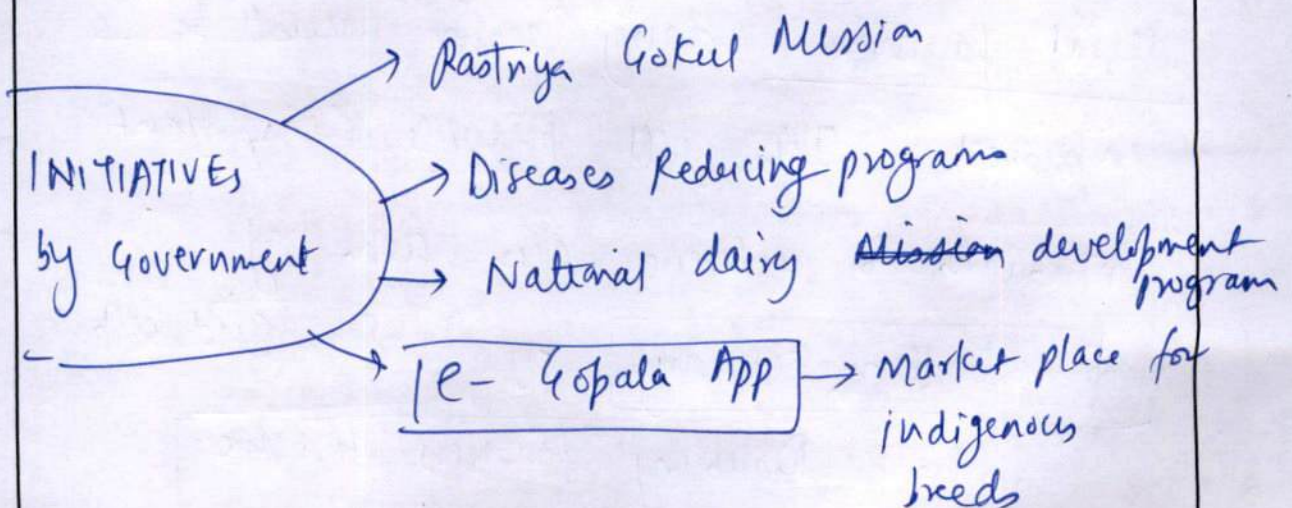
(Eg) MANDA buffalo which has excellent draught tolerant capacity is Not used.)

⑩ Lack of Mechanization in Dairy sector

⑪ Lack of Artificial insemination

⑫ Low vaccinations for cattle.

⑬ Impact of Climate Change → Reduced fodder
→ increasing diseases



WAY FORWARD →

- ① Improve Agriculture extension services in the sector -
- ② Increase number of Veterinary colleges in India
- ③ Promote adoption of Indigenous breeds
- ④ Improve Mechanization & leverage PPP sector for promoting mechanization
- ⑤ Promote Artificial insemination programmes
- ⑥ Promote Milk Cooperatives in other parts of India
- ⑦ R&D on vaccines to reduce disease burden of Cattle.

To provide dignified life to millions of rural farmers dairy sector must be improved. This will provide important contribution to achieve our aim of \$5 trillion economy by 2025 and help in Doubling farmers Income

16.

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)

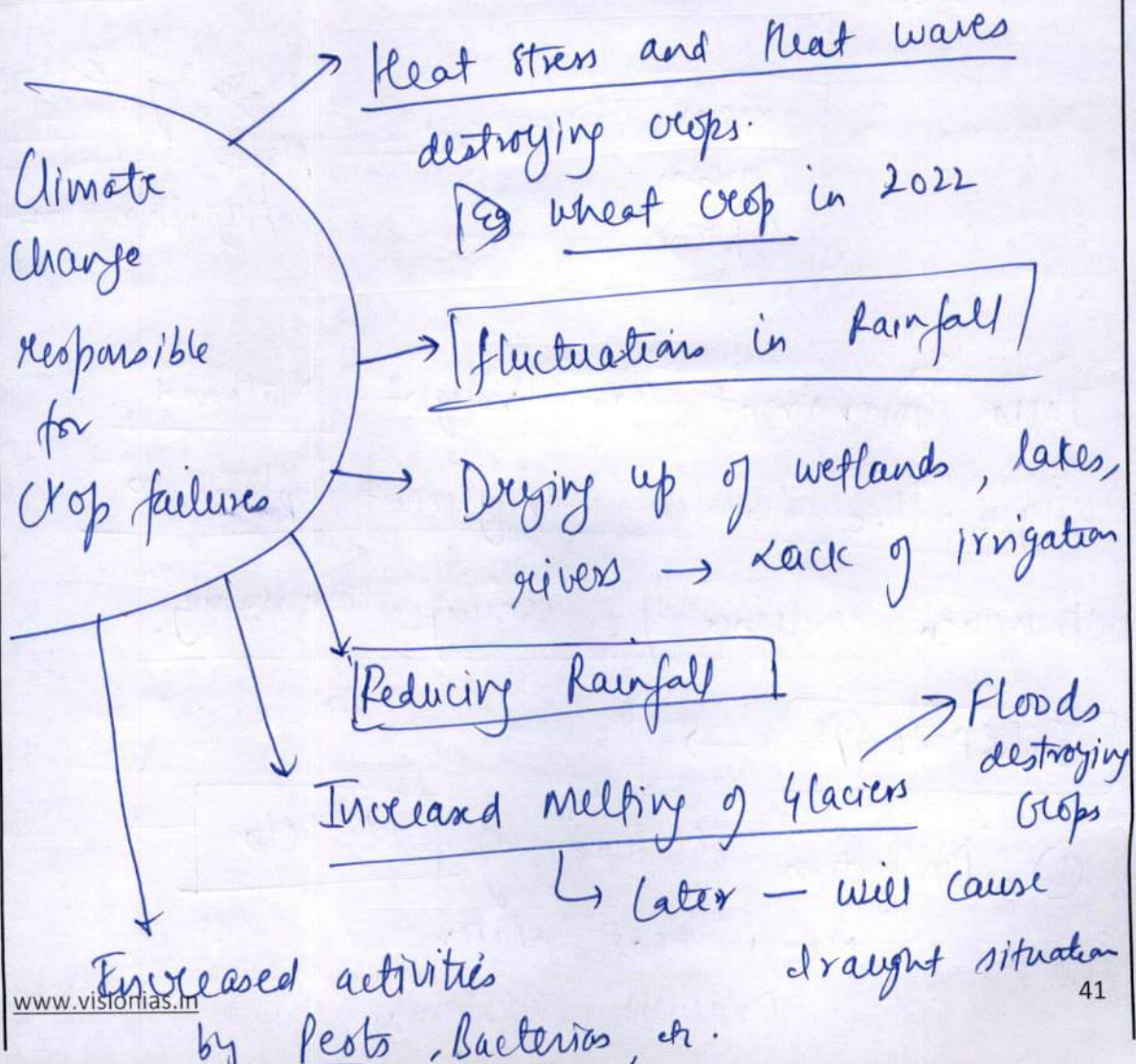
While climate change is responsible for crop failures, the agricultural sector itself is partly responsible for extreme weather events. Discuss. What strategy has been adopted under National Agriculture Disaster Management Plan to strengthen the resilience of the farming community in India? (Answer in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

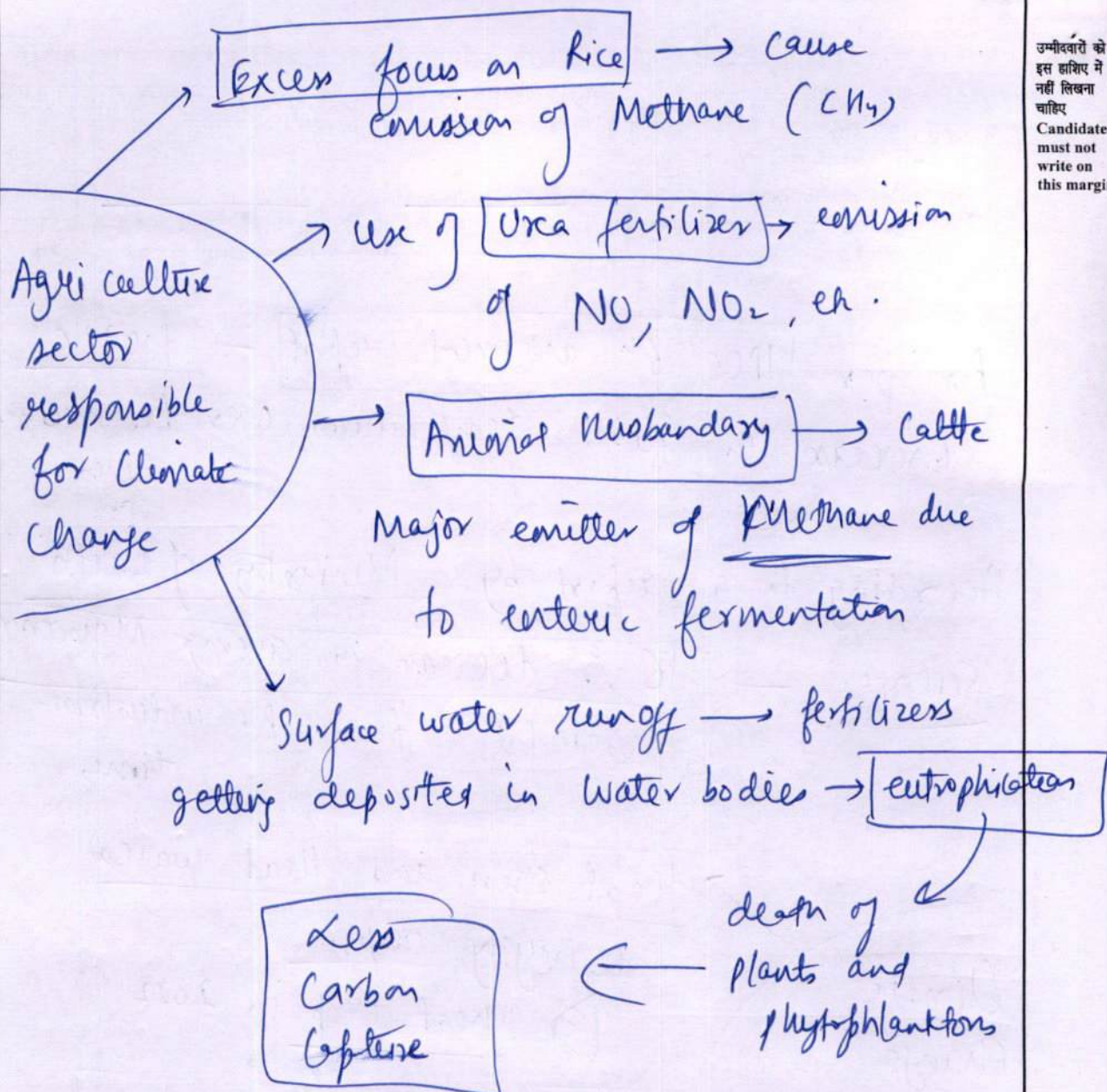
उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
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15

As per IPCC 6th assessment report — 1.07°C
increase in Global temperatures over pre-industrial times

According to a report by Ministry of Earth Sciences — 16% decrease in average Monsoon rainfall from pre-industrial times





Thus government has brought National Agriculture disaster Management plan to strengthen resilience of farming community.

STRATEGY →

- Promotion of use of Millet → Need less water Drought resistance

- ① Focus on Micro-irrigation practices
- ② Focus on Climate resilient Agriculture
- ③ Production of crops based on Geographical factors
 ↳ MP → pulses, Millets, oilseeds
 Bihar, WB → Rice, Sugarcane.
- ④ PM - Fasal Bima Yojana → To provide insurance against crop damage
- ⑤ Promotion of Natural farming techniques
- ⑥ Promotion of Animal husbandary along Agriculture

Climate change is a reality. And it will impact Agri sector in future. Thus effective Mitigation and Adaptation strategies have to be made to uphold livelihoods of farmers as well as food security in India

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)

15

Delhi is situated in Zone 4 i.e.

High vulnerability zone of

Earthquake.

Main reason is the close distance to Himalayan region which is a Zone 5 region.

Reasons for EQ in Himalayan region

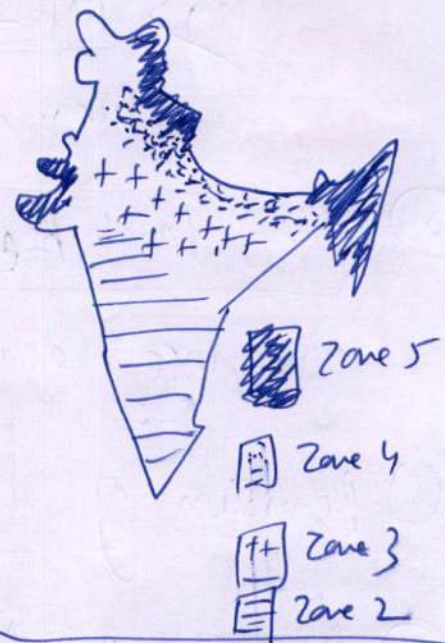


Fig - EQ Zones in India

Due to constant interactions of plates Eurasian and Indian plate, tremors generate all along Himalayan region.

Reason for Delhi and nearby areas getting

impacted :-

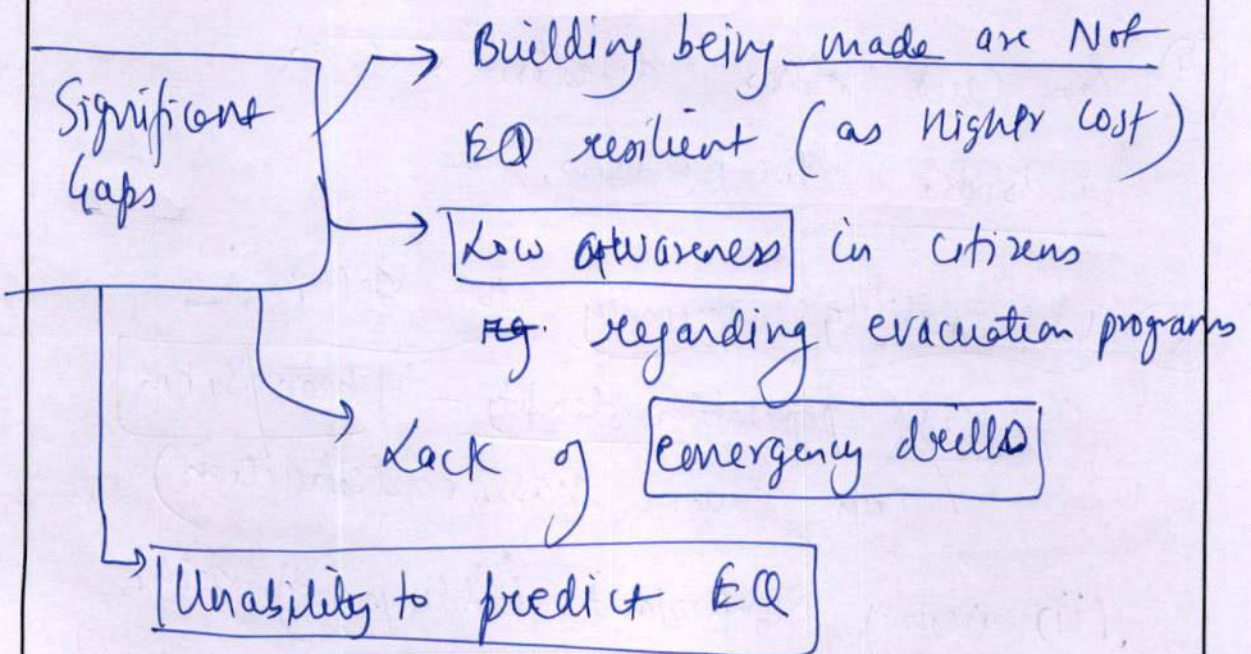
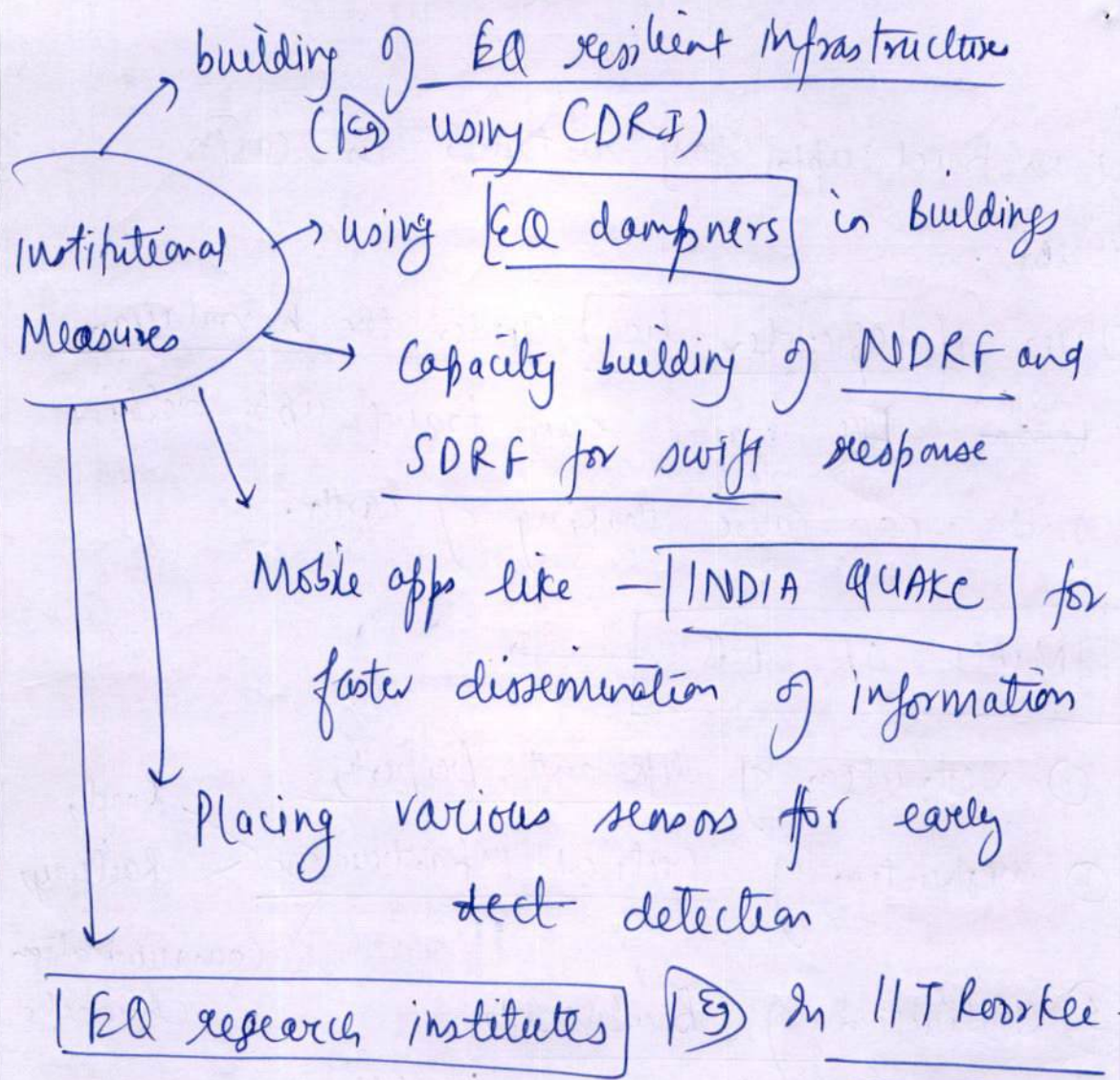
Earthquake waves (P wave and S waves)

can travel upto long distances in earth
crust.

Thus if epicenter lies under the himalayan
^{region}
~~region~~, EQ waves can travel upto delhi
and can cause shaking of earth.

IMPACT OF EQ →

- ① Destruction of life and property.
- ② Destruction of net of infrastructure Roads
Railways
Communication
channels
- ③ Destruction of Biodiversity
(forests and wildlife)
- ④ Can cause other disasters such as
landslides, fire hazards, etc.
- ⑤ Vulnerability especially to delhi →
 - (i) High population density - 16000/sq km
(can cause massive destruction)
 - (ii) Destroy important buildings of delhi
including parliament, Supreme court,
foreign embassies, etc



Need is to build enough capacity of local people and response forces to effectively respond to EQ disasters

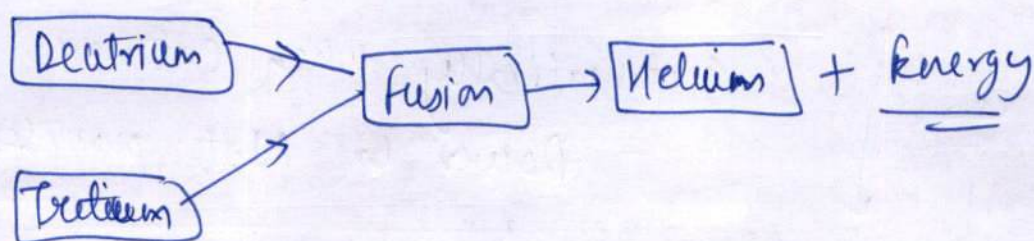
हाल ही में, वैज्ञानिकों ने परमाणु संलयन अभिक्रिया में निवल ऊर्जा लाभ की घोषणा की है, जिसे स्वच्छ ऊर्जा के भविष्य के लिए एक बड़ी वैज्ञानिक सफलता माना गया है। परमाणु संलयन आधारित विद्युत उत्पादन के क्या लाभ हैं? व्यावसायिक स्तर पर विद्युत उत्पन्न करने के लिए इसके उपयोग की क्या सीमाएं हैं? (उत्तर 250 शब्दों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

उम्मीदवारों को इस इतिहास में नहीं लिखना चाहिए
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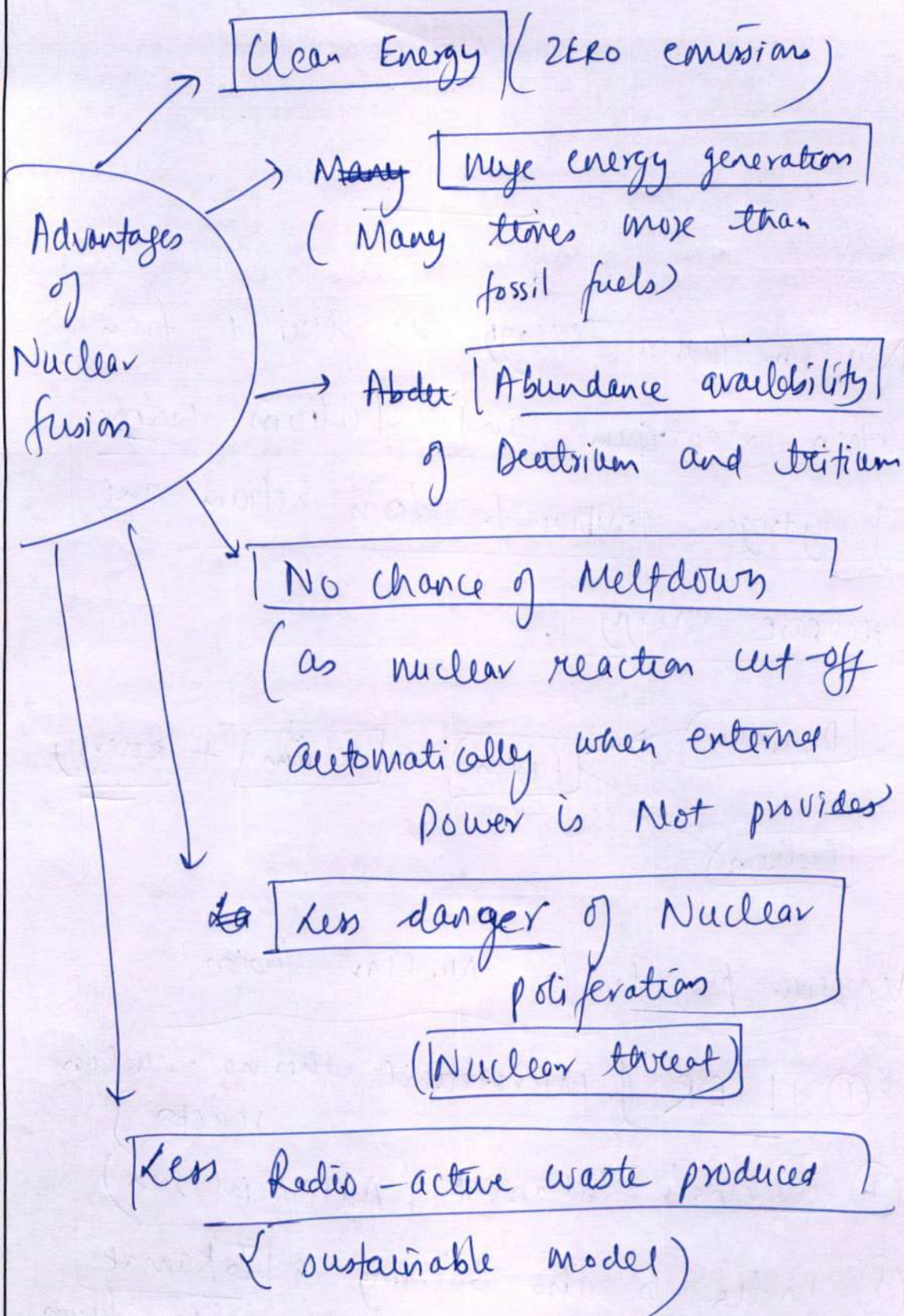
15

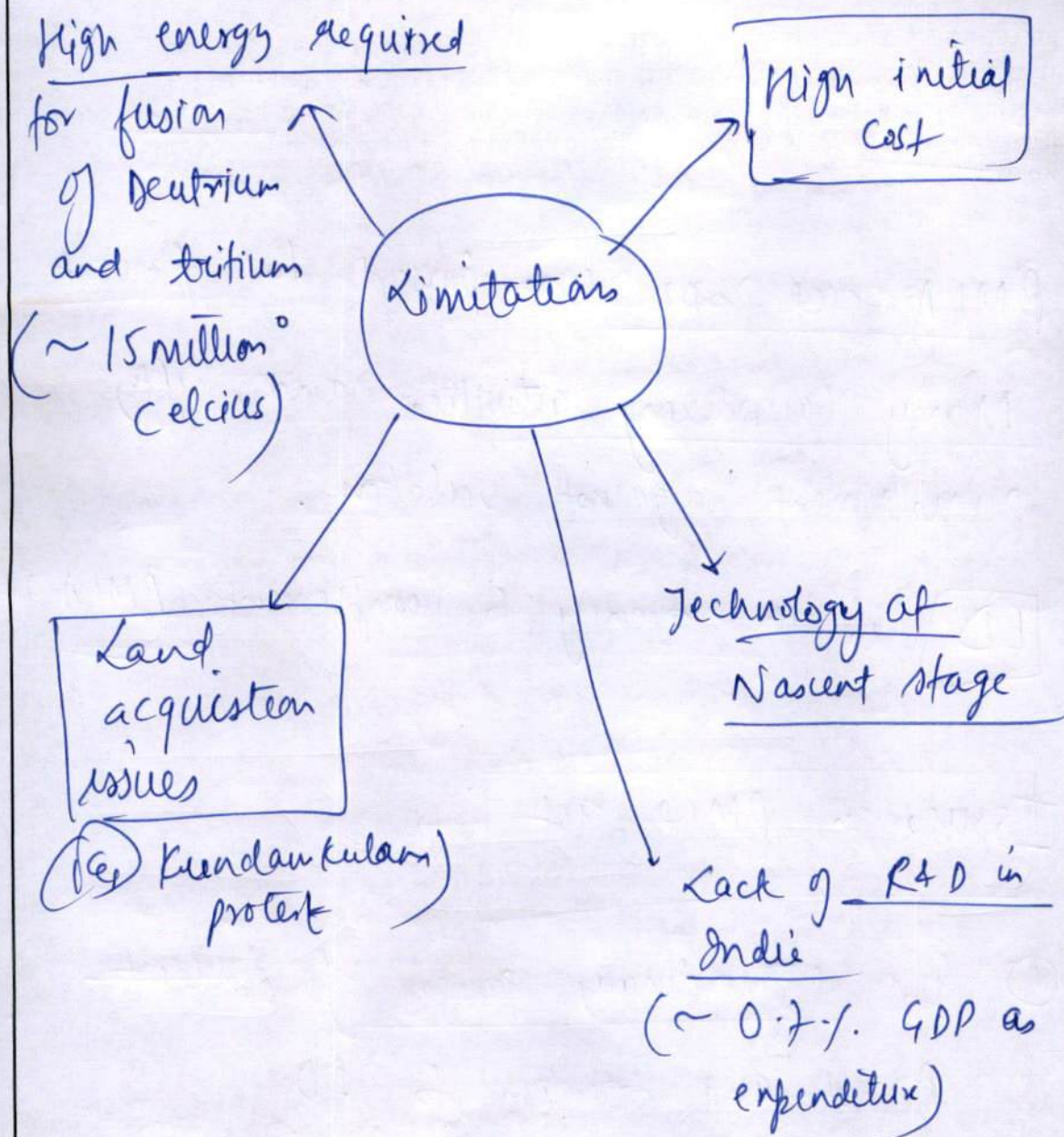
Nuclear fusion energy is derived from when Deuterium and Tritium isotopes of Hydrogen combine to form helium and release energy.



Various projects for Nuclear fusion

- ① IITER (International Thermonuclear reactor)
- ② China's Tokamak (Artificial sun)
- ③ India is also building a Tokamak (nuclear fusion reactor)





Way forward — Mobilization of funds for
adequate research in Nuclear fusion
technology.

International collaboration required to

successfully channelise Nuclear energy
which can help us in achieving

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

उम्मीदवारों को इस हार्डिप में नहीं लिखना चाहिए
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PMLA act 2002 was passed to prevent Money laundering activities and hefty punishment against violators.

ED is the agency to implement PMLA 2002

Issues in PMLA act →

- ① Give extraordinary powers of Arrest
 Arrest and detention to ED
- ② Against Innocent until proven guilty
 doctrine
 (as accuse is considered guilty before)
- ③ Burden on Accused to prove his innocence of against judicial process)

④ Lack of transparency →

ECIR report is Not provided to the
accused

⑤ Politicization of ED → Supreme Court
has highlighted ED taking up ordinary
cases rather than organised ~~cases~~ cases.

⑥ Against Article 20(3) → Right against
self-incrimination
→ Accused can be forced to provide
evidences against him

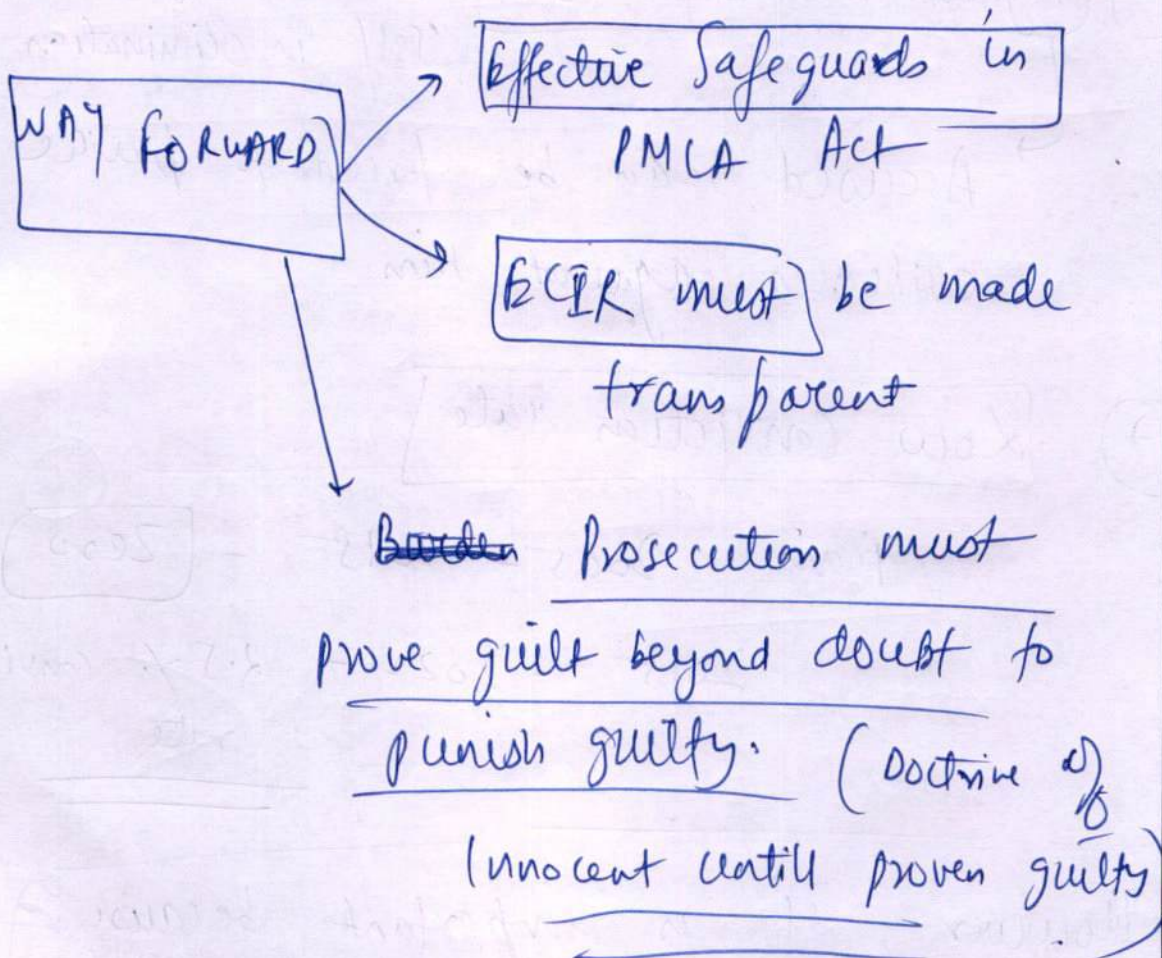
⑦ Low Conviction rate

from 2005 - 2015 - Zero

2015 - 2022 - 2.5% conviction
rate

However, it is important because →

- ① Curb Money Laundering in India (ML)
- ② Promote ~~fiscal~~ financial discipline
- ③ Safeguard fluctuations in financial Markets
- ④ Deterrent against people engaging in ML activities
- ⑤ Curb organised crime activities
- ⑥ Control Terror funding



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)

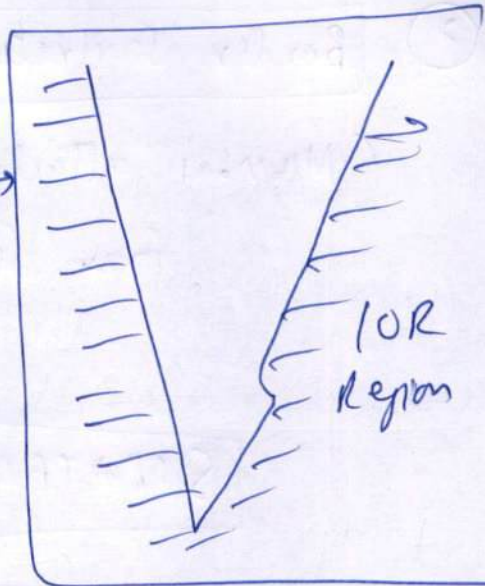
Discuss the security threats present in the Indian Ocean Region (IOR), which have a direct bearing on India's maritime border interests. Suggest a robust strategy to deal with these threats. (Answer in 250 words)

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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SECURITY THREATS

① Presence of Choke points

- Eg
- Malacca Strait
 - Gulf of Hormuz
 - Bab-el-Mandab
 - Suez Channel



② Drug trafficking via sea routes

③ Presence of Maritime Piracy (especially near African coast (SOMALIA))

④ Threat from China

String of pearls Making military ports in IOR

⑤ Yuan Wang 5 — Spy ship docked

@ Kumbantota Port (SL)

① AUKUS - presence of Nuclear submarines
in Southern IOR

② Border Security →
(Mumbai attacks 2008 - Terrorist entered
from sea routes)

STRATEGY →

① Countering China - policy of Neclace
of diamonds.

i.e. developing military ports @ Dagu, Seychelles, etc.

② Collaboration with Like Minded
Countries

↳ QUAD for safe and secure
Indo-Pacific.

③ Capacity building of Indian Coast Guard
↳ Indian Navy

④ Engaging with African countries to
stop Maritime Piracy.

⑤ Using technology for Patrolling Maritime
Borders.

Ex) Use of DRONES

Night vision
Camera

for development of India need is
to protect and safeguard our
Maritime borders.

SPACE FOR ROUGH WORK

① Technology with vision cameras to stop Maritime piracy.

② Using technology for patrolling maritime borders.

Night vision cameras

Use of Drones

for development of India's coast is to protect and safeguard our maritime borders.