



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 उपरान्त 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 भर जाएगा/To be filled by the Candidate)

पंजीकरण सं./Registration No. : 0768303

अभ्यर्थी का नाम/Name of Student : CHAITANYA GIRI

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH ✓

तारीख
Date

27-8-23.

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

केंद्र
Centre

(Joga Singh School)
03

निरीक्षक के हस्ताक्षर
Invigilator's Signature

Geeta Sreena

	महत्वपूर्ण अनुदेश 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।	Important Instructions 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.

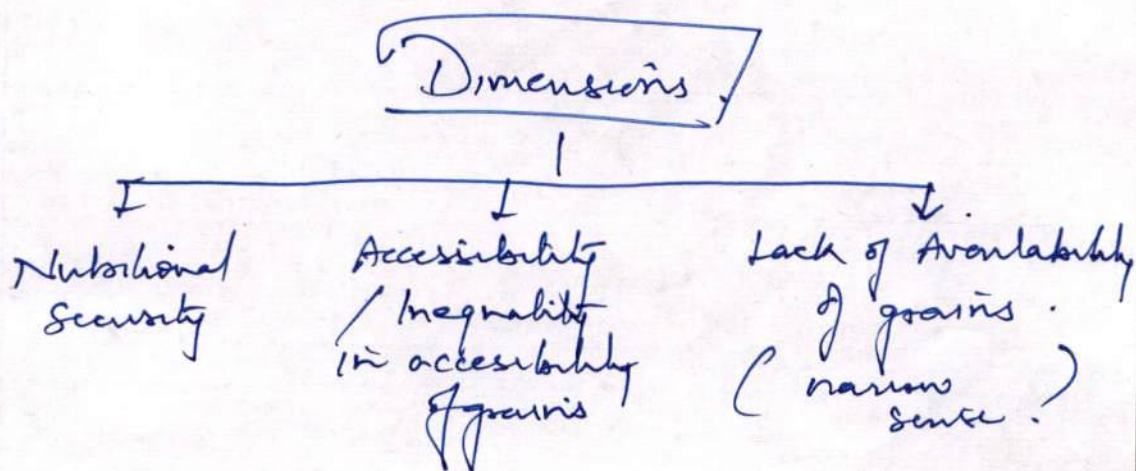
खाद्य सुरक्षा के विभिन्न आयाम क्या हैं? इन आयामों के मद्देनजर खाद्य सुरक्षा सुनिश्चित करने के संदर्भ में भारत की स्थिति का परीक्षण कीजिए। (उत्तर 150 शब्दों में दीजिए)

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 कक्ष में नहीं लिखना चाहिए
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Food security in narrow sense is considered as per availability of food grains for the population. (Calorie based approach) but in wider sense it has following dimensions.



India's status in these dimensions

1. Lack of Availability

a) India faced this insecurity post independence, (dependent on USA - PL 480 agreement for wheat)

b) Post green revolution, India is a grain surplus nation.

उम्मीदवारों को इस हद्दिए में नहीं लिखना चाहिए
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2. Accessibility and Inequalities

a) Although India has huge buffer stocks but there are gaps in distribution strategy.

b) ~1.5% PDS fail to distribute grains due to failure in biometric authentication.

c) ↑ corruption in PDS systems.

d) Poor distribution network for grain availability.

e) ↑ Inflation also leads to food insecurity.

3. Nutritional Security

a) Poor performance: Protein energy malnutrition (PEM)

b) Hidden Hunger in India due to lack of micronutrients in diet.

c) Government taking steps → POSHAN Vahyan
Rice fortification.

As per FAO, India is home to largest number of 'hungry' people despite being a meeting hunger needs.

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)

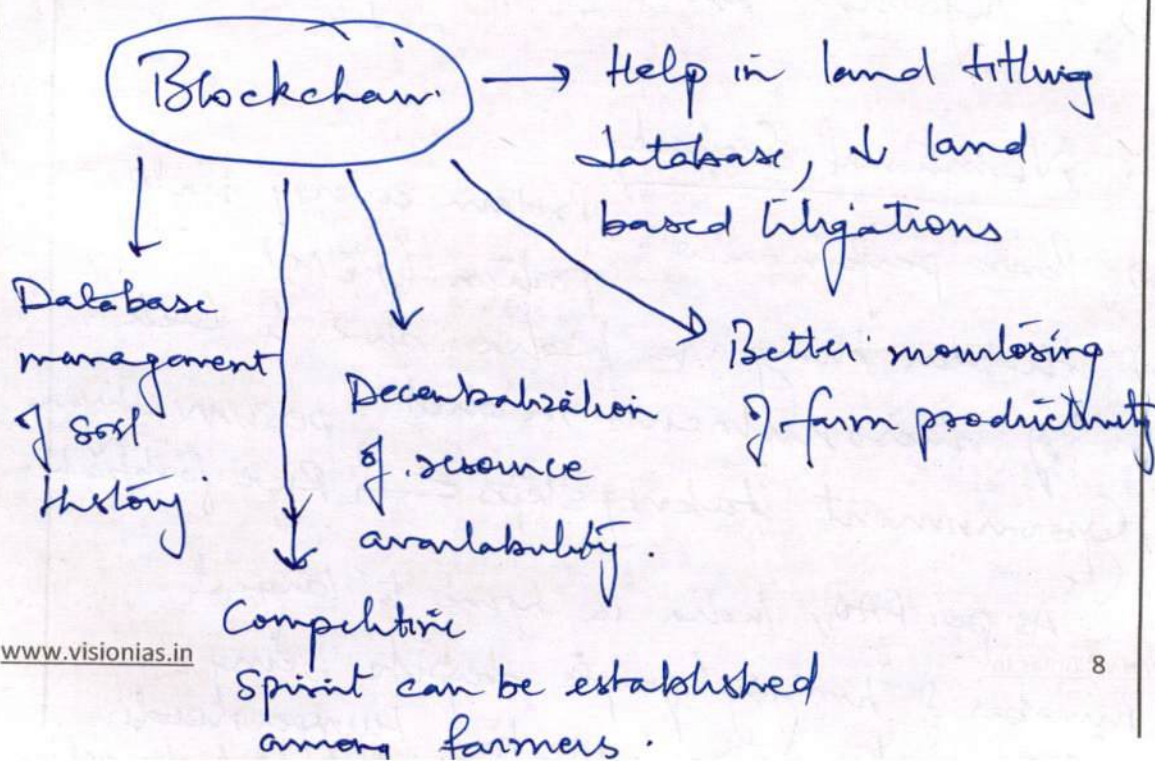
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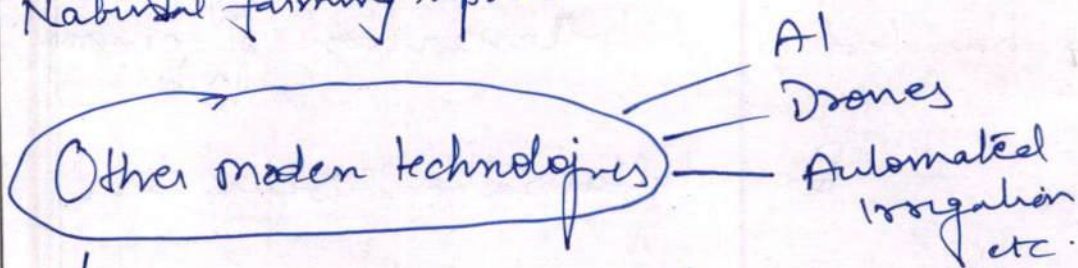
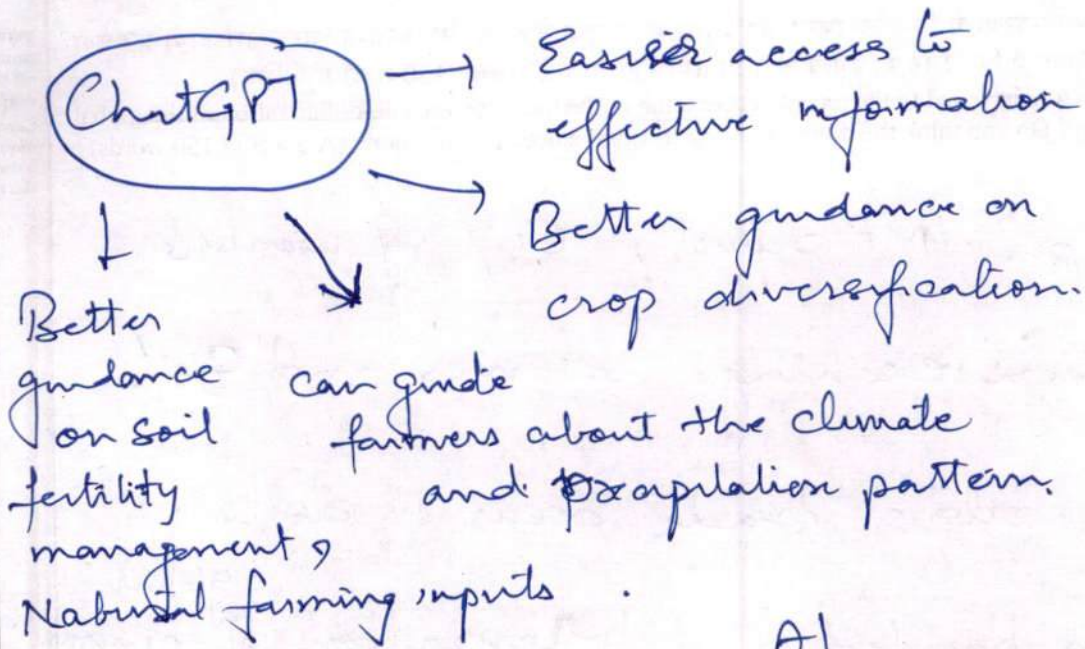
उम्मीदवारों को इस खण्ड में नहीं लिखना चाहिए।
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Digital and technological revolution has boosted almost all sectors of economy and agriculture is one of them. As per UN World Food Programme; technological integration can ↑ agricultural productivity by 23%.

Utility of blockchain and ChatGPT.

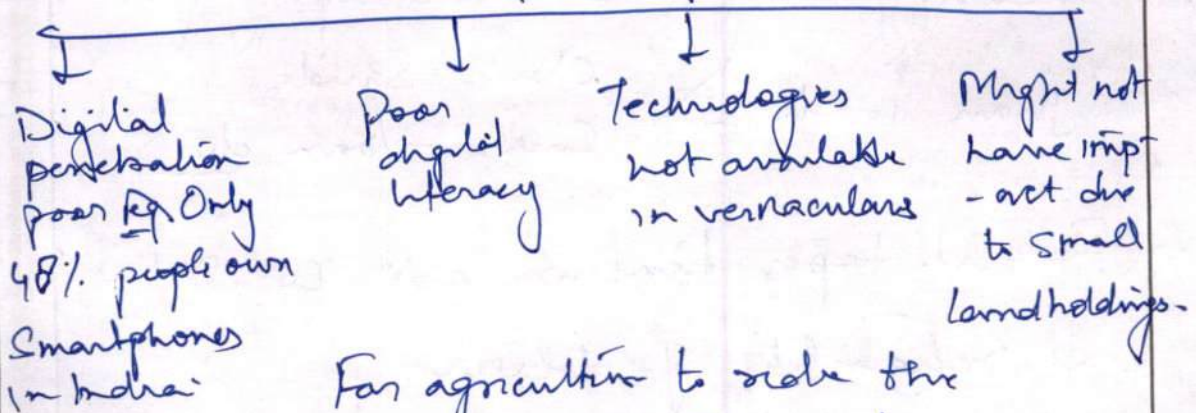
in agriculture sector





↳ They can These can also help farmers achieve sustainable and efficient agriculture.

Challenges to technology



For agriculture to ride the technological revolution, reforms with respect to digital space accessibility are needed.

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

As per IMF report, 60% of world's foreign exchange reserves and 84%

of world's trade occur in dollars.

This has led to "dollarization of ^{global} economy."

De-dollarization refers to ↓ in these numbers by diversification through other currencies.

⇒ Factors causing recent de-dollarization

1. ↑ of Chinese economy. Chinese trade becoming huge. Countries opting for Iran trade $\Rightarrow$ China - Saudi, China - Iran etc.
2. Federal taper tantrum post COVID has ↓ reliability of dollar.

3. Dollar Inflation post COVID reached $\sim 10\%$. This led to degradation of Force of various currencies

4. Trade protectionism across the world has $\downarrow$ sustainability on dollar.

Dollar losing dominance

Yes	No
- BRICS currency working group established in latest Summit. - INR also $\uparrow$ in global Sphere $\rightarrow$ Rupee-Chinese Rupee-Renminbi trade $\uparrow$ Chinese dominance.	- Dollar USA still controls huge chunk of trade ($\sim 84\%$). - USA has highest gold reserve to back its currency (~ 8000 tonnes) - China's own forex is based on USDollar.

Thus, de-dollarization is a right step towards

a multipolar world, but dollar's

hegemony is here to stay for atleast another decade.

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)

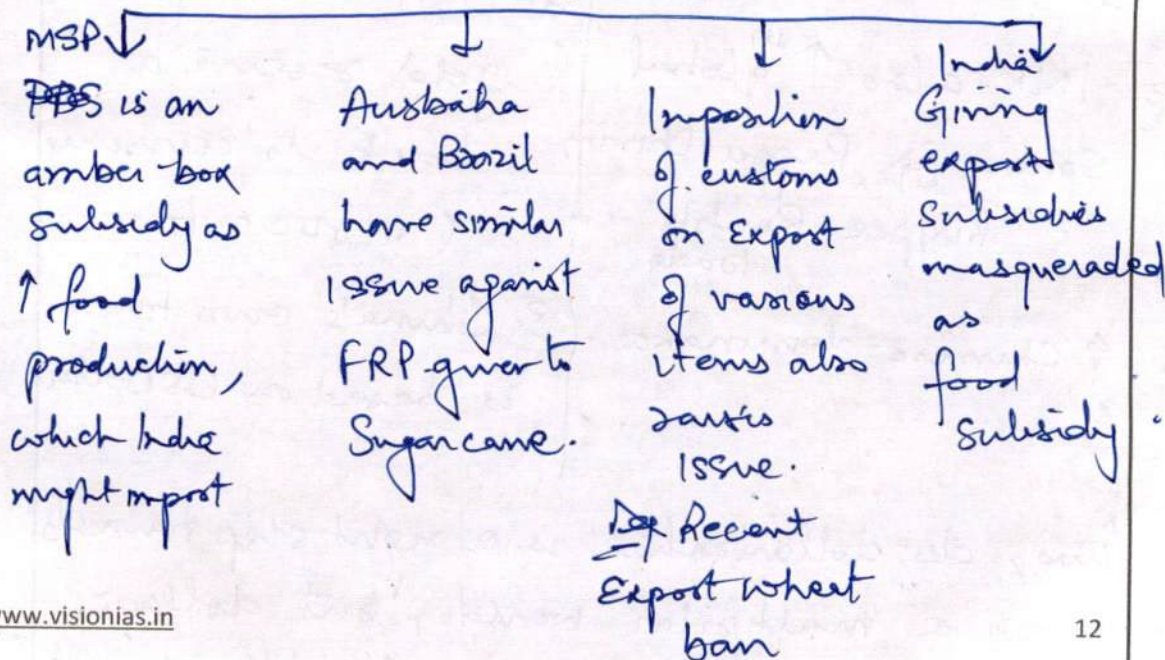
Despite significant pressure from the developed countries to alter its food subsidy regime, there is merit in India trying to retain its policy support for the poor in the country. Discuss. (Answer in 150 words)

10

उम्मीदवारों को इस खण्ड में नहीं लिखना चाहिए
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India's food subsidy regime has been a major target at WTO Dispute Resolution Tribunal. Developed countries claim India's regime goes against the agreement on agriculture.

Issues of developed nations



India's rationale

उम्मीदवारों को
इस हिसाब में
नहीं लिखना
चाहिए
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this margin

1. India houses ~220 million people below poverty line (UNDP report). Food subsidies are important to ensure food security.
2. Schemes like MSP and FAP are green box subsidies and their gains do not enter foreign market.
(Developed nations question India's monitoring in this regard)
3. Subsidies of food are also to combat hidden hunger and protein energy malnutrition. (Rice fortification)

Thus, India as a sovereign nation has followed own policy in interest of the people. It has led to "Peace Clause" with India w.r.t. WTO negotiation of "Agreement on Agriculture".

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 खण्ड में नहीं लिखना चाहिए
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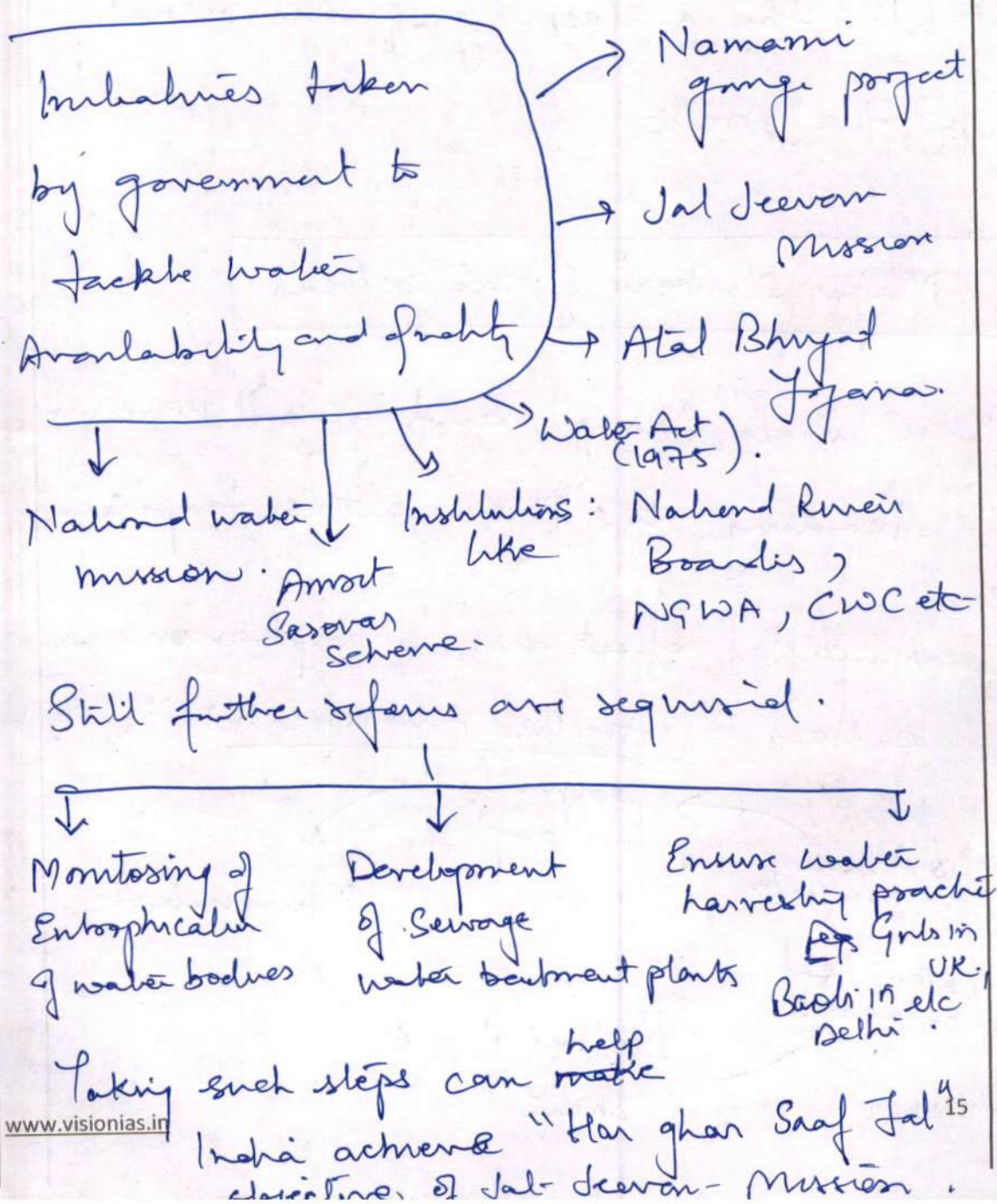
According to report by Central Water Commission; If current exploitation of water resources continue, 90% of India's districts will become water stressed by 2050.

Issues in water availability and quality

1. 70% of India's surface water is polluted with BOD $> (6-9)$ ppm:
National Ground Water Authority report.
2. 15% of ~~India's~~ India's population does not have a functional water tap connection: (Water Quality Mission evaluation).

3. 45% of India's river water stretches are densely polluted. (WB report).

4. Evidence of perfluoroalkyls (PFA's) in rain water. (UNEP report) has been recorded across the world.



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)

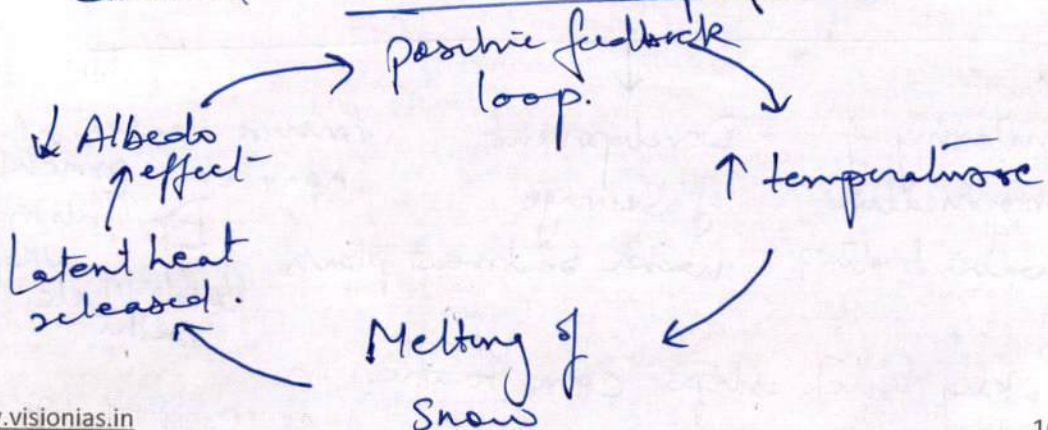
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उम्मीदवारों को इस खण्ड में नहीं लिखना चाहिए
Candidates must not write on this margin

As per IPCC, 37% of permafrost of the Arctic region is lost to ocean water ^{in summers} since 1990. This highlights the alarming glacial retreat in the Arctic.

Major drivers of the retreat

1. Climate Change and global warming leading to $\uparrow$ in Earth's temperature
2. Amplified effect due to a phenomenon called "Arctic Amplification"



3. ↑ resource exploration in the region.
4. ↑ fishing and shipping routes.
in Arctic ~~for~~ Arctic economic
corridor by Russia.

Potential Impact on the ecosystem

1. Driving polar bears to extinction
as ~~go~~ due to glacial retreats,
difficult for them to hunt.
2. Issue of crowding in Walrus
population on small areas of
ice.
3. One of the climate tipping points
identified by IPCC
4. Vast effects on
 - Indian Monsoon
 - Heat waves and Cold waves in US, Europe, Canada.
 - ENSO phenomenon
 - floods
 - flash flooding

Thus, Arctic as a region must be
protected at war footing to ensure
Sustainable future of the Earth. 17

7.

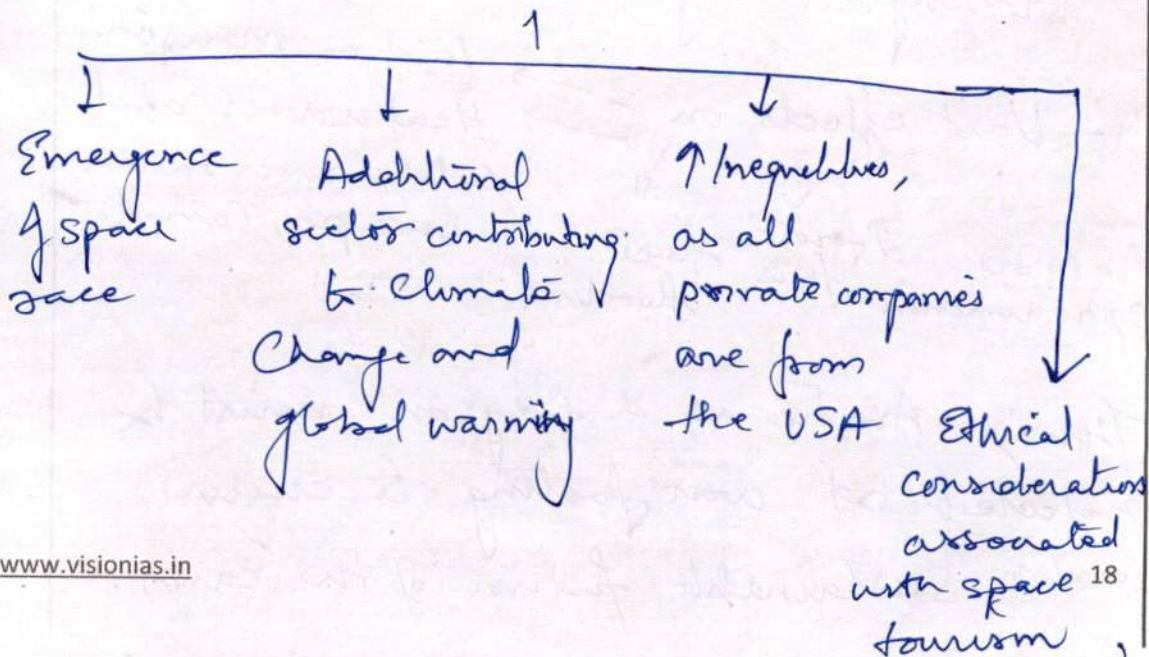
अंतरिक्ष पर्यटन, जिसे सीधे तौर पर एक साइंस फिक्शन फिल्म के रूप में देखा जाता था, अब बिना किसी बाधा के वास्तविकता बन रहा है। अंतरिक्ष पर्यटन से संबंधित चुनौतियां क्या हैं? इन चुनौतियों से निपटने के लिए क्या उपाय किए जा सकते हैं? (उत्तर 150 शब्दों में दीजिए)

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

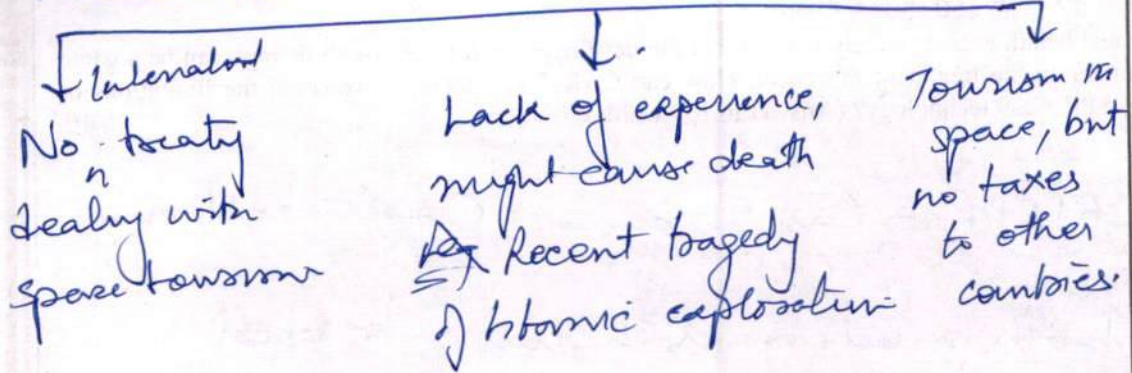
With launch of space tourism initiatives by private companies like SpaceX, Blue Origin etc; the science fictions are about to become a reality.

Space tourism : Going into space as tourism above the "Kármán line" i.e. ~100 km above mean sea level.

Challenges associated



Measures which can



Measures which can be taken

1. Formulation of a space treaty, on lines of "Outer space treaty 1963", but in more detail.
2. Co-ordinated international efforts for space tourism with no bias i.e. all countries negotiating as equals
3. Take steps for sustainable ~~to prevent~~ fuels and making the industry ~~and~~ green industry.

Following these measures can ensure sustainable space tourism.

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

CRISPR - Cas 9 and CAR T cell are both modern solutions to deal with cancer.

Limitations of CRISPR Cas-9

1. Difficult to cover all the cancer cells in the tumour.

$$| A - G - C - G - A - G - C | \Rightarrow \text{certain gene}$$

$$\begin{array}{c} \text{G} \quad \text{C} \quad \text{A} \\ \text{G} \quad \text{C} \quad \text{A} \\ \text{(Cas9)} \end{array}$$
 Crisprantoff

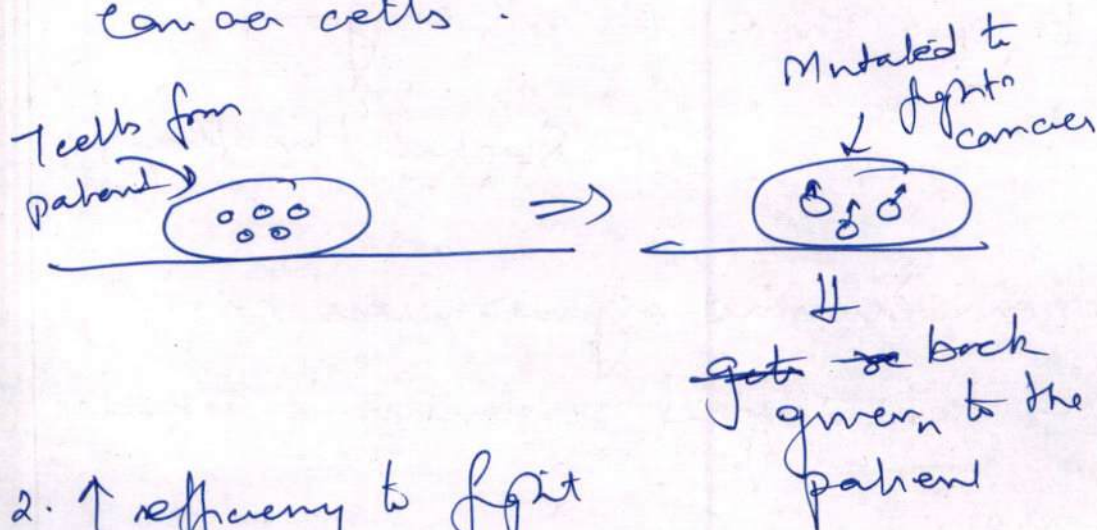
Sequence might not related to tumour might get affected

2. It affects the cancer, not changes in the immune system itself.

Principle of CAR-T (Chimeric Antigen Receptor-Therapy)

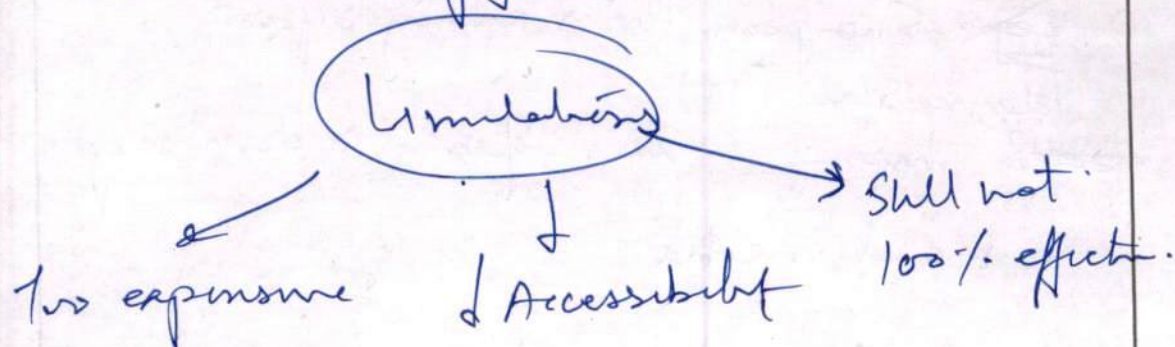
उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
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1. Improves T-cell based immune system to directly attack the cancer cells.



2. ↑ efficiency to fight cancer

3. Less side effects as compared to Chemotherapy based on CRISPR.



Thus, CAR-T is definitely an improvement on Cas-9 CRISPR Technology

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

"New" Technological revolution has given us tools and its in our hands to use them for evil or good."

- Stephen Hawking.

Various extremist organisations have used technological revolution to spread terror.

1. ↑ use of misinformation and disinformation on social media to lure recruits -

~~See~~ European terror agency reports, Islamic State (IS) ~~has~~ using ~ 20% of new recruits by social media.

2. Use of AI and deepfakes to increase polarisation in society -

3. Use of cryptocurrency by organisations to demand ransom ~~eg~~ → Ambrosi Gellaton case.

4. ↑ Lone wolf attacks, difficult to track sources of terror as organisations are using VPN's etc.

Way to tackle ~~the~~ such obstacles

1. Concerted international effort.
~~eg~~ Interpol, early expulsions etc.
2. ~~but~~ As social media does not have territorial boundaries. Thus, ↑ need for ~~can~~ collective efforts.
3. Formation of Multi-Agency-regional centres.
4. ↑ Monitoring of social media and Intelligence sharing among nations.

Terrorism does not have any religion or identity. Thus, it is a danger of all,

10.

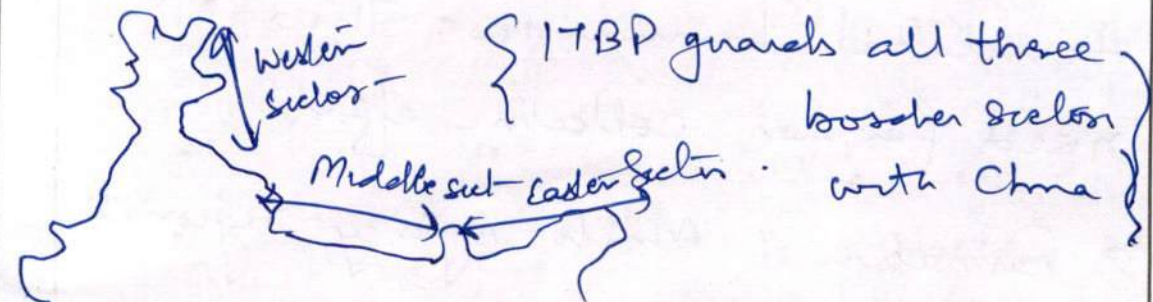
गलवान और यांगस्ते की घटनाओं के बाद वास्तविक नियंत्रण रेखा (LAC) पर तनाव बना हुआ है तथा भारत एवं चीन दोनों सीमावर्ती क्षेत्रों में अपने बुनियादी ढांचों को सुदृढ़ कर रहे हैं। इस क्षेत्र में ITBP द्वारा निभाई जाने वाली भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

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
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write on
this margin

10

ITBP is Indo-Tibetian Border Police force as is given the responsibility to guard the Indo-China border. It includes tibetian people as well and works under Ministry of ^{Defence} ~~Home Affairs~~.
~~along with Ministry~~

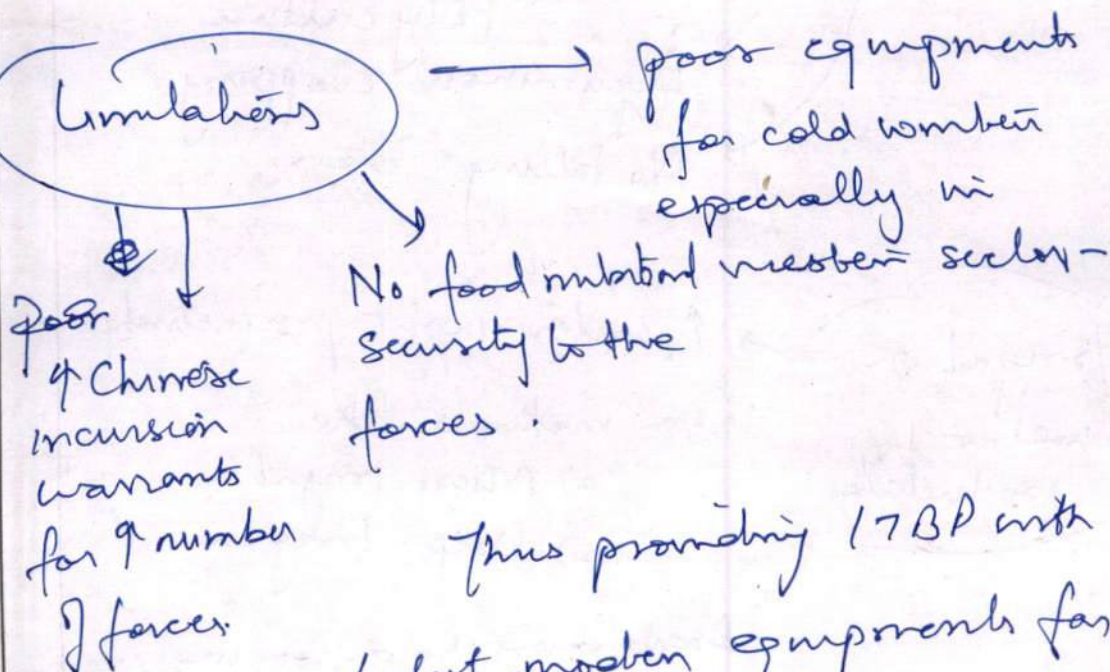


Rising tensions with China across LAC and Eastern sector has
↑ role of ITBP.

Role of ITBP in the regions.

1. Helps BRO in building infrastructure.
2. Ensures local village gets the resources they need.
3. Protect borders from Chinese "Salami Slicing" 24x7..
4. Helps in protecting territorial integrity and sovereignty of India.

Limitations



Thus providing ITBP with latest, modern equipment for monitoring and surveillance and can

11.

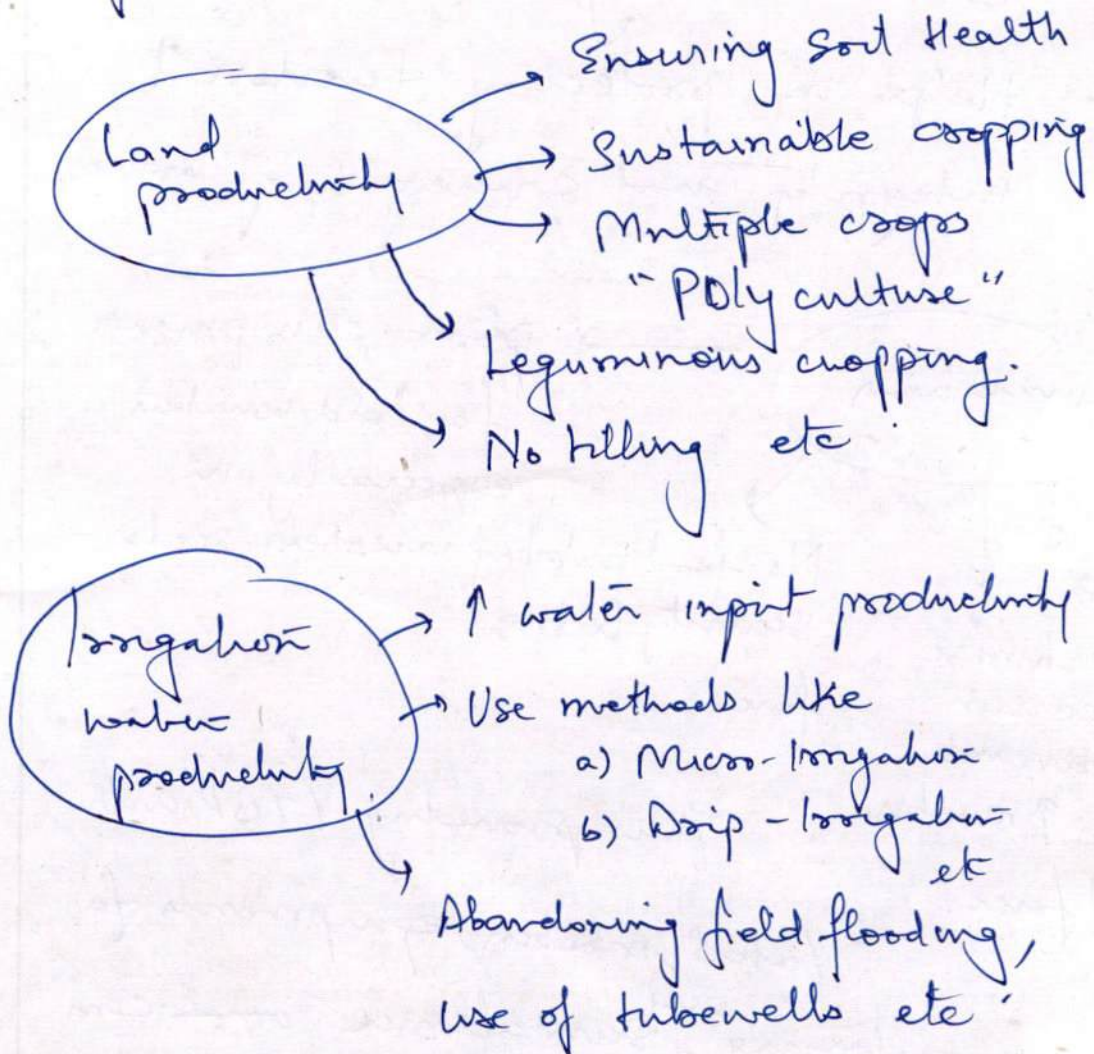
क्या आपको लगता है कि भारत को 'भूमि उत्पादकता' के सिद्धांत को छोड़कर 'सिंचाई जल उत्पादकता' के सिद्धांत को अपनाने की आवश्यकता है? अपने उत्तर का औचित्य सिद्ध कीजिए। यह बदलाव करने में कौन-सी चुनौतियां विद्यमान हैं? व्याख्या कीजिए। (उत्तर 250 शब्दों में दीजिए)

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 हशिप में नहीं लिखना चाहिए
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Land productivity and irrigation water productivity are both methods to improve agricultural output of a given area.



Need for shift from land productivity to irrigation water productivity

उम्मीदवारों को इस दृष्टि में नहीं लिखना चाहिए
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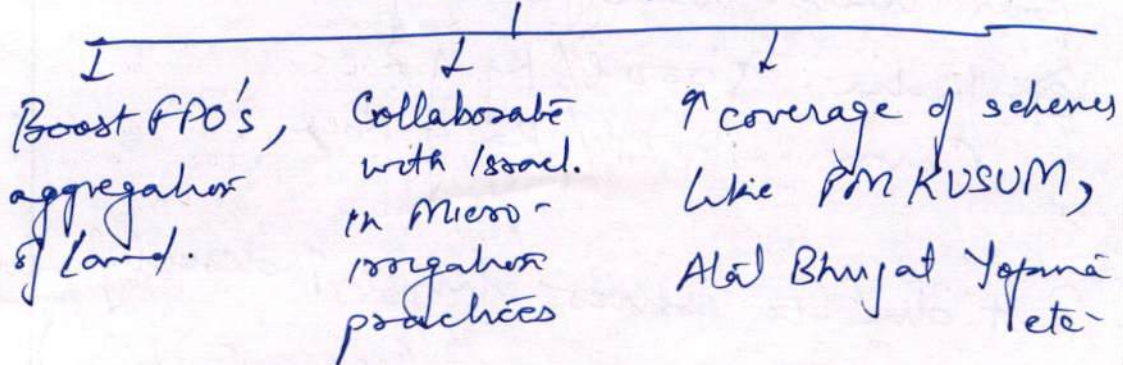
1. India's soil majosly spoiled by wrongful land productivity methods
⇒ Overuse of Urea
2. Overuse of irrigation, causing depletion of ground water. As per. NQWB; India's ground water is receding. 0.4m/year.
3. Poor water use efficiency
⇒ India: 5000 l/Kg of Rice
China: 1200 l/Kg of Rice.
4. But due to issues like ↑ desertification, poor cropping practices (Monoculture) etc, there is a need to carry on both land productivity and irrigation water productivity efforts.

Challenges in making shift

1. 52% of Indian agriculture is still irrigated.
2. Practices of Micro irrigation are unsustainable for small landholdings like in India.
3. No incentive for farmers and water bills of most agricultural regions are subsidized.

✶

Reforms Required



As per ^{Central} National Water Commission, India is heading towards a water crisis by 2050 (90% districts will be water stressed). Thus irrigation water productivity is the need of the hour.

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)

15

उम्मीदवारों को इस हशिप में नहीं लिखना चाहिए
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Currently, India imports ~ 60% of its energy needs [IEA report]. Thus, energy security of India is dependent on its imports, which is a weak indicator.

Role of green hydrogen in unlocking energy security of India

1. Currently 37% of India's energy needs are met by renewable sources: NITI Aayog report. Using this to create green hydrogen can lead to

a) Stable energy source.

b) No grid variations as it occurs in solar and wind sources

2. Green Hydrogen : India can ~~as a power~~ become a pioneer in this technology and ~~en~~ become a "net exporter" of energy.
3. Reduce impact on India's current Account deficit, improving fiscal strength.
4. Will boost productivity of other sectors, $\uparrow$ efficiency of energy in India.

Recently, Government of India has launched Green National Green Hydrogen Mission, it can help India achieve energy goals in following way

1. Focus on production, consumption and export of Green Hydrogen.

2. ↑ investment in the sector.
 $\approx 70,000$ cr for 2023 to be invested in this technology (Budget 2023)
3. ↑ ^{sustainable} energy export of India
4. Will help India achieve the Panchamart.
 a) Net zero by 2070
 b) 50% of energy needs by renewable sources.

6. Lacunae must be met / Reforms required

1. ↑ International cooperation in building and acceptance of technology based on H_2 fuel.
2. Power generators and Automobile engines based on H_2 fuel must be innovated.
3. ^{PLI} ~~PLI~~ Scheme in relation to green hydrogen can be launched.

Green hydrogen, Ethanol and Green Ammonia are promising technologies that can make India truly "Atma Nishtha" for her energy needs.

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

उम्मीदवारों को इस इतिहास में नहीं लिखना चाहिए
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Post COVID and other reasons like Taper Tantrum and Russia - Ukraine conflict, world is facing an inflation crisis. It has raised a question for countries to opt for a living wage rather than minimum wage.

Need for living wage

1. ~~to~~ Minimum wages grow at $\sim 4-5\%$ per annum while inflation at current rate $\sim 10\%$ across the world. (IMF report).
2. living wage will ensure protection

against inflationary crisis.

3. Would be based on basic services like health, Education prices along with retail inflation.

Benefits for adoption in India

1. Better social security.
2. Will counter hunger and cyclical poverty in India.
3. ↑ Happiness Index in India.
4. Better ^{and quality} access to health and education facilities.
5. ↑ Standard of living
6. ↓ Multidimensional poverty in India.

7. 6

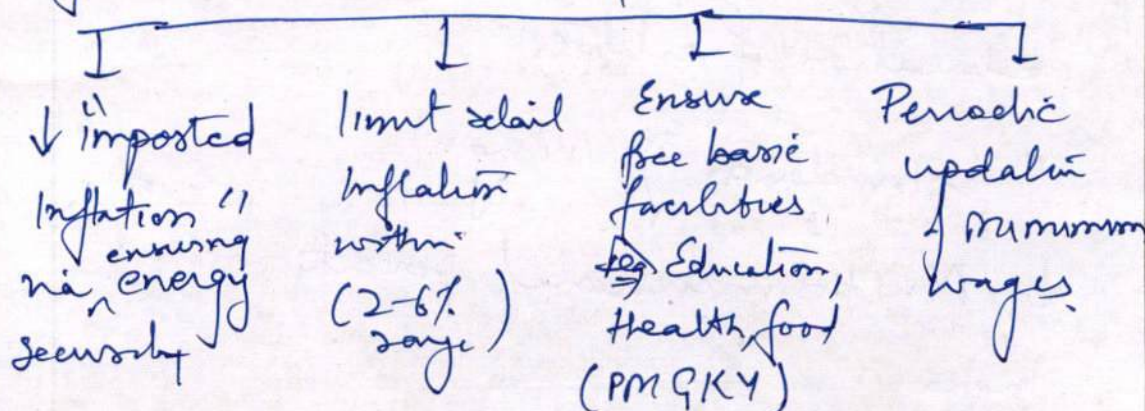
Constraints in adoption

उम्मीदवारों को इस हाथिए में नहीं लिखना चाहिए
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1. Inflation is different wrt to different regions.
2. Will require frequent updation.
3. RBI already takes step to control inflation in (2-6%) range.
4. Administrative obstacles in determination of living wage.
5. Postest from Industrial unions -

6

Thus rather than adopting living wage government should focus on



Following above measures can ensure a healthy Indian economy for the 'Amrit Kaal' period.

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

उम्मीदवारों को इस हार्डिप में नहीं लिखना चाहिए
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"The first responsibility of every citizen is to question authority"

- Benjamin Franklin

Union budget, having such wide ranging effects on the society remains above ~~put~~ meaningful public scrutiny in India. Although there are ways to ensure accountability ~~that~~ they do not get realised.

<u>Mechanism for accountability</u>	<u>Reason for failure</u>
1. Parliamentary discussions in Budget session.	Most of the budget is gutted.

Parliament only discuss
few clauses of budget

2. Cut motions
in the parliament

Due to whip procedure
and related defections,
the government ensures
no cut motions are
passed.

3. Public discussions
in Budgetary
process

Before budget formation,
public meetings take
place, but no public
scrutiny post introduction
of budget.

4. CAG as auditor
of government.

Can only do post-
mortem, not comp-
-troller but only
auditor in real sense.

Steps to be taken

1. Involve public opinion in budgetary discussions till the parliament gets adjourned in ^{the} budget session.
2. Ensure Berlin model of CAG by giving Comptroller power.
3. Remove guillotine and Kangaroo methods in budget clause ^{by} discussion clause discussion.
4. Remove whip prospects during the budget session, until and unless a cut motion is being voted upon.

Following above methods will ensure that India become a true economic democracy as well along with ^{being a} political and social democracy.

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 कॉपी में नहीं लिखना चाहिए
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Verghese Kurien led India's white revolution in Gujarat sector and made India a world's largest milk producer from a milk deficient country.

Reasons of
Issues in productivity
of dairy animals

1. India dairy animals production has very low net productivity.
2. Climate Change and extreme weather events affecting productivity.

3. Gross productivity is higher but
due to lack of cold chain infra-
structure, net productivity is
less.

4. Low productivity of Indigenes
varieties. The nutritional value
is better but volume is less.

5. Poor feed given to animals
+ Adulterated feed
+ Lacks nutrition etc.

Solutions to be taken

1. Hybrid varieties for better nutrition
as well as more volume.

~~Ag~~ In ^{Hybrid} Odisha variety of cow developed
by NAGB.

2. PLI scheme for establishing cold chain infrastructure must be introduced.
3. Practices must be adopted to ↑ shelf life as Indian weather is already hot-humid unlike European nations.
4. ↑ awareness of feed given to animals
5. Better cooperatives must be encouraged other than Amul to ↑ competition ~~for~~ Nandini in Karnataka.

Following above steps can ensure India's white revolution becomes "ever-white" revolution.

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)

15

Agriculture sector is the third
largest contributor of CO₂ emissions
post industry and transportation.
(Energy)
Sector : (IEA) report.

Agriculture contributing to extreme
weather events.

1. Overgrazing, unsustainable
land management leading to ↑
landslides,
2. Livestock and burning of
crop residue leads to ↑ in

methane emissions and ground
level ozone.

3. ↑ CO_2 emissions by poor post
harvest management, leads to
decomposition of organic waste.

4. Strategy adopted under National
Agriculture disaster management
Plan (NADM)

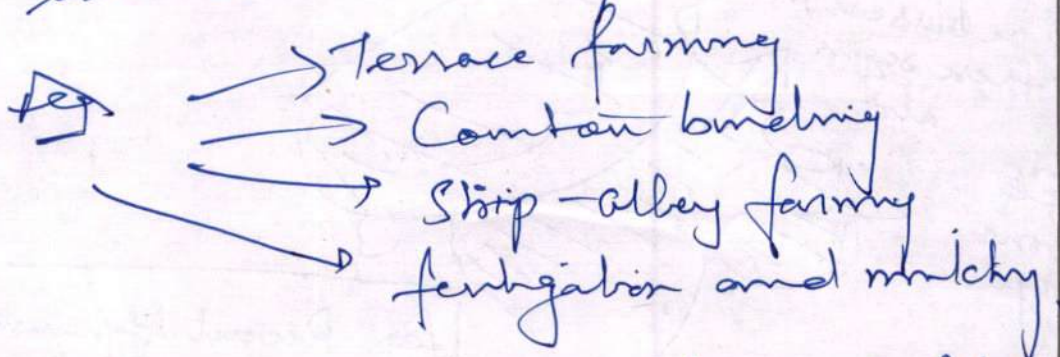
1. ↑ awareness for post harvest
Sustainable management.
2. ↑ awareness for ZNBF and
Sustainable agriculture.

3. Use of crop residues in bio mass plants and ethanol production.

4. Ensure soil health knowledge ^{& Climate Knowledge} to farmers via "Meghdoot app" and "Soil Health card" schemes.

5. Preventing desertification via monitoring overgrazing and introducing

soil conservation practices like



Thus, NADP is a step in right direction for India's National mission on sustainable agriculture and National action plan for Climate Change.

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)

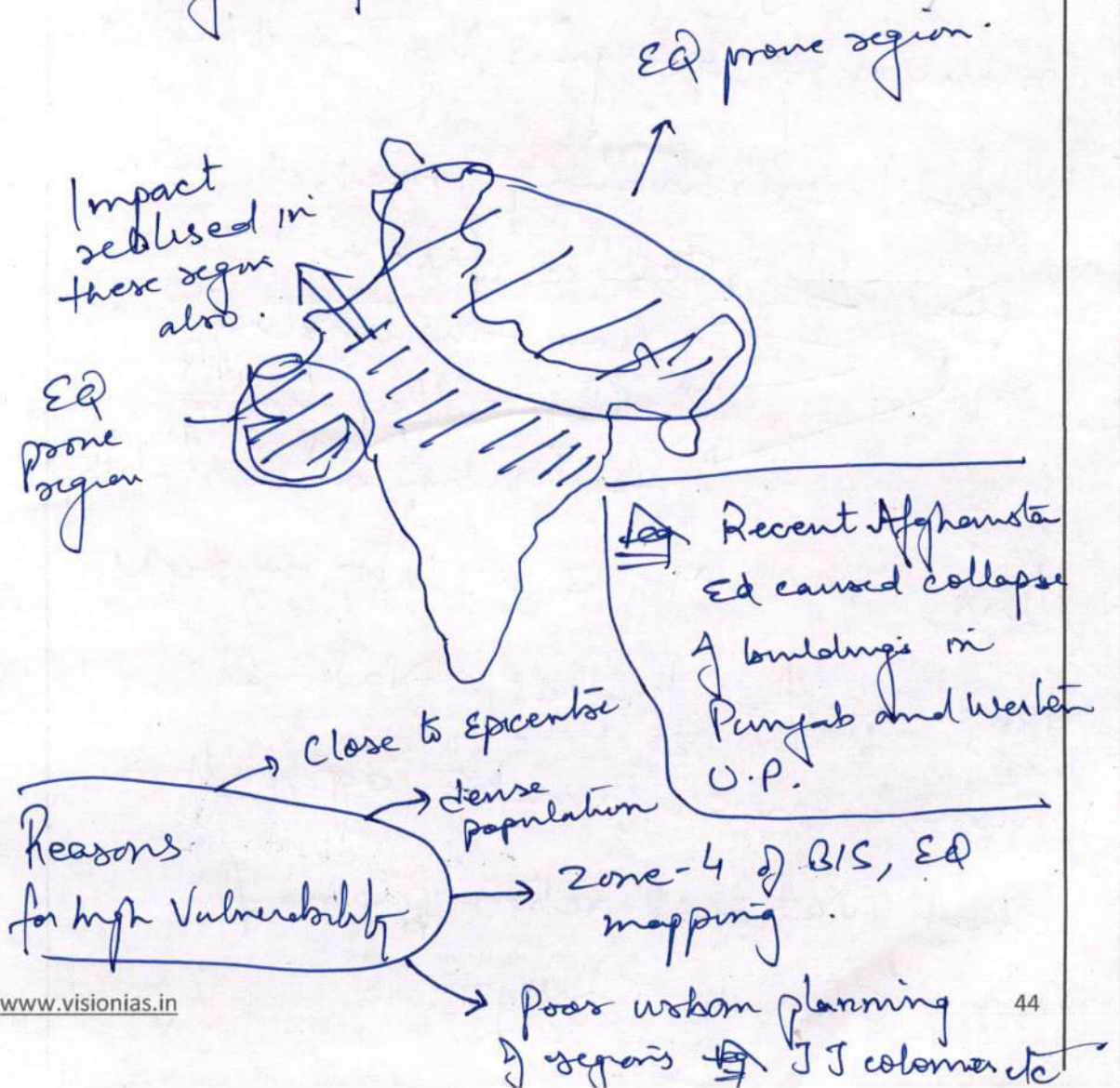
Some regions in India including Delhi, are highly vulnerable to the impact of earthquakes originating in the Himalayas. Discuss. What institutional measures have been taken to mitigate earthquake losses in India? Do you think there are significant gaps that still exist? (Answer in 250 words)

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
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As per NIDM report, 59% of India's region is prone to Earthquake with (2Q)

~ 90% of them originating in the Himalayan fault.



Institutional measures to mitigate losses by (EQ).

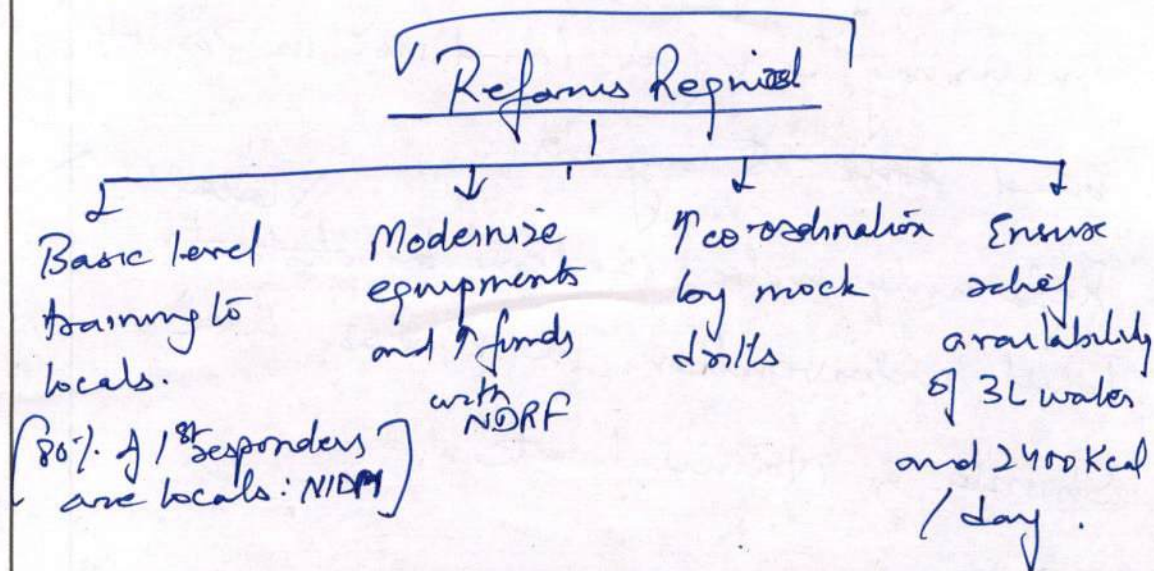
उम्मीदवारों को इस खंड में नही लिखना चाहिए
Candidates must not write on this margin

1. ↑ NDRA hubs close to EQ prone regions.
2. Formulation of national Earthquake mitigation strategy.
3. ↑ focus on district level mitigation plans
4. Retrofitting of old buildings
5. Ensuring careful land use in Zone-4 and Zone-5 regions.
6. Reforming urbanization by ^{state} district level intervention in areas like Shimla, Nainital etc.

Certain gaps in strategy

1. Poor awareness in local population.

2. Lack of proper connectivity to provide relief in various regions ~~of~~ Villages in Himachal Pradesh
3. Lack of co-ordinative measures between NDRF and district authorities
4. Outdated instruments with NDRF.
5. Outdated district disaster management plans.



Following recommendations of MC Mishra and JC Pant Committee can help India further tackle the menace caused by frequent earthquakes

18. *

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 fusion as a source of energy
is a non-conventional source of
energy. It initially needs more
energy as input to reach its criticality.
Once, criticality is achieved, Nuclear
fusion offers great energy output
while being a clean energy
source.

Advantages of Nuclear fusion

1. Stable source of energy
2. No grid ^{power} variability is observed,
unlike that in solar and wind
sources

3. No production of any radioactive element.
4. End products are inert gases like Helium.
5. Plenty availability of raw material ~~for~~ Tritium, Deuterium.
6. No harmful effects of raw material unlike nuclear fission.
7. Less chances and minimal impact of failure of facility unlike Fukushima and Chernobyl disasters of nuclear fission.

Limitations in commercial scale

1. Needs very sophisticated machinery and technology to achieve controllability

2. Huge level of investment is required
3. Heavy investment in R & D to achieve
criticality.
4. ~~There is~~ Technology to safely store
the energy is not yet developed.
5. Technology to ~~stably~~ use energy
in uniform and stable manner is
also not developed.
6. ~~It~~ May create further inequalities
and divide between the developed
and developing world.

Thus, Nuclear fusion is a promising
technology, to meet world's energy
demands without causing pollution
but needs more participation of scientific
community & funding and will of
the political class.

19.

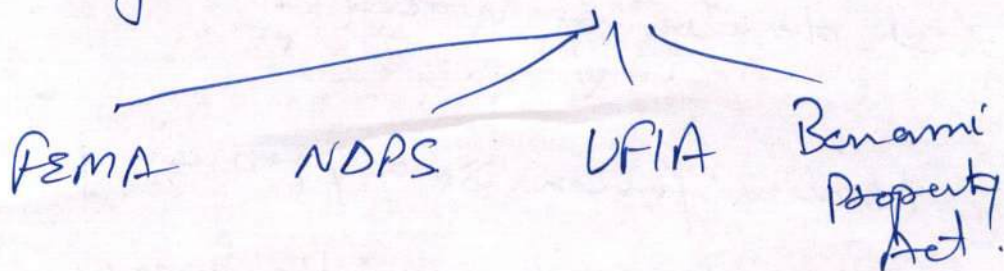
हालिया संशोधन को ध्यान में रखते हुए, भारत में धन शोधन (मनी लॉन्ड्रिंग) के खतरे से निपटने में धन शोधन रोकथाम अधिनियम, 2002 की प्रभावकारिता का परीक्षण कीजिए। (उत्तर 250 शब्दों में दीजिए)
Keeping in view the recent amendment, examine the efficacy of the Prevention of Money Laundering Act, 2002, in tackling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

15

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

PMLA is a statutory act which grant powers to bodies like CBI, NIA and ED to enforce prevention of money laundering.

It is generally enforced along with acts like



Efficacy of PMLA

1. Efficient because it grants apt powers to institutions

2. It is based on Vienna and Palermo conventions against organised crimes.

3. Formed on guidelines given by FATF to prevent money laundering

Limitations causing ↓ in efficiency

1. No separate police cadre under the act.
2. Scope for misuse. ~~ED~~ ED acting only against political opposition
3. Poor accountability mechanisms in the act.
4. Failed in various cases — ^{Vijay Malya} Nirav Moh ^{etc.}
5. Need for an all encompassing act including provisions of:

- a) Money laundering -
- b) terror financing -
- c) Drug trafficking etc -

Other reforms suggested

1. ~~Provide separate police~~ Establish a single authority to deal with PMCA act.
2. Ensure proper accountability for zero tolerance of misuse of the act..
3. Need Extrajudicial treaties with various countries for effective implementation of the act.

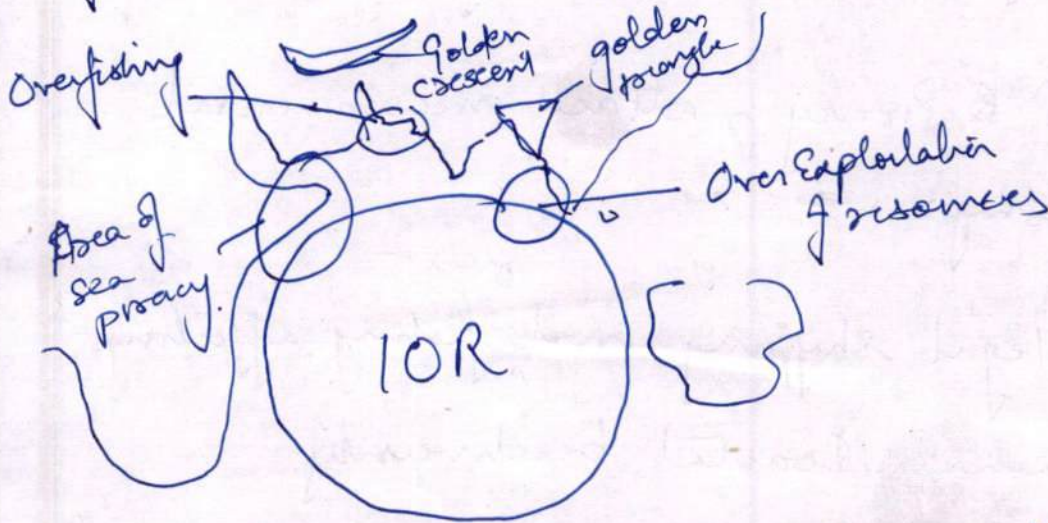
Following above reforms India will ensure true enforcement of Vienna (1988) and Palermo conventions.

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)

15

As per UNCTAD; ~60% of the world's trade pass through Indian ocean region. ~~and 50% of India's trade also~~ This has increased the inherent vulnerabilities of Indian Ocean region.



Security threats having direct impact on India's maritime border.

1. Influx of Insurgents

✱ Mumbai 2008 attacks.

1990's bomb blasts

Narcotics

2. Drugs and psychotropic substance trafficking (Proximity to golden crescent)

eg NCB report: 70% of ^{illegal} drugs in India enter via western coast of Indian peninsula.

3. Human trafficking

eg Bonded Slavery in fishing vessels of Indian Ocean Region.

4. ↑ Piracy, attack on commercial ships.

5. Illegal shipping and ^{over-}fishing affecting India's Coastal biodiversity.

⇒ Strategy to deal with them

1. ↑ co-ordination between Navy and coastal guards police -

2. Handing out fisherman ID to coastal population was a step in right direction

3. Establishing more checkpoints and outposts

4. ↑ surveillance via ~~drone~~, drones, cameras, AI etc.
(CCTV's)

5. ↑ International cooperation against piracy and trafficking.

6. To counter threat due to environmental impact ~~eg~~ Tsunami, Cyclone, India must ↑ early warning centres, doppler radars and telemetry stations

~~Following~~ MISSION

7. ~~Add security~~ SAGAR is also a step in taken right direction.

Thus, following above strategy, India can better secure its maritime interests

SPACE FOR ROUGH WORK