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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 भरा जाएगा/To be filled by the Candidate)

पंजीकरण सं./Registration No. : 0579225

अभ्यर्थी का नाम/Name of Student : RUHANI

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH

तारीख
Date

27.08.2023

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

केंद्र

Centre SUSHANT UNIVERSITY,

SECTOR-56, GURUGRAM

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)					



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

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

Food security refers to the availability, accessibility and affordability of food to the citizens at all times. These are the 3 dimensions of food security.

INDIA'S STATUS IN TERM OF FOOD SECURITY WRT 3 DIMENSIONS:-

• AVAILABILITY :-

- India is a self-sufficient country in terms of food production.
- The NFSA, 2013 ensures that food is provided to BPL households via the PDS.
- For this, the government procures rice ~~from~~ ^{and} wheat ~~from~~ ^{from} farmers

- ACCESSIBLE:

- Food is accessible to Fair Price Shops or Ration Shops every month.
- Besides, cooperatives like AMUL, Mother Dairy provide milk to consumers. Besides, Ammacanteens provide subsidized food to poor people.

- AFFORDABILITY:-

- At present, the ration is available free of cost to antyodaya and priority households.
- Food inflation of tomatoes, onions makes them unaffordable.
- However, NAFED and NCCF intervene and provides tomatoes (available in market at the rate of ₹150 per kg) to consumers at ₹80 per kg. Thus, ₹70 per kg loss is borne by govt. under its Price Stabilization Fund Scheme.

Thus, India is a food secure nation and ensure that no citizen has to sleep ~~with~~ empty-stomach.

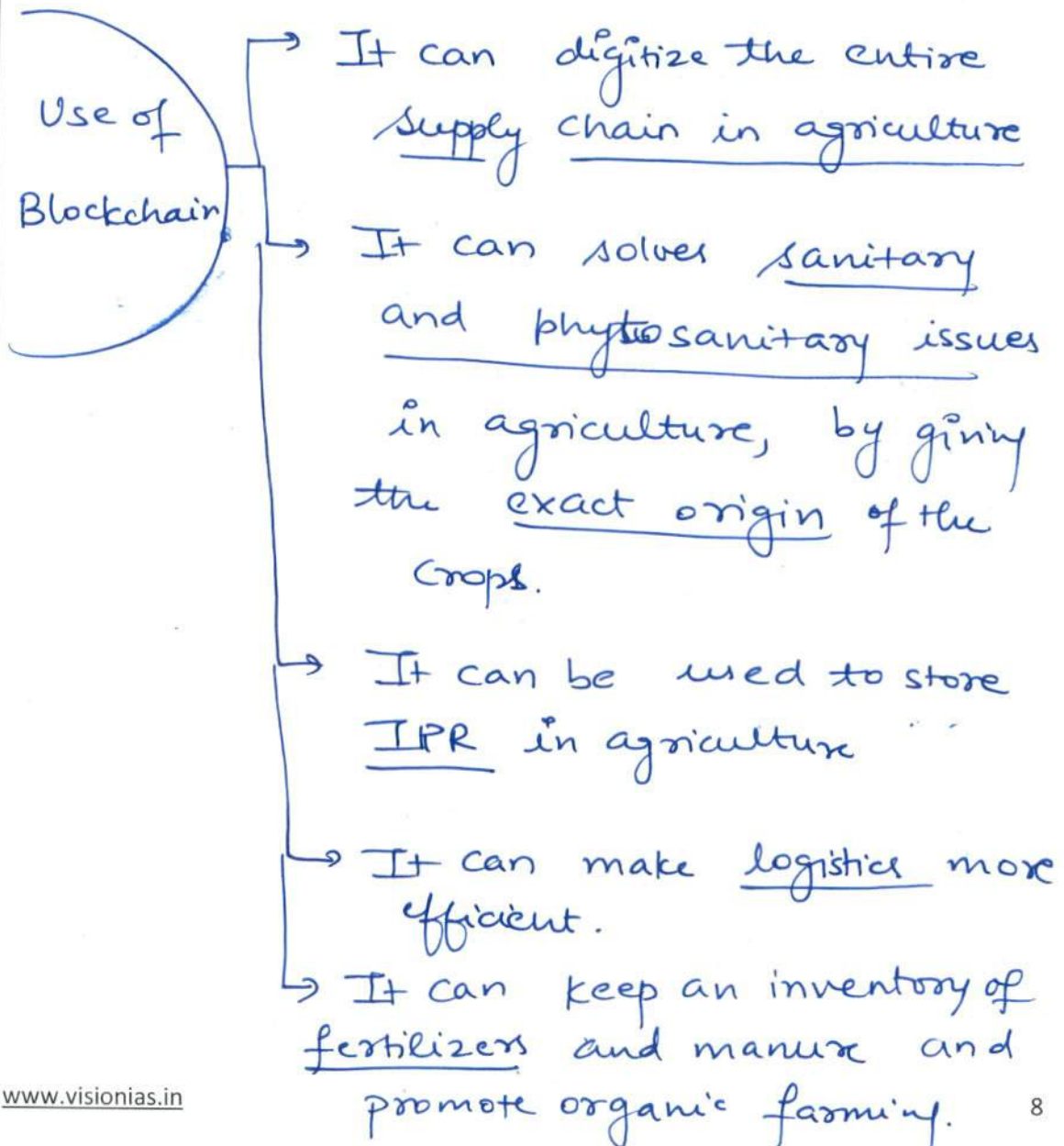
2.

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)

10

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

Modern technologies like blockchain and Chat GPT can transform agriculture into more efficient and sustainable sector.



Use of ChatGPT

- It can respond to queries of farmers in their regional language, Large language model like Bhashini is already doing that
- It can guide proper application of fertilizers and pesticides
- It can predict monsoons and temperature
- It can recommend amount of irrigation needed by the crop, thus leading to sustainable agriculture.

Thus, farmers must leverage these technologies to increase their yields and double their incomes.

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

De-dollarization refers to the reduction in use of dollar for settling trade transactions.

FACTORS THAT ARE LEADING TO DE-DOLLARIZATION:

- Sanctions on Russia
- Freezing of Russia's foreign reserves of Russia under the SWIFT system (which is mainly operated by the US)
- Tightening of monetary policy by Fed lead to dollar outflows and destabilize financial market
- To smoothen exchange rate fluctuations
- To reduce dependence on dollar.

DOLLAR WILL LOSE ITS DOMINANCE?

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

Yes

- Internationalization of rupee is occurring
- Yuan is rising
- Regional Swaps like Chiang Mai initiative, reduce dependence on dollar
- Trade invoicing being done in rupee with Russia, UAE, Iran, Sri Lanka.
- Cryptocurrency is a direct challenge to dollar

No

- Dollar still is a part of 60% of world's trade transacting
- IMF's SDR is dominated by dollar
- Perfect Capital Account Convertibility exists in US and not in other countries, hence other countries' currencies are unlikely to become reserve currencies.

However, we must diversify our forex and reduce our dependence on dollar.

4.

विकसित देशों द्वारा भारत पर खाद्य सब्सिडी 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 हशिप में नहीं लिखना चाहिए
Candidates must not write on this margin

The WTO's Agreement on Agriculture (AOA) has a de-minimus provision in it according to which Indian subsidies to farmers cannot exceed 10% of its ~~set~~ value of agricultural production in 1986.

However, the developed countries maintain that Indian subsidies exceeds the limit set for Amber Box subsidies under AOA.

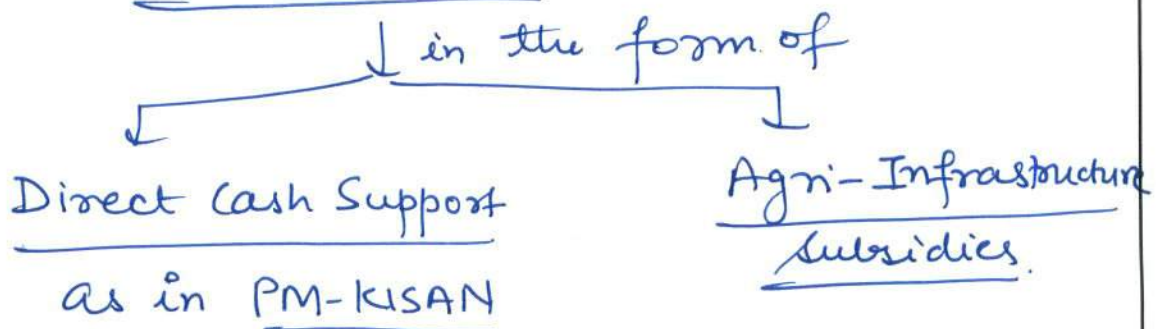
MERITS IN CONTINUING FOOD SUBSIDY

→ India recently allocated ₹2 lakh crore for its food subsidy in Fy 2023-24 budget. It is important because:-

- NFSA, 2013 mandates the govt. to provide food to BPL population.
- For this, the govt. has to procure food grains from farmers at MSP.
- Also, fisheries subsidies are important for the livelihoods of fishermen.
- To solve the growing problem of poverty, hunger, stunting, wasting, undernutrition and anaemia, food subsidy is a must.

However, to meet WTO's requirements, India can increase its :-

- Green subsidies



This will reduce specific per-unit crop subsidy as well as input subsidies and make India WTO compliant.

5.

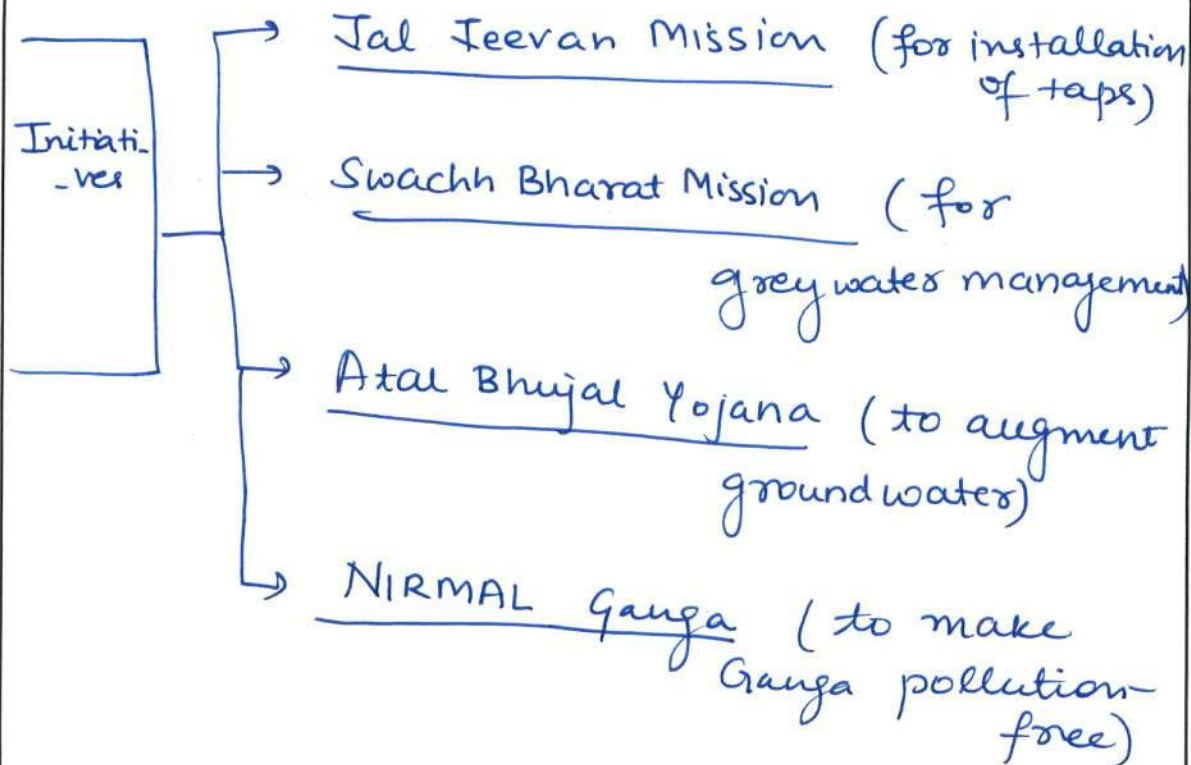
भारत की जल संबंधी जरूरतों को पूरा करने की दिशा में सरकार द्वारा कई पहलों की शुरुआत की गई है, परंतु जल की उपलब्धता और जल की गुणवत्ता जैसे मुद्दों पर अभी भी नीतिगत हस्तक्षेप की आवश्यकता है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

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

To address India's water
water needs, government has undertaken
several initiatives like:-

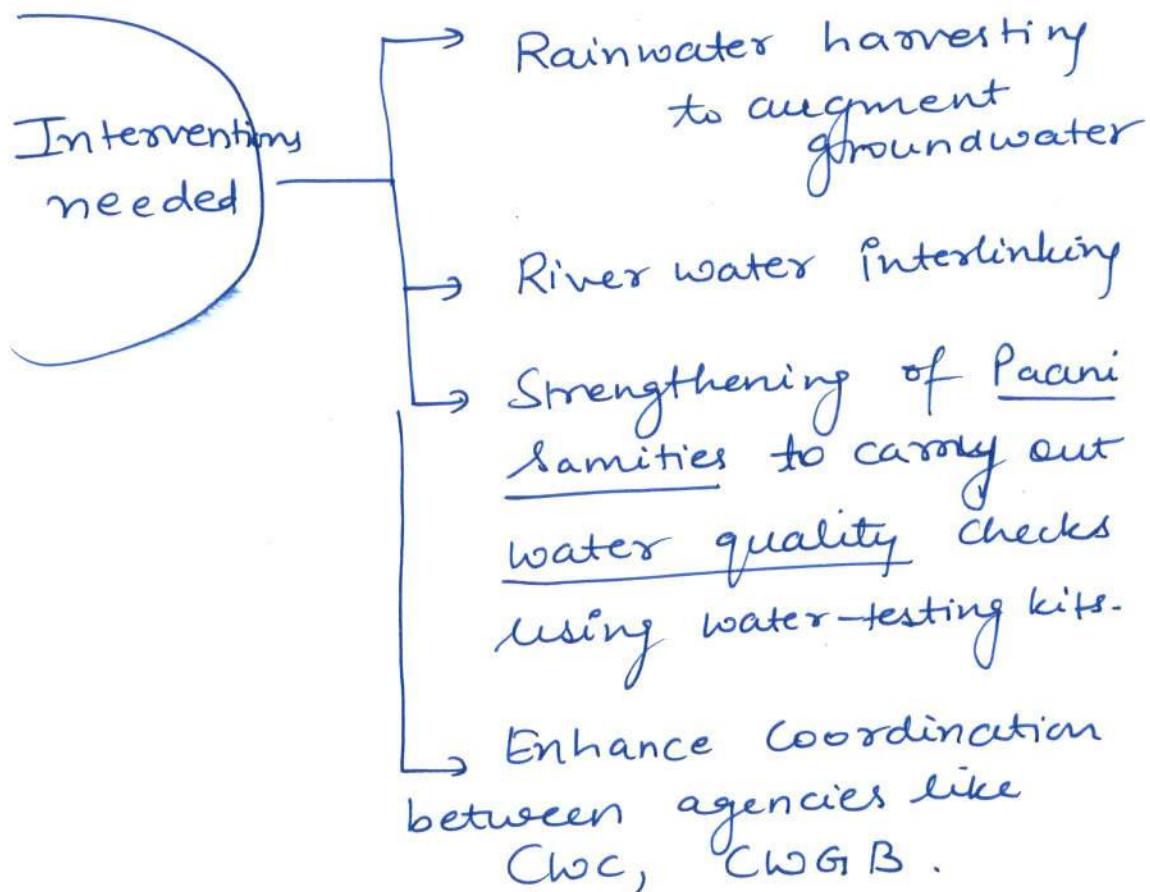


Despite these initiatives, the issues of water availability and water quality have still not been solved.

NEED FOR PRIORITISED INTERVENTION

→ to ensure water is available for drinking water purposes.

- to ensure availability of water for agricultural and commercial needs
- To solve inter-state water disputes
- To drive river interlinking efficiently
- To augment groundwater
- To do wastewater treatment
- To enhance water quality testing.



Thus, the Ministry of Jal Shakti must make all-out efforts to strengthen the availability of water and water quality.

6.

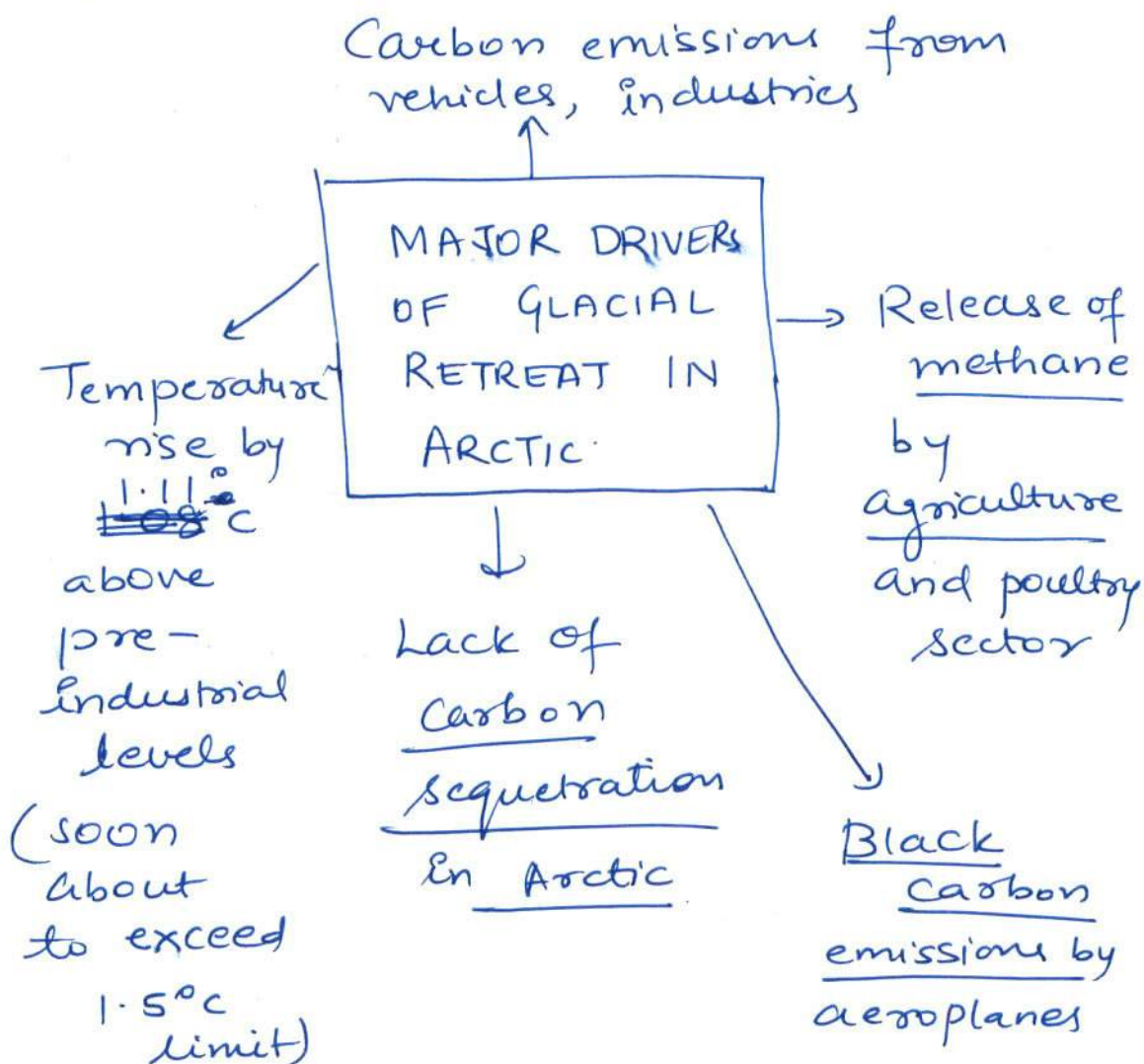
आर्कटिक में हिमनदों के पिघल कर संकुचित होने के लिए उत्तरदायी कारक क्या हैं? पारिस्थितिकी तंत्र पर आर्कटिक हिमनदों के पिघलने के संभावित प्रभाव का वर्णन कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

The glacial retreat in the Arctic is mainly driven by global warming and climate change.



Thus, Arctic is reeling with the impact of climate change.

POTENTIAL IMPACT OF RETREAT OF ARCTIC GLACIERS :-

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

- Rise in sea water level
- Salinity intrusion in coastal areas
- Flora and fauna in marine ecosystem will die in dead zones
- Coral reef bleaching
- Changes in water cycle
- Albedo effect of ice will reduce, thus sunlight will not be reflected and this will exacerbate global warming.
- Release of methane by permafrost

Thus, the Arctic region needs to be conserved by dedicated efforts towards reduction in climate change.

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 has become attractive due to the influx of private companies and startups in the space sector.

Eg:- Virgin Galactic (of UK) and Blue origin and Tesla (of US) might offer space tourism in coming years.

SPACE TOURISM : NEW REALITY

- due to increasing expenditure on space research
- Technology advancement
- Curiosity of humans to explore space
- space can become an alternative home to Earth, which is becoming inhospitable due to Climate Change.

Challenges in Space Tourism

- High risk
- Extremely costly
- Resources can be utilized for uplifting people from poverty
- Burden of legal liability is unclear if mission fails.
- Risk to life and property.
- Can lead to space race
- Space Debris can rise
- High amount of emissions released by spacecraft, can further lead to global warming.

Measures needed

- Global Agreement needed
- Outer space Treaty needs to be revised
- Space Tourism needs to be regulated
- Burden of liability for failure of mission needs to be clearly defined.

Thus, space tourism can be permitted. However, it must be regulated for safety of tourists.

8.

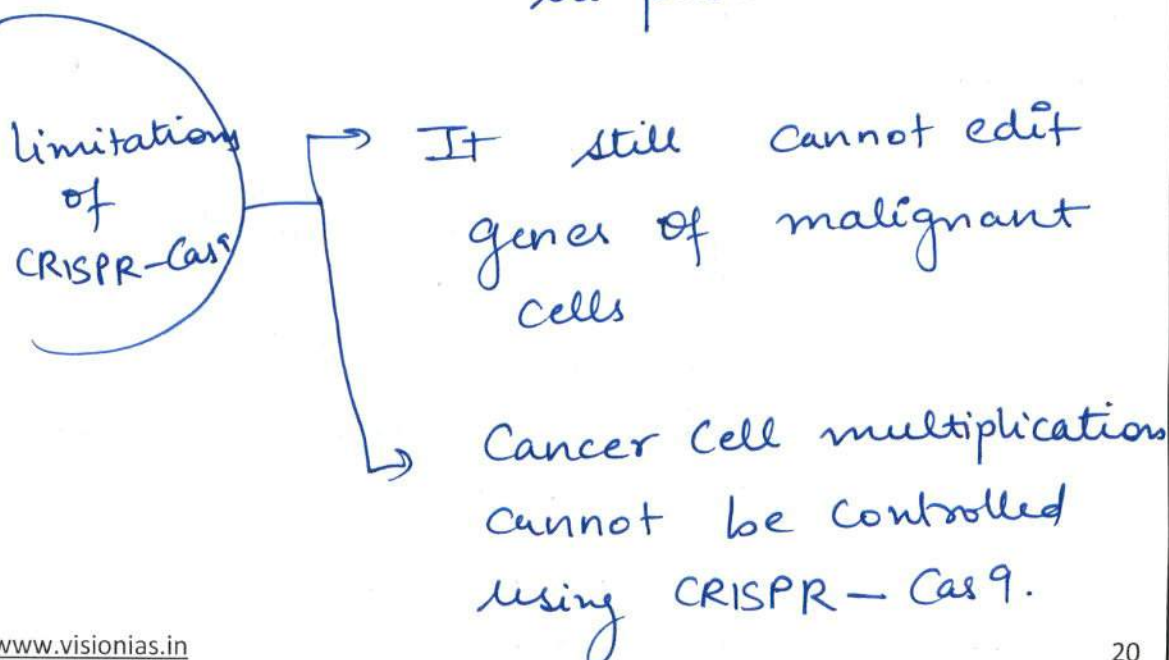
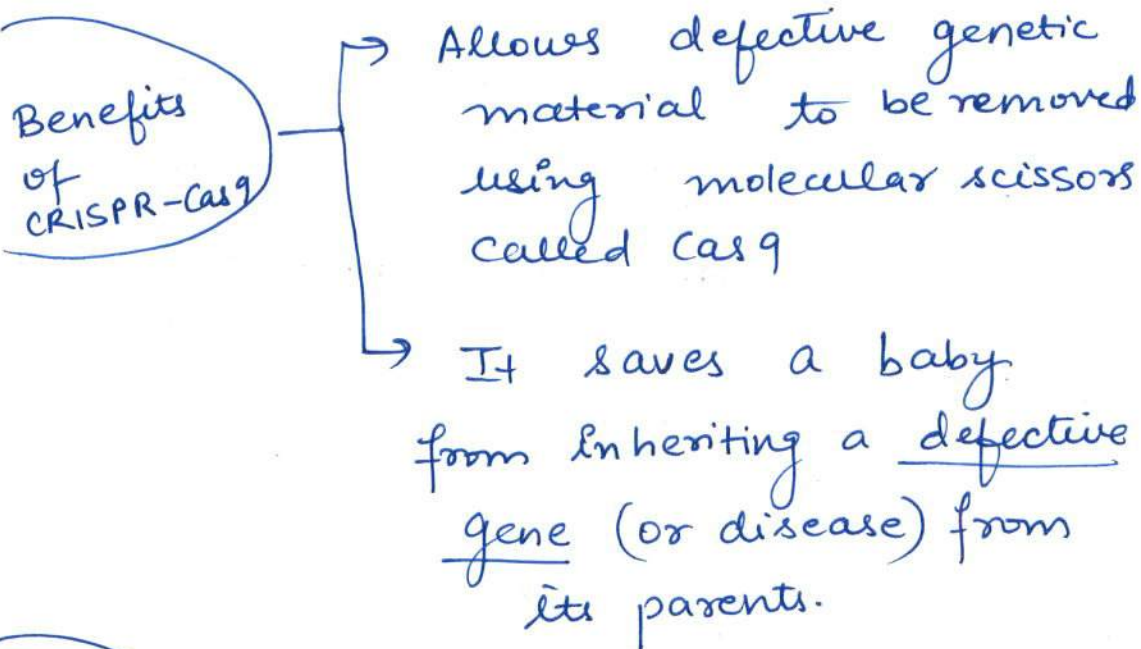
वैश्विक स्वास्थ्य विशेषज्ञ व्यापक रूप से मानते हैं कि CAR-T सेल थेरेपी का विकास कैंसर के उपचार में एक बड़ी सफलता हो सकता है। CAR-T सेल थेरेपी, CRISPR-Cas9 तकनीक में व्याप्त कमियों को कैसे दूर कर सकती है? (उत्तर 150 शब्दों में दीजिए)

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 हिसाब से नहीं लिखना चाहिए
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CRISPR-Cas9 technology was invented by Dr. Jennifer Douduma for editing of genes



CAR-T Cell Therapy

- can be used to overcome the limitations of T-cell Therapy
- It can train the T-cells present in the white Bloodcells to fight against Cancer.

Thus, clinical trials must be carried out to ~~for~~ develop CAR-T cell Therapy so that it can be enabled to treat cancer.

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 हशिप में नहीं लिखना चाहिए
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Prominent violent extremist organizations deploy new and emerging technologies like AI, ML, Blockchain to Create disorder.

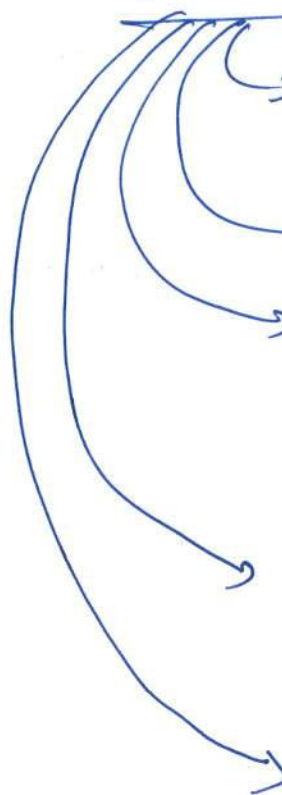
NEED FOR GLOBAL EFFORTS :-

- CRYPTOCURRENCY is increasingly being used to do terrorist financing and smuggling of drugs on dark web. This can be controlled only through global regulation of cryptocurrency.
- AI is being used to manipulate elections, eg:- Cambridge Analytica scandal & affected US elections.
- Deepfakes are being utilized by extremist organisations to radicalize the youth, eg:- ISIS recruiting youth from Kerala, Kashmir.

• DRONES being used by extremist organizations on borders for surveillance and drug smuggling.

• Hacking, ransomware, phishing being done by extremists to destabilize critical infrastructure.

GLOBAL INTERVENTIONS needed like:

- 
- Regulation of cryptocurrency (Blockchain)
 - Regulation of AI
 - Accountability of Big Tech Companies need to be enhanced through Vienna Convention
 - Coordination for intelligence sharing regarding terrorism and drug smuggling needed.
 - FATF sanctions on countries that support coercion and terrorism.

Thus, global concerted efforts alone can prevent misuse of emerging technologies and usher peace and tranquility in world.

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

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

LAC has become a tense region due to Galwan and Yangste incidents.

→ India is building infrastructure, ~~the~~
eg:- Daulat Beg Oldie Road.

→ China is also ramping up infrastructure ~~in~~ near the Pangong Tso areas

ROLE OF ITBP:-

- GUARDING OF BORDER

→ using surveillance technology like lasers, drones, sensors, radars

→ to prevent infiltration and foreign objects within country

- REGULATION OF MOVEMENT OF GOODS AND PEOPLE:-

- To ensure that illegal goods do not enter our border
- To ensure that people unauthorized people do not come into country.
- Regular patrolling.

- SUPPORT DEVELOPMENT OF INFRASTRUCTURE via

- Vibrant Village Scheme
- Border Area Development Scheme
- Enhance trust and faith of locals on ITBP.

- DISPUTE RESOLUTION

- occurs bilaterally if LAC agreement is violated

Thus, ITBP guards Indo-China border. For more effective functioning, it must encourage locals to become its eyes and ears if any untoward incident occurs on border.

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 refers to the amount of crop produced per hectare area of the land.

Irrigation water productivity refers to how efficiently water is delivered to the roots of the plants, without any leakages or losses.

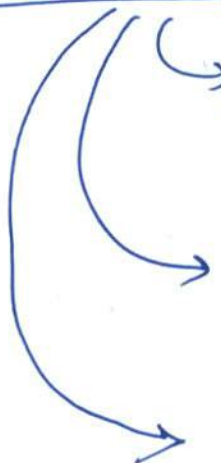
NEED TO SHIFT FROM LAND PRODUCTIVITY TO IRRIGATION PRODUCTIVITY

- Land is finite :- Hence, more land cannot be used for more production.
- Fragmentation of lands :- 86% of farmers are small and marginal and

as per Agricultural Census, the average landholding size is 1.08 hectares. Thus, economies of scale are missing and hence, land productivity cannot be increased.

- Deforestation is causing loosening of soil and soil erosion, leading to land degradation.
- Climate change necessitates efficient use of water.
- Irrigation water can be delivered to plants in a controlled manner.
- Water leakages can be monitored.

LAND PRODUCTIVITY IS ALSO IMPORTANT

- 
- Soil's health is critical for good harvest.
 - Balanced use of fertilizers is important
 - Land is to be rejuvenated through mixed farming, crop rotation, zero tilling agriculture.

CHALLENGES IN SHIFTING TO IRRIGATION! WATER PRODUCTIVITY

- Lack of credit to farmers
- Lack of subsidies for micro-irrigation like drip, sprinklers
- Water-Intensive crops like paddy are still being grown
- Production of water-efficient crops still missing.
- Use of fertilizers (and lack of organic farming) necessitates more water usage
- leakages cannot be detected (IoT, smart water Meters are absent)

Thus, it is critical to enhance irrigation water productivity so that yield and land productivity can be raised.

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 दृष्टि में नहीं लिखना चाहिए
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Green hydrogen can be produced through electrolysis of water using renewable energy.

Green hydrogen is a renewable energy which can enable India to shift from thermal energy to renewable energy and thus, achieve target of generating 500 GW renewable energy by 2030.

ROLE OF GREEN HYDROGEN IN UNLOCKING ENERGY SECURITY :

- Water is found in abundance in India. However, electrolysis units need to be set up to convert it into green hydrogen.

- Alternative to EVs :- Green Hydrogen is a cleaner alternative to EVs as green hydrogen does not require:

- storage batteries,
- charging batteries.

Also, it generates no e-waste unlike EVs.

- Reduction in Carbon Emissions :- as combustion of green hydrogen only releases water.

- Can enable India to achieve net zero by 2070

- Can replace coal, petroleum and natural gas

GREEN HYDROGEN MISSION

→ can be used by India to :-

- attract investors to invest in green hydrogen
- attract technology transfer of

- green hydrogen technology
- set standards for emissions for companies using green hydrogen.
 - Incentivise startups to produce green-hydrogen based vehicles.
 - This will help India to phase out coal and EV subsidies and divert economic resources towards production of green hydrogen.

Thus, green hydrogen mission is a gamechanger and can help India achieve SDG 13.

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 हार्शिए में नहीं लिखना चाहिए
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Article 43 of the Indian Constitution enjoins the government to provide a living wage to all citizens.

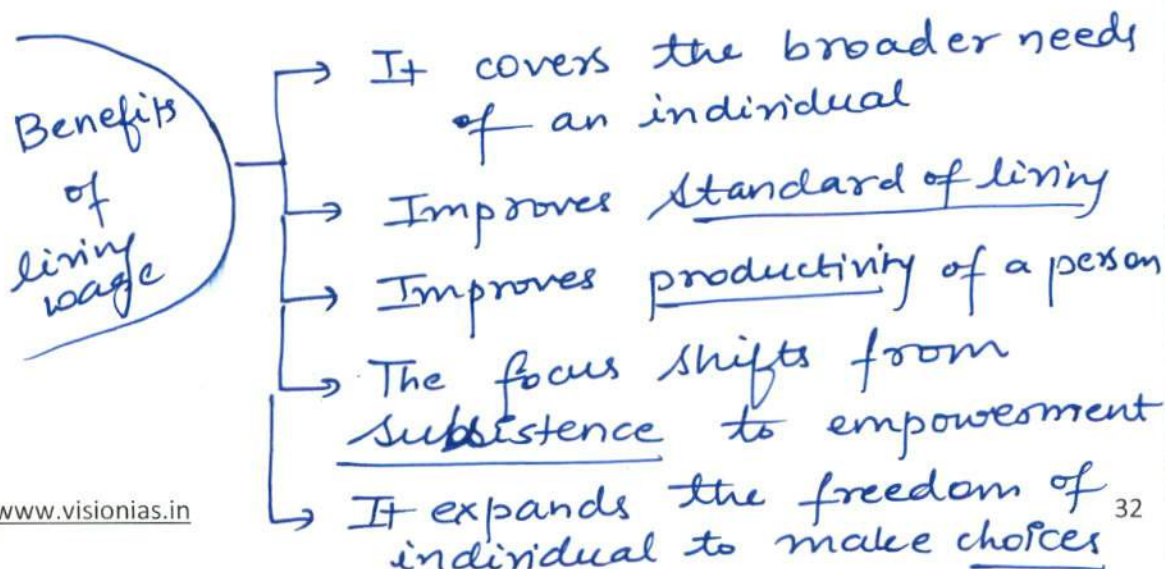
MINIMUM WAGE

→ is provided to meet subsistence needs like food, clothing and shelter.

LIVING WAGE

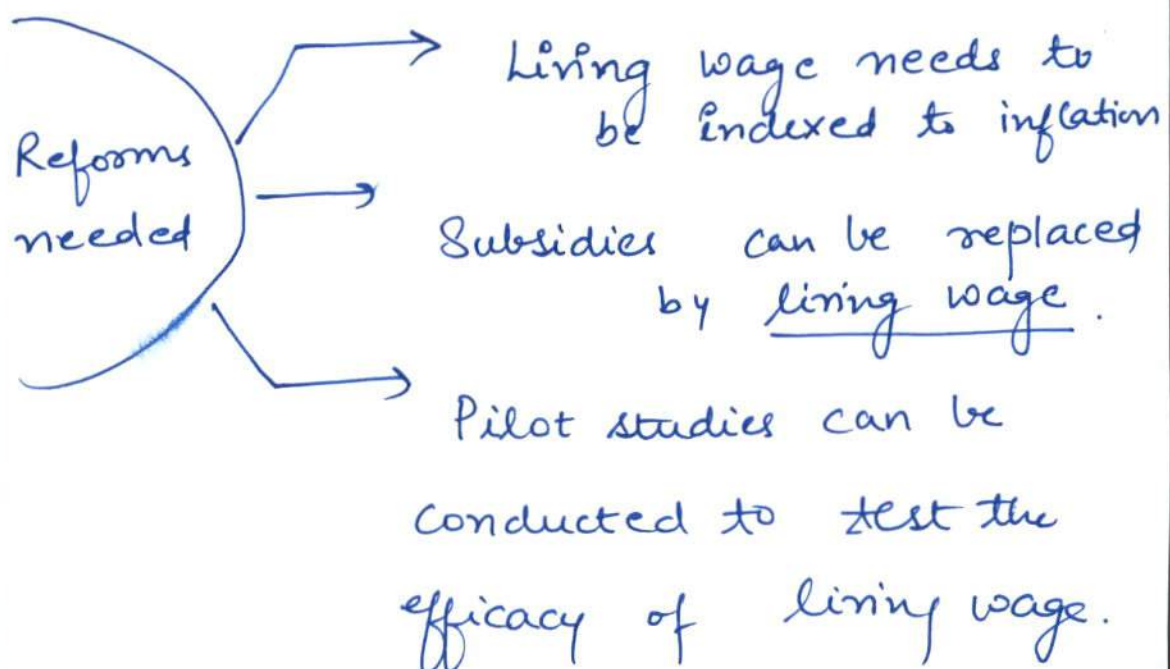
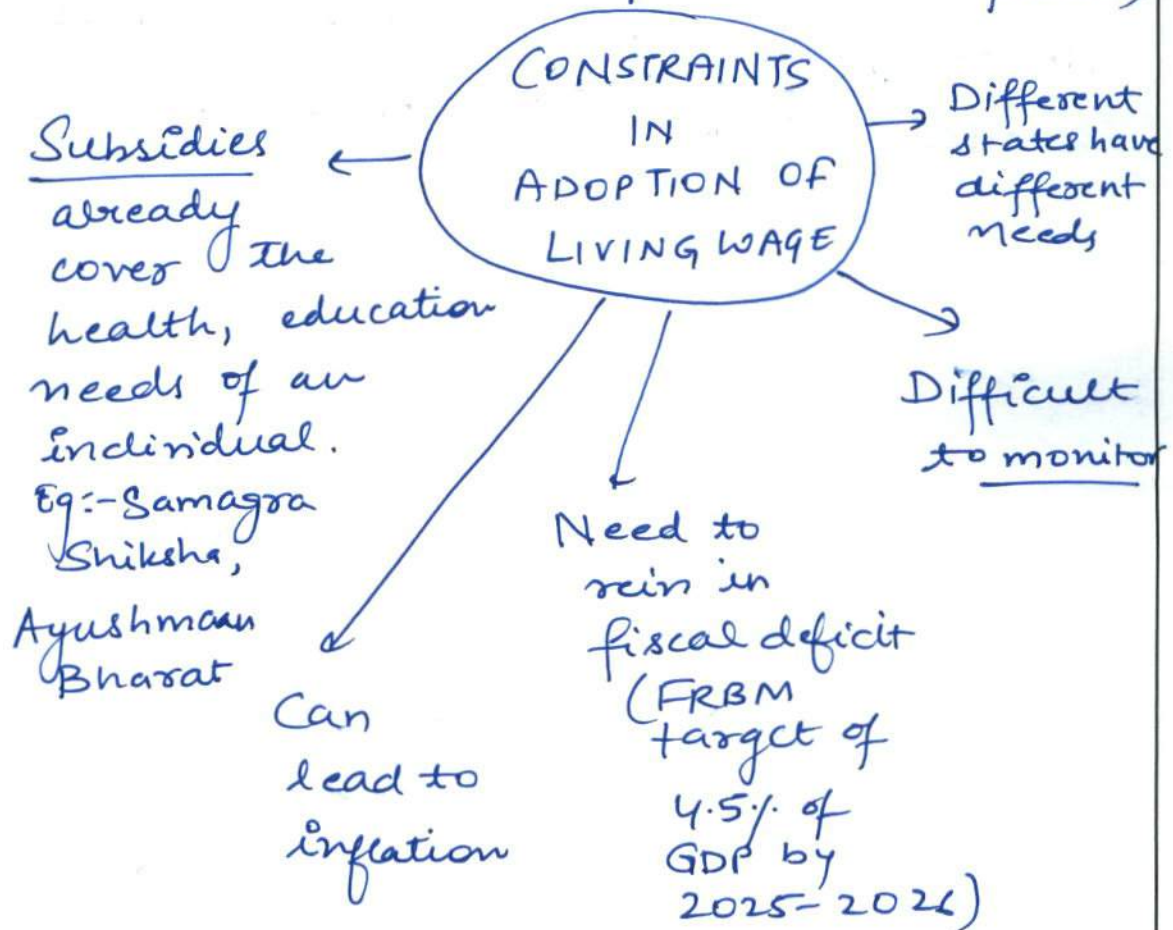
→ is provided to improve the quality of life and covers needs of:

- health
- education
- transportation costs.



Decline in Public Expenditure
after 1991 due to declining
tax-GDP ratio (which is only
16% at present)

उम्मीदवारों को
इस कक्ष में
नहीं लिखना
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Thus, it is time to empower the individuals with a living wage.

However, its pros and cons must be assessed before it is rolled out.

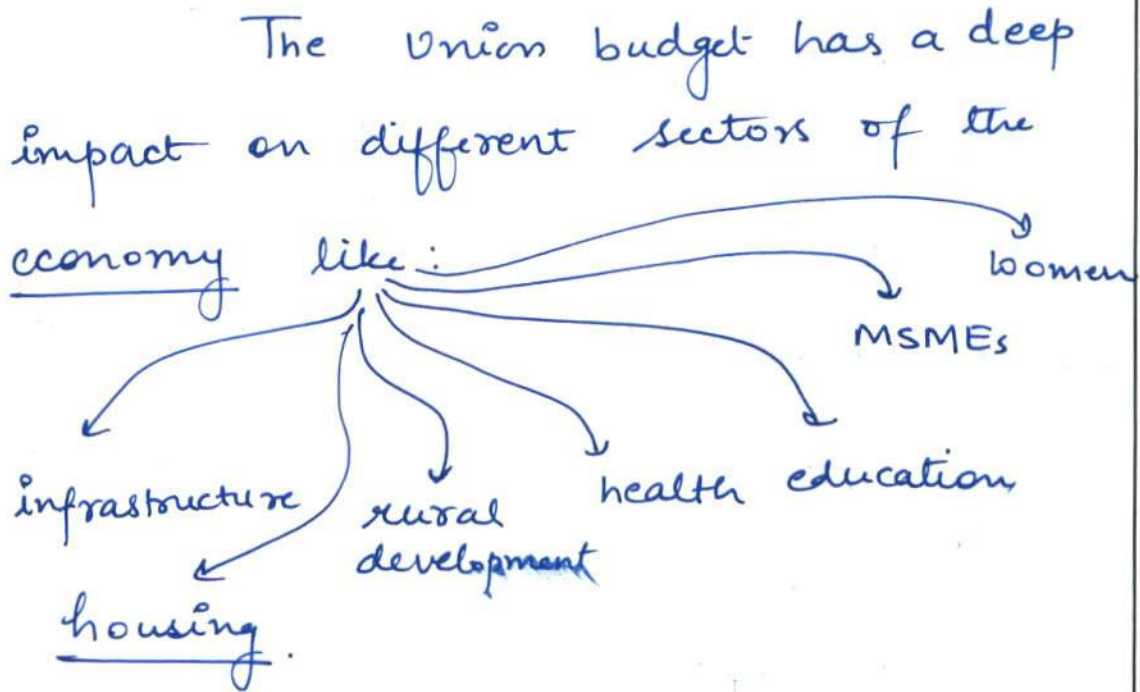
14.

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)

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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15



However, the budgetary processes and the budget policies do not come under substantial public scrutiny.

ARGUMENTS IN AGREEMENT :-

- Media just discusses the budget allocation
- Consultation meetings with industry stakeholders — not highlighted

- Budget sessions of Parliament not given sufficient coverage
- Post-Budget press Conference with the FM and secretaries of Finance Ministry, are not covered adequately by media.
- Outcomes of budget not discussed.
- OOMF = Output-outcome Monitoring Framework, released along with budget, is hardly highlighted.
- Lack of awareness among media as well as citizens regarding the targets being set in budget.

PUBLIC SCRUTINY EXISTS :-

- Research websites like PRS, CPR India and other think tanks organise discussions on Budget
- Budget analysis is displayed on their websites,

- Budgetary trends are being analysed.
- Industry also discusses the potential of the Budget to benefit the economy.
- Gender Budget is analysed by magazines like EPW.
- TV debates do occur on budget.
- Underutilization and misutilization of funds for various schemes, is analyzed by CAG.

Thus, budgetary processes and budget policies have far-reaching impact and must be sufficiently scrutinised by public for public interest.

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)

15

उम्मीदवारों को इस हशिष्ट में नहीं लिखना चाहिए
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India adopted the milk cooperative model to transform itself from a milk deficit country to the world's biggest milk producer.

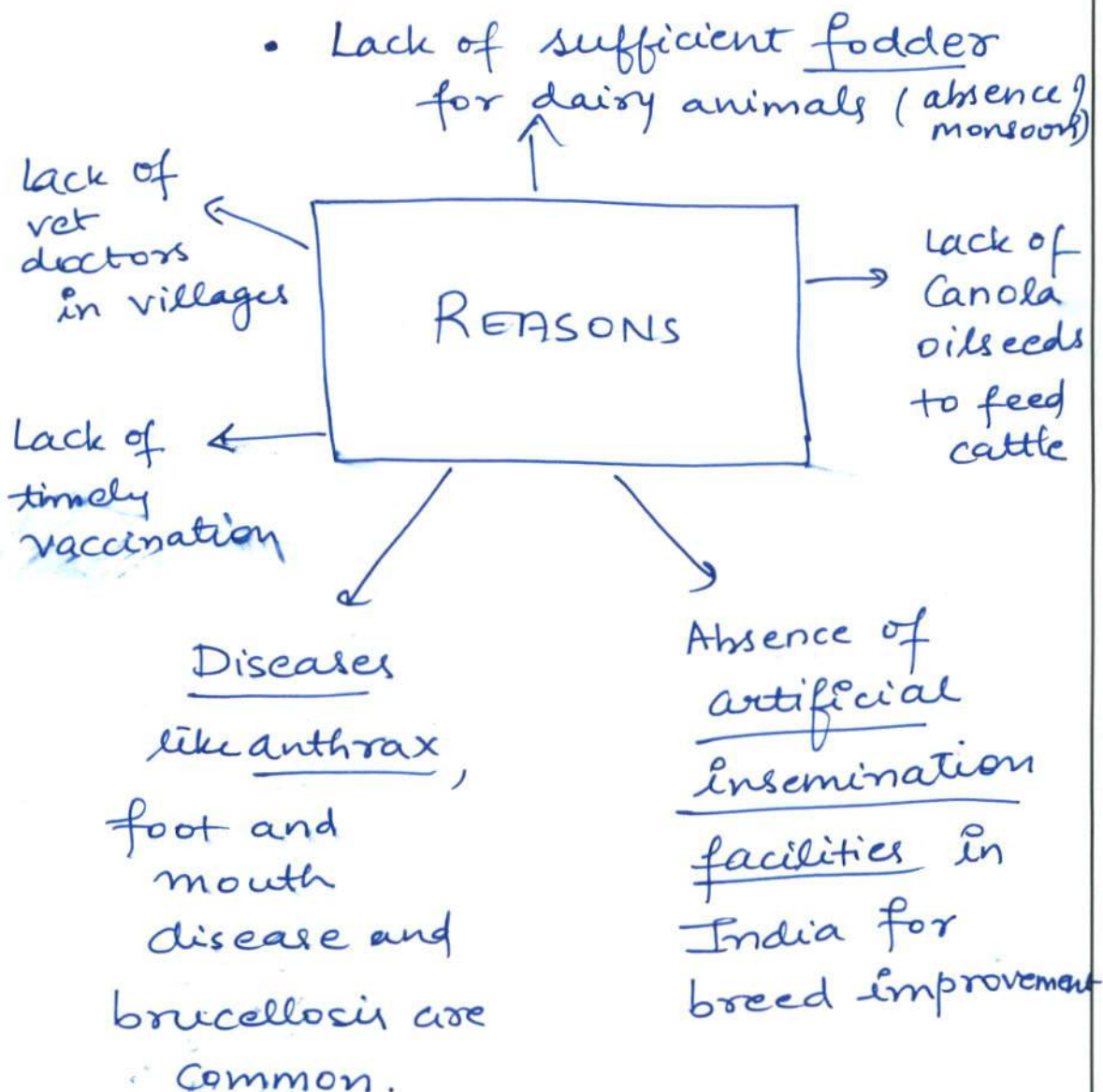
M.S. Swaminathan started the Operation Flood and thus, the Milk revolution began.

Different milk cooperatives like AMUL, VITA, VERKA developed which use advanced technologies to improve the quantity and quality of milk production in India.

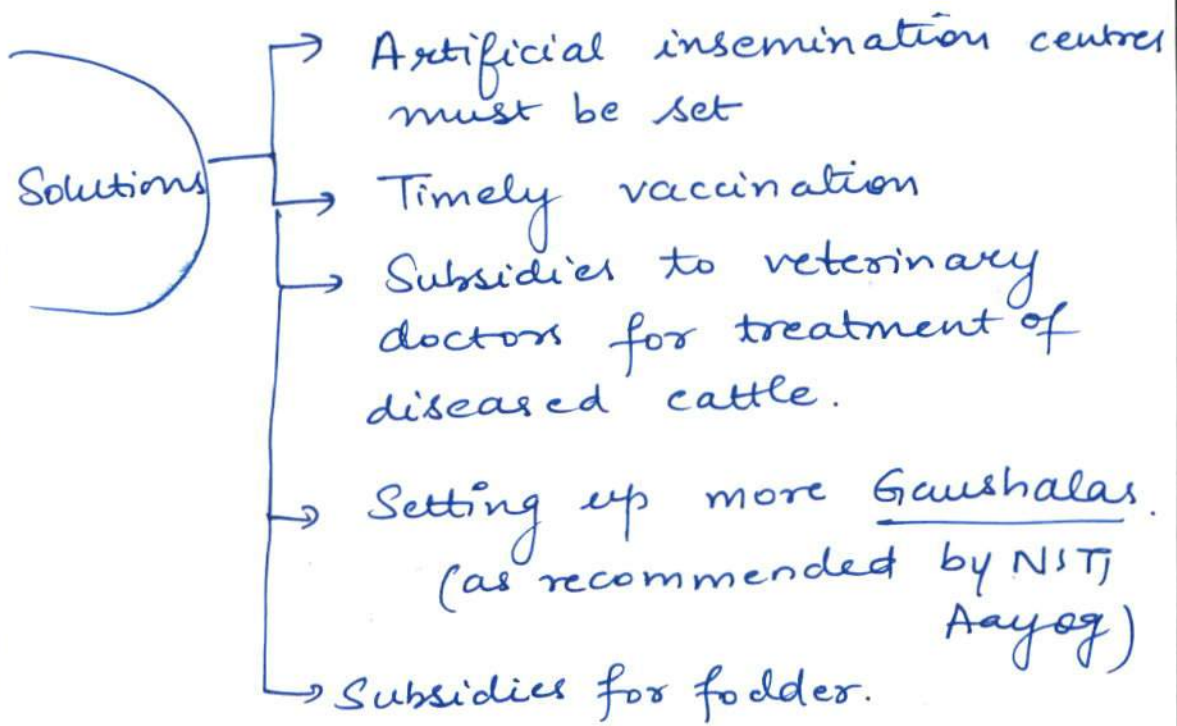
PRODUCTIVITY OF DAIRY ANIMALS IS

A CONCERN :

उम्मीदवारों को इस कश्चि में नहीं लिखना चाहिए
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Thus, the farmers are not able to raise or double their incomes due to reduced productivity of dairy animals.



Thus, the farmers must make every effort to make their cattle more effective and productive so that India continues to be the world's biggest milk producer.

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)

Climate change refers to the change in the global temperature and rainfall patterns due to natural and anthropogenic factors.

CLIMATE CHANGE IS RESPONSIBLE FOR

CROP FAILURES :

- It causes untimely monsoons
- Delay in monsoon affects sowing and harvesting
- Floods spoil the crops
- Droughts lead to degradation of land and reduce yields
- viruses, pest and locust attacks increase, reducing yields.

AGRICULTURE SECTOR LEADS TO CLIMATE CHANGE :-

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इस हार्डिग में
नहीं लिखना
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→ Methane emissions due to enteric fermentation inside the bodies of cattle, leads to climate change.

→ Flood irrigation to produce paddy leads to methane emissions.

→ Production of fertilizers for agriculture entails carbon emissions.

→ Power, electricity, machinery needed for agriculture also cause emissions.

→ Stubble burning leads to smog and pollution.

STRENGTHENING RESILIENCE OF FARMING

COMMUNITY :- strategy under National Agriculture Disaster Management Plan :-

- Use of organic farming
- Integrated farming
- GM technology to be used to make crops climate change resilient
- Promotion of Climate smart agriculture
- Promote millets (instead of paddy)
- Use drip irrigation instead of ~~rice~~ flood irrigation (Direct seeding of rice be used)
- stubble burning be reduced using rewards and incentives

Thus, climate change is upon us. we must make our farming resilient to ensure food security of the nation.

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)

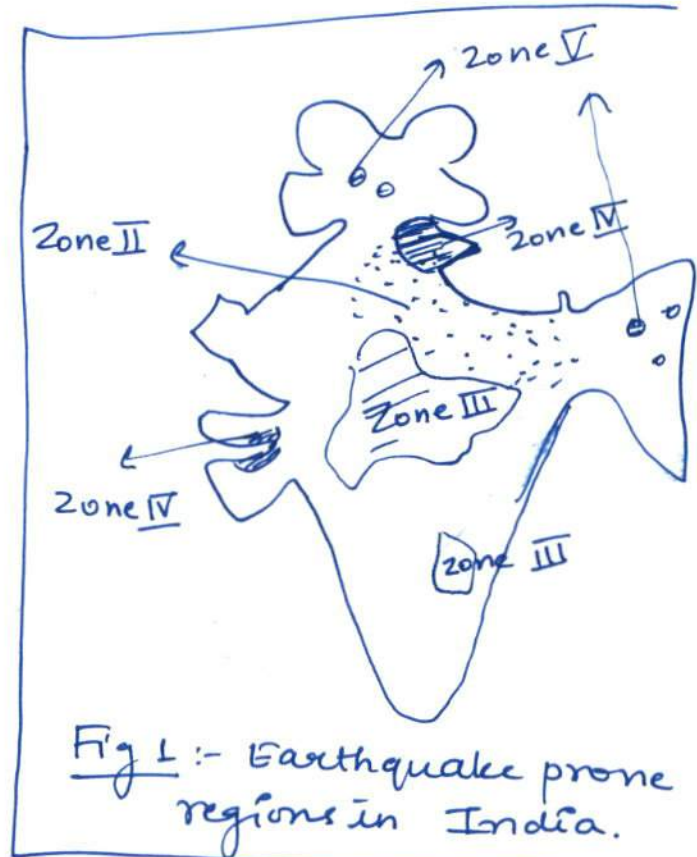
Some regions in India, including Delhi, are highly vulnerable to the impact of earthquakes originating in the Himalayas. Discuss. What institutional measures have been taken to mitigate earthquake losses in India? Do you think there are significant gaps that still exist? (Answer in 250 words)

15

Earthquake refers to the sudden shaking of earth's surface due to movement of tectonic plates.

Regions like Delhi lie in

Zone II in terms of earthquake vulnerability.



~~FAST~~ VULNERABILITY TO EARTHQUAKES

- The Indian plate is moving at the rate of 5cm per year towards the European plate.
- Thus, the Himalayas are very

prone to Earthquakes.

- Construction of hydroelectric projects also increases the vulnerability of a region to earthquakes, leading to reservoir-induced earthquakes.

INSTITUTIONAL MEASURES THAT HAVE BEEN TAKEN TO MITIGATE EARTHQUAKE

LOSSES :-

- 58% of India's land is vulnerable to earthquakes.

→ MICROZONATION STUDIES of big towns like Delhi, Kolkata has been carried out to assess the vulnerability of different zones to earthquakes.

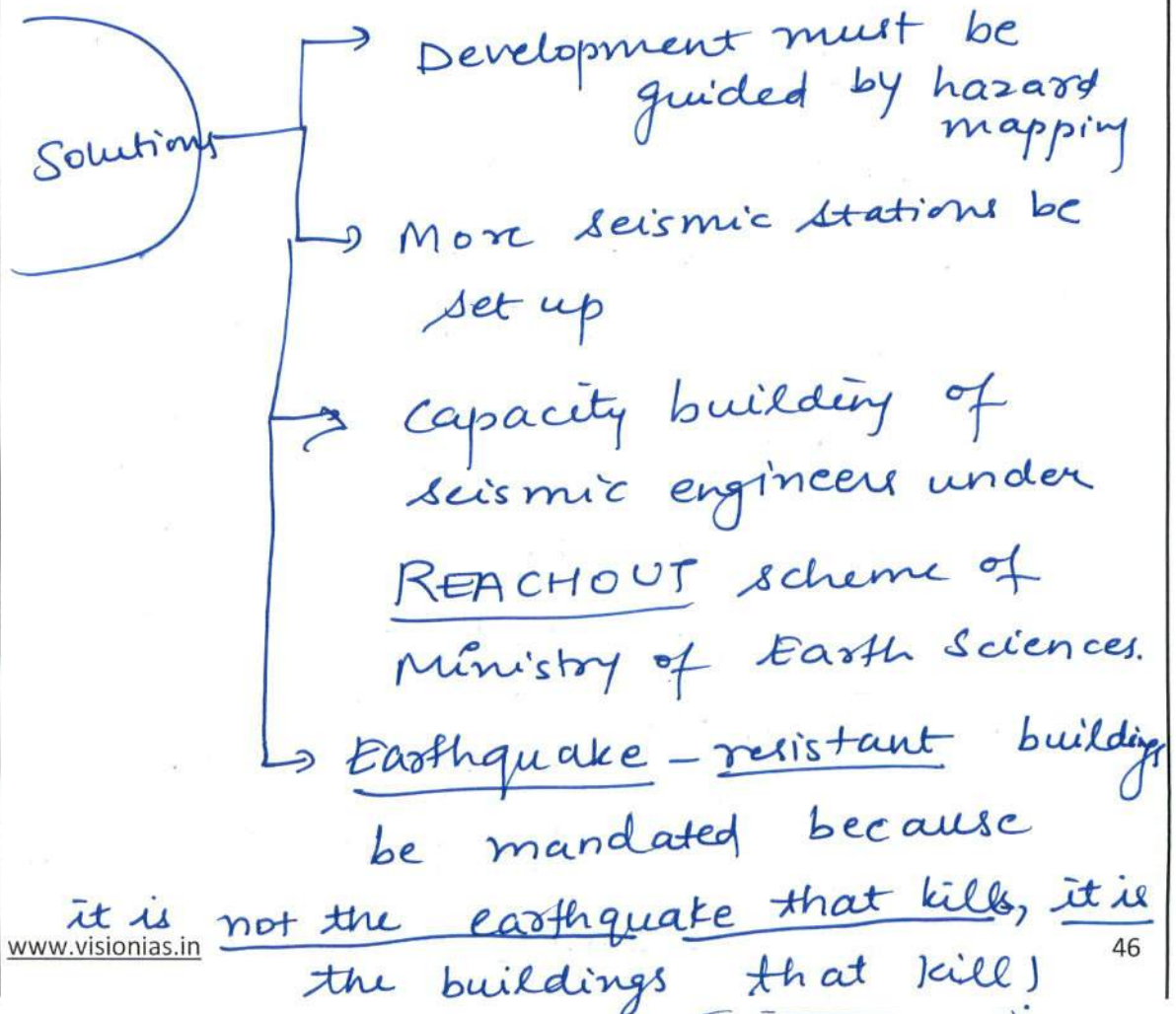
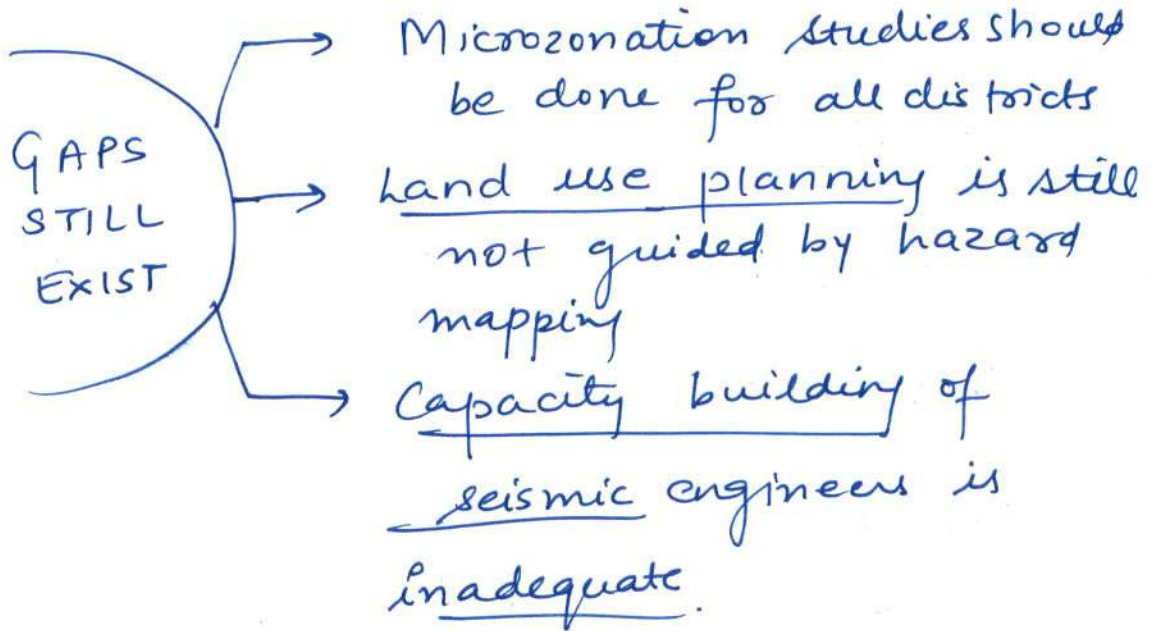
→ SAGE scheme of Ministry of Earthquake is strengthening system of forecasting of earthquakes.

→ National Centre of Seismology is setting up seismic stations across

country to better predict earthquakes

→ Boreholes have been dug in Koyna,
Maharashtra to study earthquakes.

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इस हार्डिंग में
नहीं लिखना
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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)

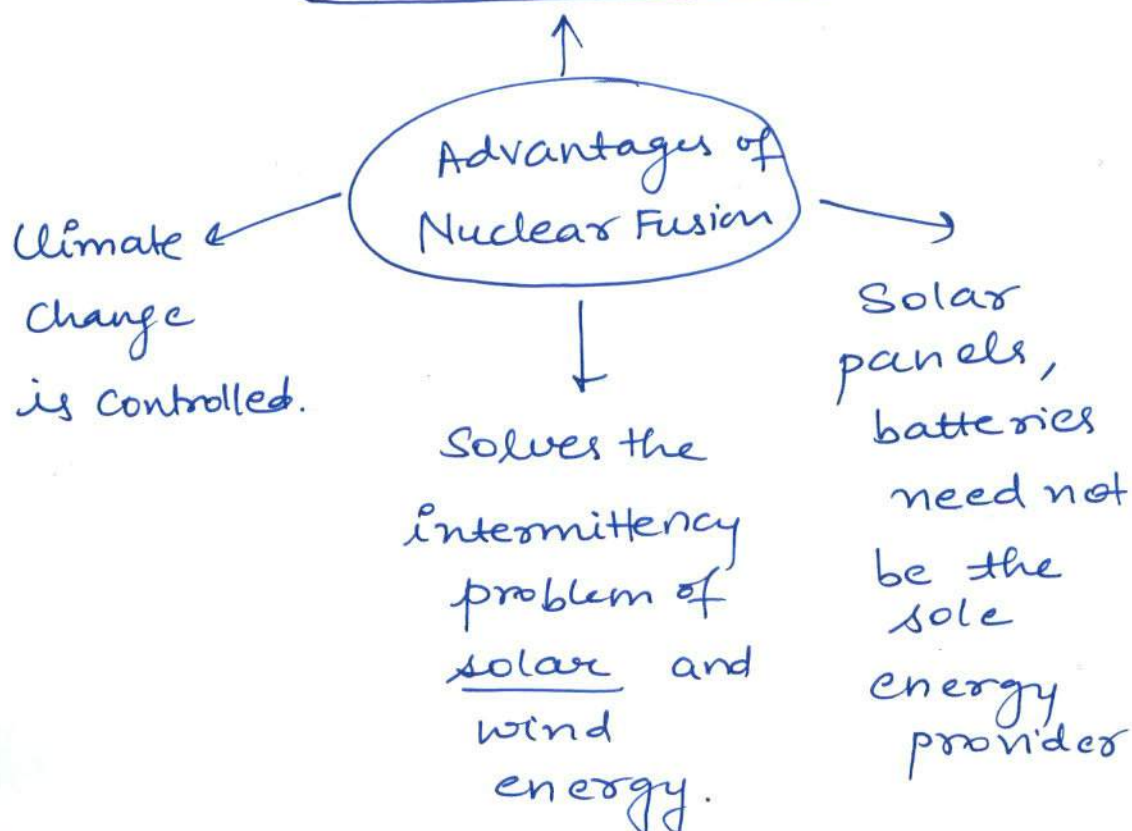
Recently, scientists announced net energy gain in nuclear fusion reaction, which is considered as a major scientific breakthrough for the future of clean energy. What are the advantages of nuclear fusion based power generation? What are the limitations in using it to generate electricity at a commercial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

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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Nuclear fusion refers to the combining of a hydrogen and helium atom to produce energy.

It is a clean energy and does not lead to carbon emissions.

Reduces dependence on fossils



LIMITATIONS OF USING NUCLEAR

FUSION TO GENERATE ELECTRICITY

AT A COMMERCIAL SCALE

- Lack of technical expertise to do controlled nuclear fusion.
- Danger and risk of Disaster (which can be even more deadly than Bhopal Gas tragedy)
- Radiation waste disposal is a problem.
- Risks outweigh the benefits.
- Lack of fuel.

Thus, ~~the~~ countries must learn from the best practices of each other and from the ITER experiment before fusion is used to generate electricity at Commercial scale.

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 हार्डिग में नहीं लिखना चाहिए
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The PMLA Act 2002, aims to prevent the menace of money laundering i.e. conversion of money obtained illegally or through illegitimate sources into clean money or legitimate money.

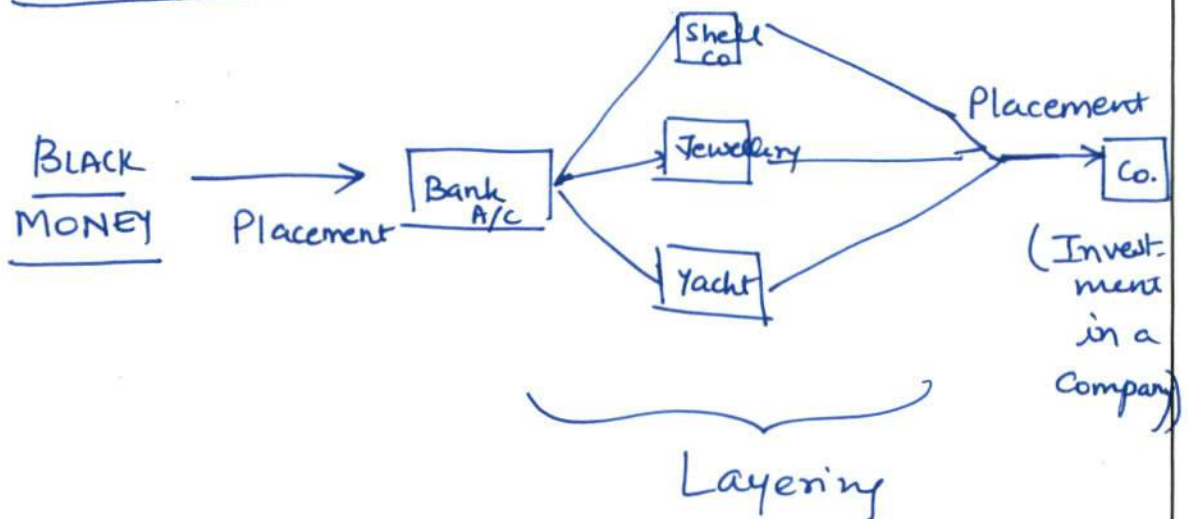


Fig 1 :- Process of money laundering

RECENT AMENDMENT IN PMLA, 2002

- NGOs will now be monitored by PMLA
- ED can conduct raids under PMLA

EFFICACY OF PMLA

Successes of PMLA

- Corruption has reduced
- Corrupt officers like IAS Pooja Singhal have been caught
- Taxpayer money is no longer being laundered
- Swift ED raids have reduced laundering

Failure or challenges

- shell companies still exist
- Round tripping is done by companies to avoid taxes
- Fake GST invoices, e-way Bills still lead to generation of Black money.

Strengthening PMLA

- ED should not be used to settle political scores
- Better coordination of ED with Financial Intelligence Unit (FIU-IND) to track money laundering
- Use of AI to track suspicious transactions
- International cooperation

Thus, PMLA needs to become more effective in tackling the menace of money laundering.

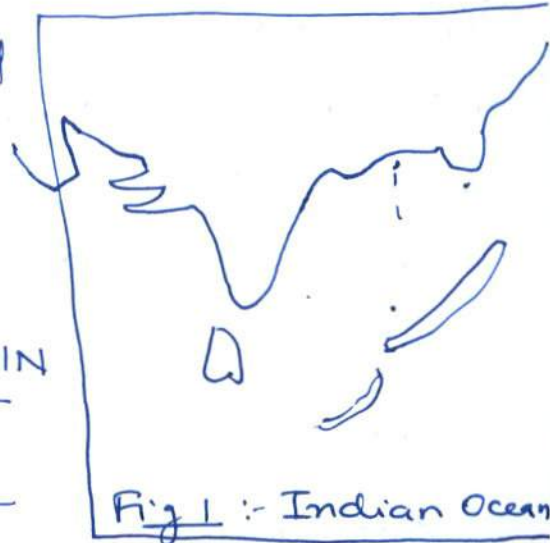
हिंद महासागर क्षेत्र (IOR) में मौजूद उन सुरक्षा खतरों पर चर्चा कीजिए, जिनका भारत के समुद्री सीमा संबंधी हितों पर सीधा असर पड़ता है। इन खतरों से निपटने के लिए एक मजबूत रणनीति सुझाइए। (उत्तर 250 शब्दों में दीजिए)

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)

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The Indian Ocean region is a strategic region that witnesses global trade and navigation.



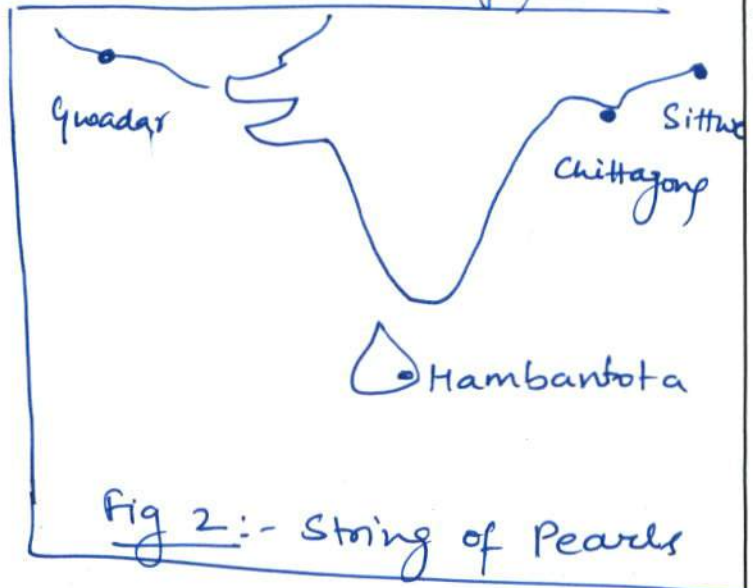
SECURITY THREATS IN
IOR THAT HAVE
A BEARING ON

INDIA'S MARITIME BORDER INTERESTS

- Piracy (near Somalia, Horn of Africa)
- Choke points can be blocked by countries like
 - Malacca Strait
 - Hormuz Strait
 - Babel Mandab

→ String of Pearls strategy
of China

to encircle
India by
buying ports
in the
neighbouring
countries of
India via debt trap diplomacy.



→ Threat of terrorism, eg:- Mumbai attacks of 2008.

→ Porous maritime borders with
Pakistan (Sir Creek region) and
Bangladesh

→ Violation of rules-based order by
China

→ Fishing issue of Katchatheevu
Island.

STRATEGY TO DEAL WITH MARITIME BORDER

THREATS :-

- Use of GPS on fishing boats to avoid Mumbai terror attack-like situation.
- Giving digital IDs to fishermen.
- Use of IMAC, Gurugram Centre for surveillance of ships.
- Real-time monitoring of maritime ~~monitoring~~ borders.
- Use of lasers, sensors at maritime border to prevent infiltration.
- Diplomacy to be used to settle maritime disputes.
- Coordination between agencies like Coast Guard, marine police, lighthouse, hydrocarbon, shipping and fishermen to increase vigil on border.

Thus, maritime borders need to be secured for safety of our nation.

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SPACE FOR ROUGH WORK

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