



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. : 014 5271

अभ्यर्थी का नाम/Name of Student : VENKATESHWARAN R

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

English

तारीख
Date

27/8/23

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

केंद्र
Centre

Chennai

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

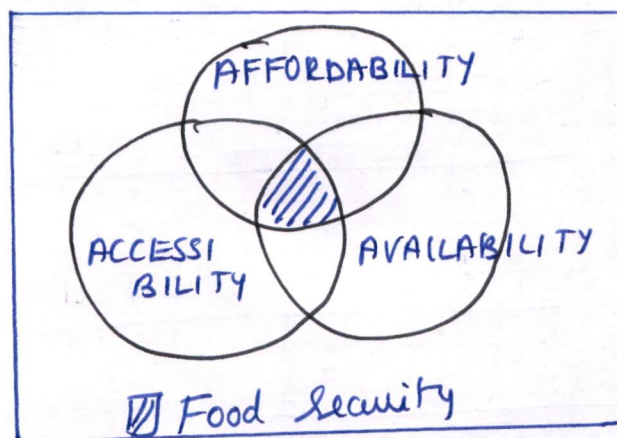
1.

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

India currently has 140 crore (2023) population and after NFSA 2013, around 80 crore population receives rations from 'Fair Price Shops' highlighting the importance of food security in India.

Dimensions of food security



To enhance
1. Quantity
2. Quality
+
NUTRITION

India's status with affordability

1. **NFSA 2013** covers

75% rural population
50% urban population

Goal: (2² meals / day)

Price

→ Rice - ₹ 3 / kg
→ Wheat - ₹ 2 / kg
→ Coarse cereals (price varies)

Indias Status with availability

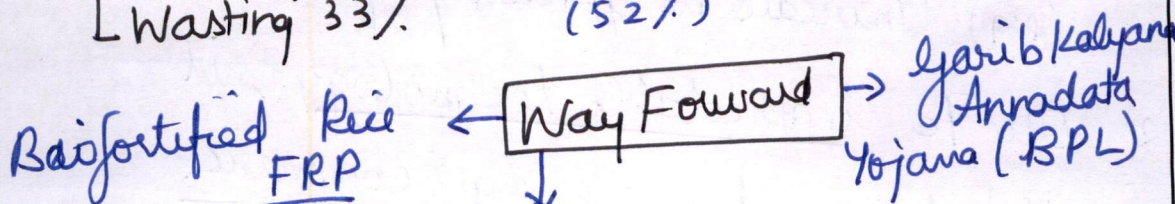
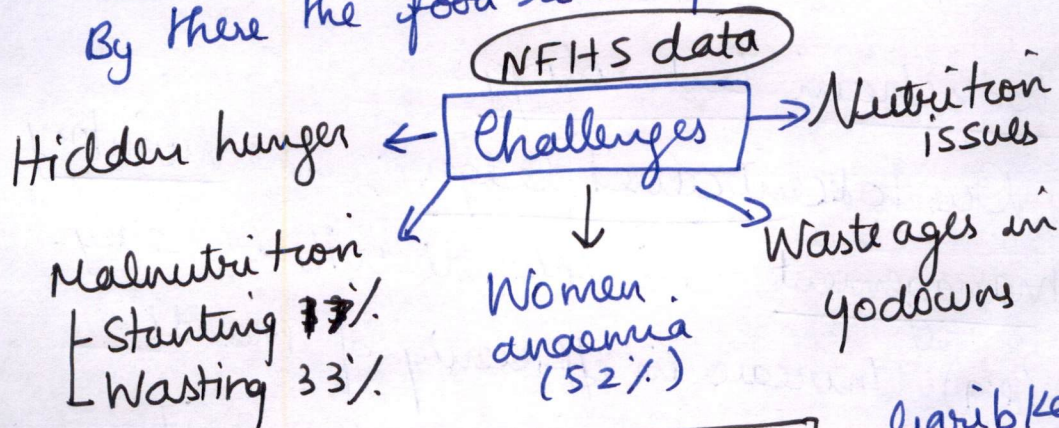
India food grains production \approx 350MT } (2022)
where Rice \Rightarrow 130MT production
Wheat \Rightarrow 108MT production
Similarly Sugarcane \Rightarrow 50MT production
Also Buffer stocks in FCI } \approx 508MT
godowns } (2022)

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

India's status with accessibility

1. Through fairprice shops \rightarrow BPL + Other vulnerable population
2. Through Mandi \rightarrow Retail Shops
3. State Government \rightarrow "Open Market"

By there the food security is ensured.



Increase food grains availability in market by curbing black markets

Shanthakumar Committee

FCI infrastructure reforms for reducing wastages to ensure food security

2.

ब्लॉकचेन और चैटजीपीटी जैसी आधुनिक प्रौद्योगिकियां कृषि को अधिक कुशल और संधारणीय क्षेत्रक 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

The Indian agriculture is life to 52% of Indian population and gives around 3.5% GVA to Indian economy; thus incorporating modern technology could boost the sector & livelihoods.

Advantages of Blockchain and ChatGPT in agriculture sector

Blockchain Technology:

1. Due to decentralised ledgers; the inventory management in Mandi will be easy.
(e.g) Increase in efficiency of mandi.
2. Due to immutable technology, it could be used in e-agri commerce
(e.g) Agristark - Blockchain Technology
3. Due to decentralisation, it provides the

opportunity for farmers of small farms to trade their produce -
(e.g) Small & medium farmers > 85% → Lead to doubling farmers income.

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

Chat GPT

1. Farmers could use Chat GPT to get aware of recent technology -
(e.g) Robotic spraying in agriculture
2. Understand market fluctuation of food grains and interpret sowing grains
(e.g) Benefit for Government to advise farmers.
3. Integrate Government + Farmers consortium
by diffusion of information
(e.g) Climate data, Soil Health status

Privacy of data ← Challenges → data leakages issue
Digital divide → data monopolisation by MNCs

Digital training ← Way Forward → Data localisation
Workshops to integrate agriculture with blockchain security software updations

Digital Technology into agriculture is indeed a great step in doubling farmers income by 2024.

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)

Post COVID-19 and impacts of Russia-Ukraine War, there were instances of de-dollarisation of global economy and thus needs to study about its impacts, causes and measures.

Factors led to recent acceleration in trend of de-dollarisation

1. Recent COVID-19 issues → strengthened the nation's desire towards economic independence from global economy. (e.g) Atmanirbhar Bharat
2. Russia-Ukraine War: → Russia was prevented by USA to use \$. Thus countries started to use other currencies. (e.g) India Oil trade with Russia with ₹ and ruble.
3. Increase of regional trade agreements promotes de-dollarisation (e.g) India-China; China-Russia
4. Fluctuations in global economy due

to '\$' values, leads to affecting domestic economy.
Thus accelerates the trend of de-dollarisation
(e.g) S. Lanka - economic crisis and de-dollarisation

Reasons to believe \$ lose dominance

1. Globalisation in global economy and increasing regionalism (e.g) BIMSTEC, ASEAN grouping
2. Failure of WTO, IMF, UN to regular rules based order (e.g) USA came out from major ^{no} economic grouping
3. Increase of multipolar world post Cold War era (e.g) India, China, Russia, USA.

Reasons to believe \$ won't lose dominance

1. More than 70% global trade still use \$
2. Global groupings → G20 → countries 75% of their GDP is \$ transaction
3. Other currencies are pegged to \$ because they are highly vulnerable in economic fluctuation
(e.g) £, Peso dollar economy.

Thus, in next future, there is no immediate cause of de-dollarisation, but it is indeed a new era of multipolar world, it could be a result in far future

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

India's food subsidy regime is the food-mouth for 50% urban population and 75% rural population and hence needed the policy support for poor in the country.

Pressure from developed countries

1. WTO → Agreements on Agriculture through Amber box subsidy and there is issue of India violating its demeritus levels towards food subsidy
2. USA → against non-basmati export of India due to its cheap food subsidy regime causing trade deficit to USA
3. UK, France, Italy → against India's Food subsidy regime because of trade distortions and cheap market ~~not~~ price of Indian grains in international market

Merit in India's policy support

1. India - 140 crore population (largest population in world)
2. BPL - 35 crore population
3. Agriculture economy for 52% population
4. Malnutrition data - NFHS-19.

Stunting - 17%	MNR - 97/1 lakh population
Wasting - 30%	IMR - 30/1000 live births
Anaemia - 52%	
5. 80 crore population \rightarrow beneficiaries of NFSA (Fair price)

उम्मीदवारों को इस हशिप में नहीं लिखना चाहिए
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How to tackle the pressure

1. Training the farmers towards traditional crops so that they don't need MSP for their crops. (e.g) Dryland farming
2. Irrigation Techniques (micro-irrigation) will reduce need for government subsidy
3. Developed countries \rightarrow understand that India has high population and 35 crore BPL population (e.g) Tolerance $\sim 20\%$ deminimus

2021 food subsidy is 2.25 lakh crore to state exchequer and hence, India should increase the capacity building of farmers in self sufficiency and doubling their income by alternate scientific techniques.

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 is 2.5% of world's land area but has 4% availability of freshwater resources as per Ministry of Agriculture and thus ensuring water availability and protecting quality seems essential.

Initiatives by Government - Water needs

1. Namami Gange programme

↳ promote Ganga Water quality (Terai)

2. Sustainable Bharat Scheme to reduce the degradation & protection of water resources Indore

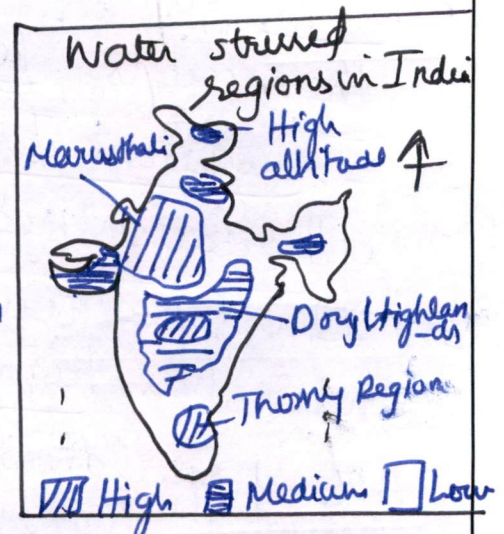
3. Well point aquifers promote ground water recharges

4. M. of. Jal Sakthi

separate ministry for water conservation

5. National Water interlinking programme

14 peninsular + 12 extrapeninsular rivers



(e.g) Ken-Betwa; Yamuna-Sutlej; Cauvery-Krishna

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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Why water availability and water quality needs prioritised intervention

Although the government schemes are implemented, it needs prioritisation due to.

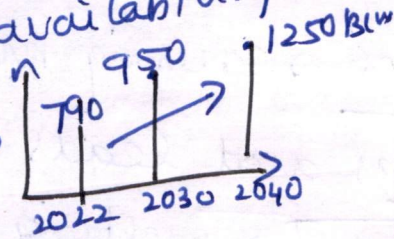
Water availability

1. Presently - 1186 BCM

Surface 633 BCM
Ground 470 BCM

But there is a decrease of 75% since 1970 in water availability

Future demand
(BCM)



Water quality

1. Rajasthan → arsenic + fluoride contamination

2. Kolkata → nitrate contamination

3. Polluted stretches

- Maharashtra (55)

- Assam (44)

- Madhya Pradesh (22)

These need prioritisation

Challenges that decrease our intervention

↓
Solid waste disposal
(e.g) Mumbai

↓
Unsustainable agriculture
(e.g) Punjab

↓
Industrial exhaution
(e.g) West UP

↓
Climate change
(e.g) Aridity

Promote dry land farming
(e.g) Raji, Bajra

Way Forward Conclusion

Promote 3R → water economy

Promote SDG-14

Promote micro irrigation
(e.g) drip, sprinklers

→ Life on water targets

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

Due to climate change, the arctic glaciers are melting and it is a great impact for 70% population who are living in 100 km from shoreline as per UNFCCC

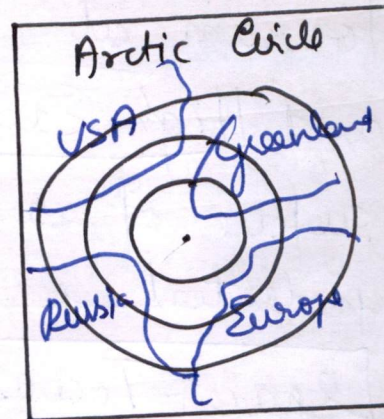
Major drivers for glacial retreat in Arctic

1. Ozone depletion → causing more albedo in urban areas and leads to global warming → melting glaciers
2. The climate change → causing the heat waves in arctic causing glacial retreat
3. Release of geo thermal heat from arctic apart of natural geostatic adjustment causing glacial retreat

4. Increase of Sea Surface Temperature in the Arctic due to more influx of warm current. (e.g) North Atlantic drift in the Barents sea.

Negative impacts

1. Rise in sea level causing submergence of coastline (e.g) Polynesian island
2. Loss of habitable lands (e.g) Perali I island
3. Decrease of thermohaline circulations causing increased heatwaves in Europe, Siberia



Positive Impacts

1. New land emerges
2. Mineral exploitation → Greenland
3. New trade routes in arctic sea through Barents sea.

Glacial retreat in Arctic will lead to loss of freshwater resources for drinking leading to water scarcity in future.

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

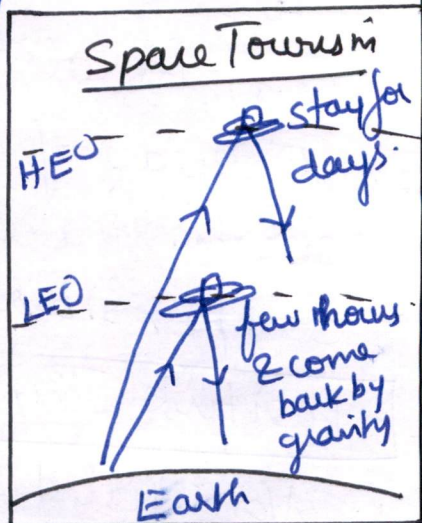
Space tourism refers to the tourism at Low Earth Orbit ($< 300 \text{ km}$) and High Earth Orbit ($> 300 \text{ km}$) from surface of earth, which has enormous potential in near future.

Space - Tourism (Reality)

1. Due to many private space agencies in space
(e.g) Space X, Amazon
INC.

2. Spin off technologies
in space industry leading
to its reality (e.g) Habitable
human void shell in craft

3. Recent training of few tourist by Space X
shows the reality of space tourism in
LEO.

4. Plan of  Hotel in Moon
Space lift technology
Space Resorts
(Thus it is a reality in future)

Challenges in space tourism

1. Weaknesses → causing Kessler syndrome effect
2. Not cheap but expensive causing not pro poor tourism
3. Causes CO₂ emission and increase Carbon footprint.
4. Training needed → and thus not suitable for CVD, old age people etc.

Measures to address challenges

1. Promoting eco-tourism through use of biodegradables
2. Increasing the room capacity of space craft by decreasing the price.
3. Monitoring and removing space waste by netting to prevent Kessler collapse in space tourism.
4. Hydrazine rocket fuel → replaced by less pollution fuel for reducing carbon footprint.

Actually, although expensive, the potential of innovation, R&D, employment, technology are the best advantages of space tourism.

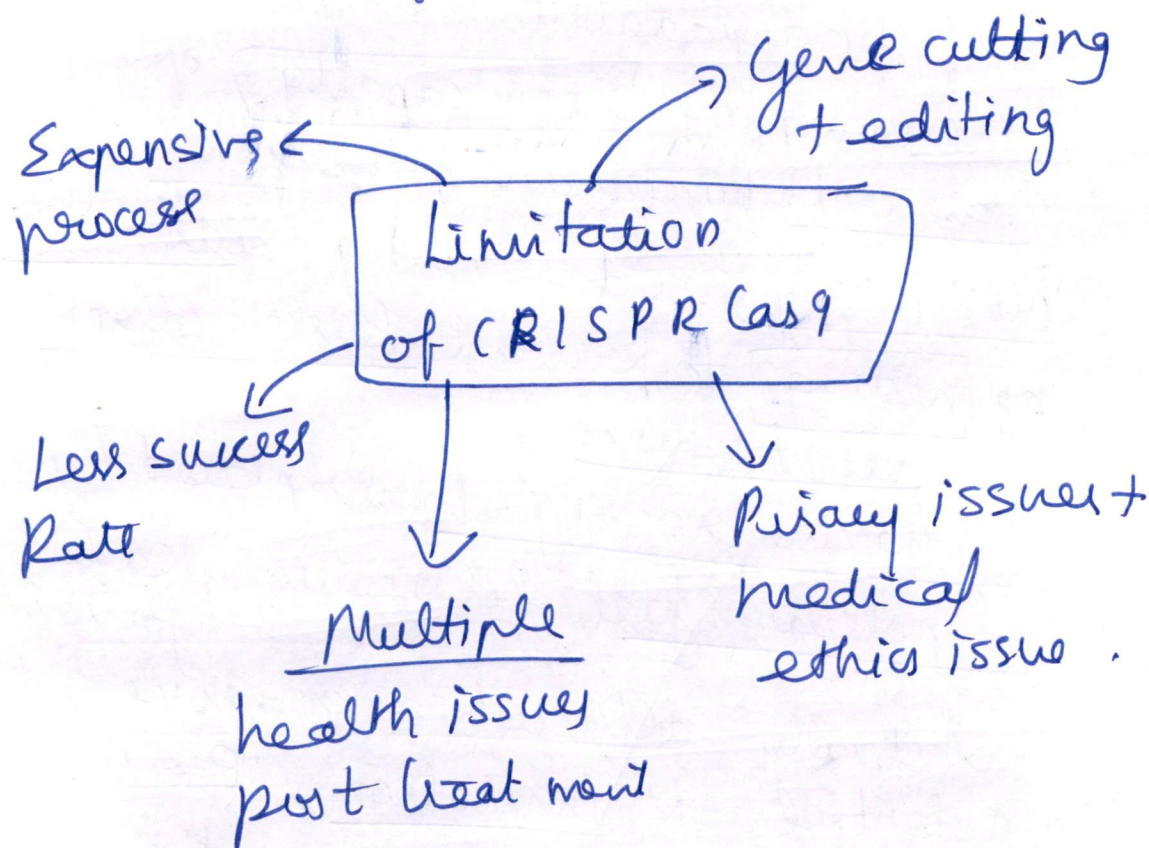
8. वैश्विक स्वास्थ्य विशेषज्ञ व्यापक रूप से मानते हैं कि CAR-T सेल थेरेपी का विकास कैंसर के उपचार में एक बड़ी सफलता हो सकता है। CAR-T सेल थेरेपी, CRISPR-Cas9 तकनीक में व्याप्त कमियों को कैसे दूर कर सकती है? (उत्तर 150 शब्दों में दीजिए)

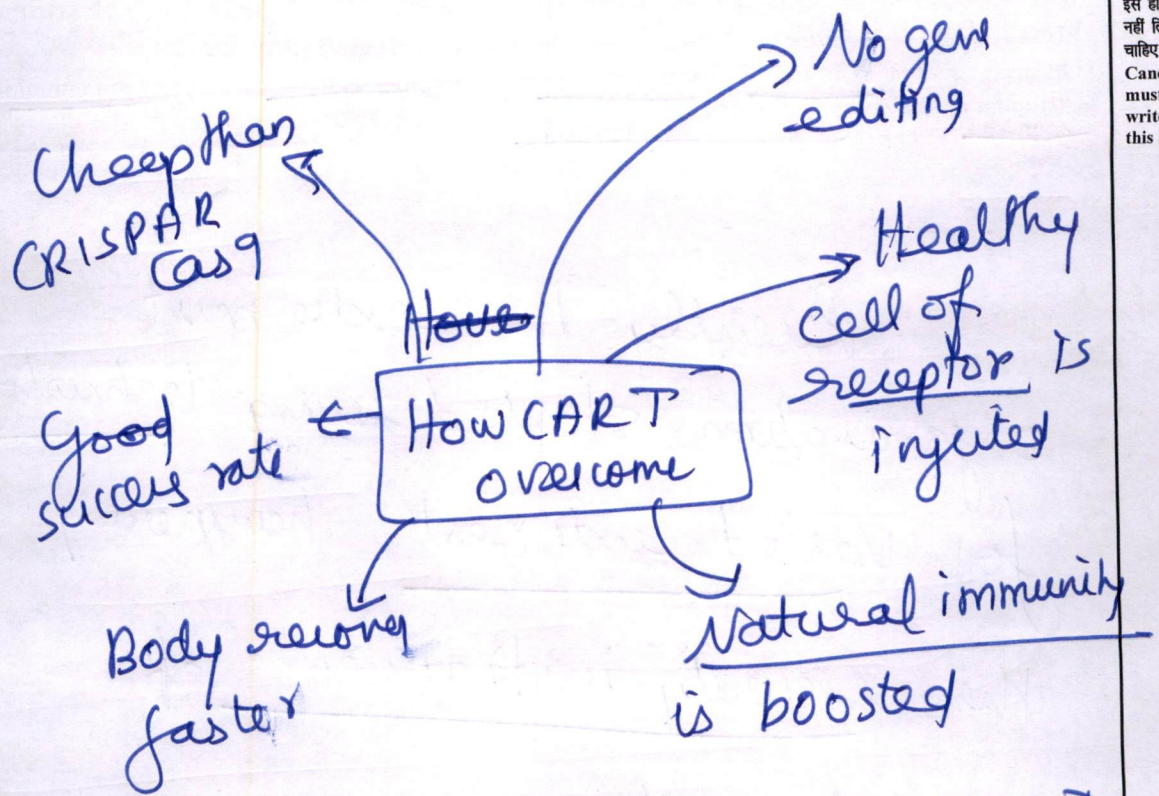
Global health experts widely believe that the development of CAR-T cell therapy can be a game changer in the treatment of cancer. How can CAR-T cell therapy overcome the limitations of CRISPR-Cas9 technology? (Answer in 150 words)

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CAR-T therapy involve
integrating the anti-cancer gene
into human body that could fight
cancer cells thereby reducing spread
and cure of cancer.





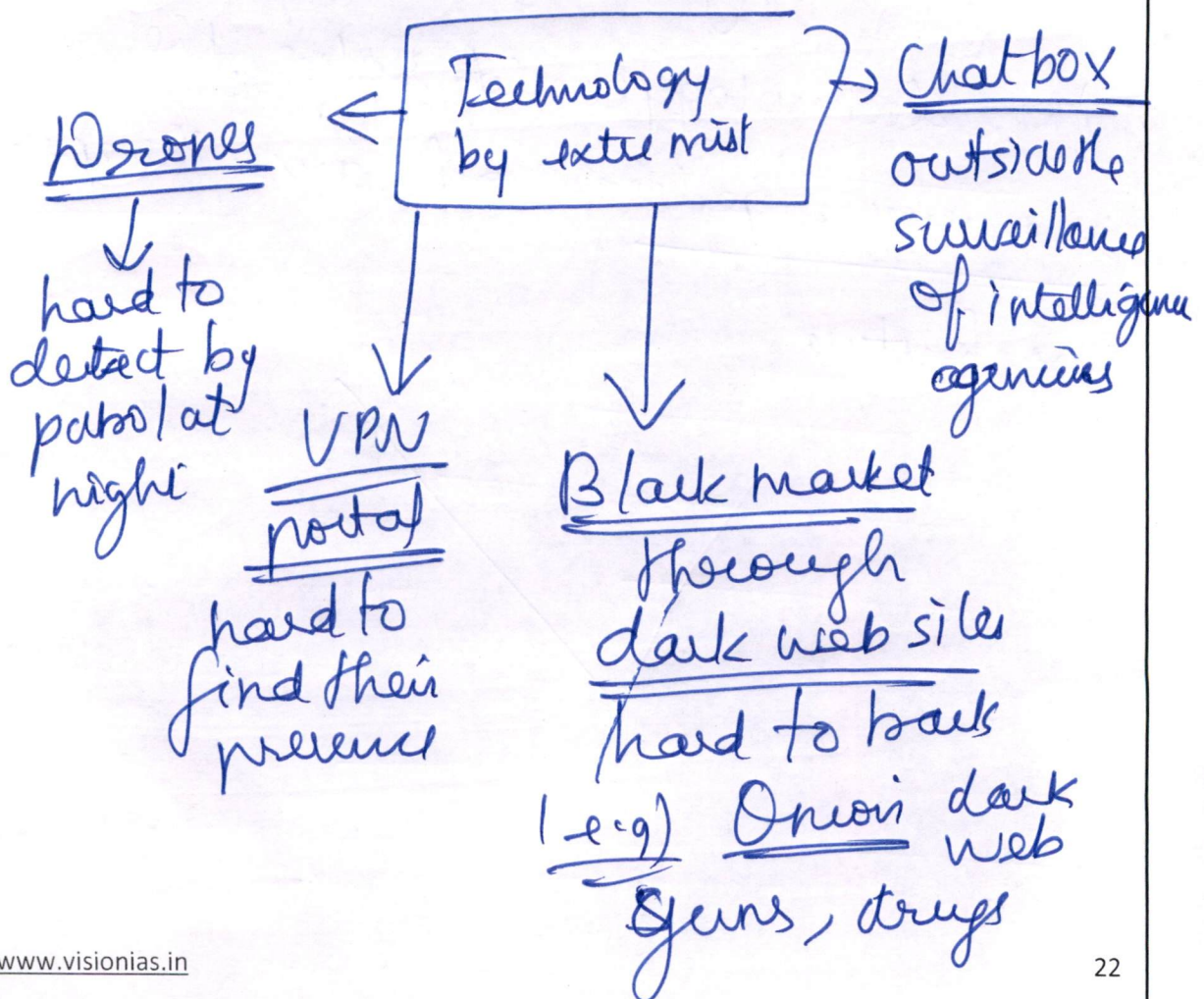
Then by analysing post CAR-T the technology could solve the immune rejection of cancer therapy in future.

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

Recently the extremist organisation started using technology for vested interest hampering the security initiatives of global countries -



VPN companies
should
share data
with
nation

Digital
empowerment
b/w the
officer +
police

Measures

Sharing of
data by global
nations

Collaborated
efforts in combating
dark webs -

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

Role of ITBP

- ① Border Patrol
- ② Community engagement
- ③ Village infrastructure
- ④ Surveillance
- ⑤ Anti smuggling

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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

India has 17% population (world) and 4% water availability with 2.5% of world land area with ~58% arable land under Ministry of Agriculture, highlighting the need for productivity and efficiency.

Reasons - Need of shift from land productivity to irrigation water productivity

1. Agriculture uses >80% groundwater and >75% surface water for irrigation

Result $\begin{cases} \rightarrow \text{depletion of water sources} \\ \rightarrow \text{scarcity of water} \\ \rightarrow \text{pollution of water} \end{cases}$

So, irrigation water productivity needed

2. Land productivity \rightarrow presently using organic farming, fertilizers leading to 130% productivity in Punjab + Haryana plains and thus more reasons towards

irrigation water productivity

Reasons → No need shift

1. Land productivity

- Degradation (e.g.) Marushtali
- Alkalinisation (e.g.) Rann of Kutch
- Salinisation (e.g.) Thorny region - Tamil Nadu
- Land use change for urbanisation due to loss of productivity.

Thus due to this factors land productivity need more importance.

The Comment

India needs to have both land productivity and irrigation water productivity.

Reasons

1. South India has less perennial water rivers (e.g.) Palar, Cauvery.
2. Rice bowl → India (Krishna belt) has reduced water supply.
3. More river floods resulting in a loss of water → ~~Bless~~ Brahmaputra, Ganga
↳ resulting in low irrigation productivity
4. Increase of population → food demand needs land productivity (140 crore population + 35 crore BPL people)

So, we need both (productivity)

Challenges in making this shift

1. Interlinking of rivers → could lead to increase of productivity → but lateral in State / State + State / Centre relation
(e.g.) Krishna - Cauvery issue.
2. Allocation of funding to States for irrigation production by Centre hampering the transition (e.g.) 15th Finance Commission (35% only reached)
3. Water Entry 17 - State subject } Perennial issue in the transition
Entry 56 - Central subject (regulation)

Measures

1. Promote dryland farming to make land + irrigation water productivity.
2. Agriculture Infrastructure Fund could be used for transition.

Indian agriculture is affected by climate change and hence sustainable SDG goals of 01, 02 has to be adhered for the population.

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

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Green hydrogen refers to the hydrogen produced from green sources through electrolysis process of splitting H_2 from H_2O leading to zero carbon footprint in energy production.

Role of Green H_2 - unlock energy security

- Promoting energy mix:
(e.g) Currently $> 70\%$ Coal dependent
Thus reduces the monopoly.
- Promotes renewable energy:
Green H_2 increases the R.E. potential
ensuring energy security (e.g) Remote regions of Ladakh
- Promotes the production:
(e.g) Current installed capacity $\sim 350 GW$
Green $H_2 \rightarrow \uparrow \underline{30\%}$ capacity of R.E. in energy security
(NITI Aayog) from present 28% by 3 years

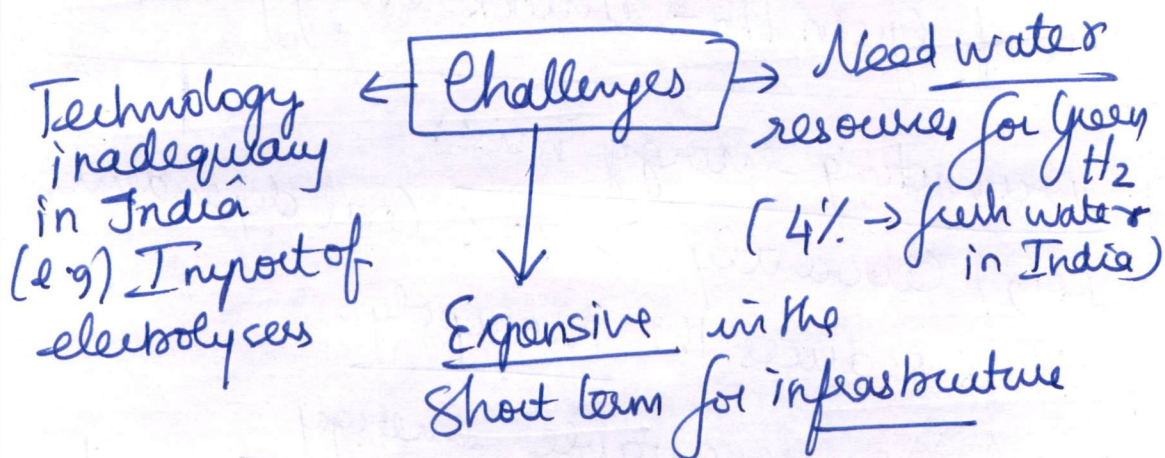
4. Promote climate change Goals =

Panchamrit targets

500hW R.E by 2030 → could be achieved leading to energy security

5. Cheapsource of H_2 :

If manufactured in large numbers could reduce the tariff leading to wider adoption in energy grid -



Green Energy - National Mission

To combat the challenges, recently the government formulated National Mission for Green Energy -

1. Production through funding the State agencies (H_2 production) ensures

target of 500 GW by 2030 -

2. Subsidy for installing electrolyzers by private industry promote goal of 50% energy industry of R.E by 2030.
3. Integrate PLI scheme in the energy sector, to achieve the reducing intensity of energy of 45% by R.E by 2030 -
4. Rapid production and consumption through procurement and Trade purchase agreement ^(TPA) \rightarrow promoting goal of Climate neutral by 2070

Thus the green energy mission will lead to sustainable & energy promoting India's INDC achievement by 2030 and becoming developed nation in energy by 2047.

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

India has recently enacted labour codes on social security, wages, industrial relations benefitting right of labour unions A(19) and also other fundamental rights of living standards (A21, A14).

Government → transition to living wages

Minimum wage → basic floor wage below which the State/Industry should not decrease wages.

→ Based on BPL line of $\frac{2.5 \$}{\text{day/capita}}$

→ Studied by NSO + CMIE

Living wages — decent —

- living
- education
- food
- housing
- clothes

→ Based on UN declaration of human right

→ Towards Human development goals of UNDP + NITI Aayog

Benefits of adopting living wages in

India

1. Breaks the vicious cycle of poverty :
as education price is also included.
(e.g) Promotes A 21 (A) → RTE to poor
urban people → Mumbai → breaks
poverty
2. Better standards of living :
Due to multiple dimensions of housing,
food, clothes etc,
(e.g) Result → Human development of
vulnerable → SC/ST, LG BTQ + community
3. Inclusive development for many people :
(e.g) India has 35 crore BPL although
we have Minimum Wages Act 1948
→ So, Living wages will solve the
issue.

Constraints - adoption of living wages

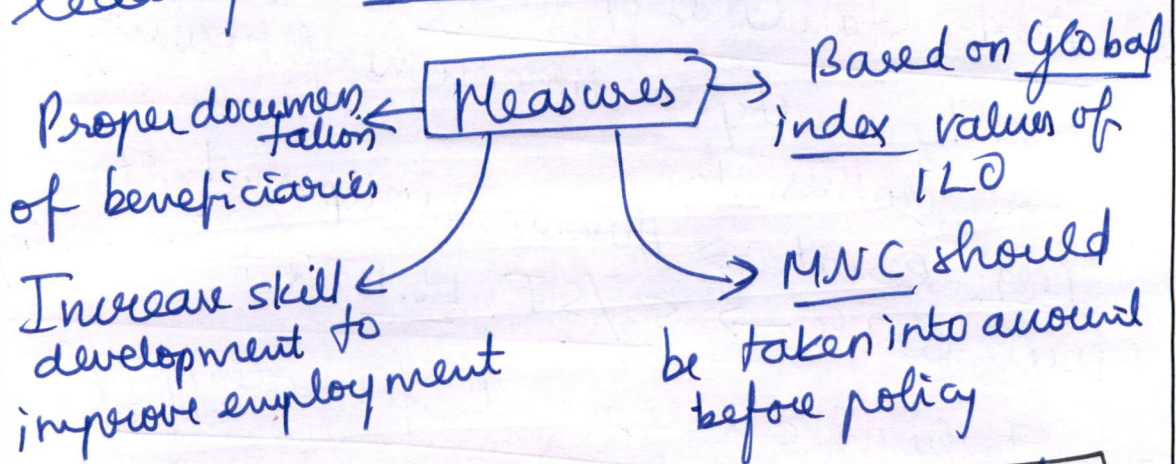
1. Inadequate data collection :
Inclusion + Exclusion errors for
find the actual no. of beneficiaries
(e.g) Many homeless people → no
aadhaar/
document

2. Increases loss to state exchequer:-

(29) Increase of MGNREGA wages and food subsidy bills

3. Loss of investment by corporate/MNC:-

Living wages \rightarrow will increase the profit of MNC \rightarrow leading to reduced investment leading to unemployment in India



India, could promote self employment and bank financing to poor people in order to have reduced beneficiaries for living wages So that it will be a win-win situation for people (poor), government and industries.

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)

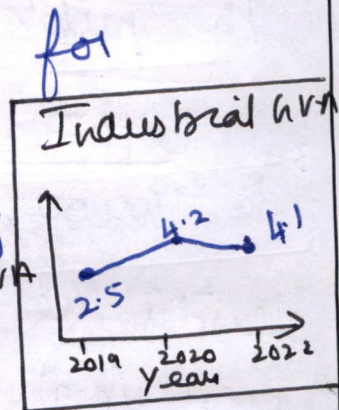
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Union Budget prepared by Department of Revenue, Ministry of Finance showcase the importance of the funding and its prioritisation among various sectors and thus needs substantial public scrutiny for transparency & accountability.

How union budget affects every sector

1. Priority funding allocation:

(e.g) Post COVID more funding for employment intensive sector
(e.g) Textile, manufacturing



2. Decides the outcomes of sector:

The funding → will decide various policies and the implementation strategies through coverage extension.

(e.g) Reduce of MGNREGA fund in rural development post COVID-19.

Reasons - to support for public scrutiny

1. Social audits:

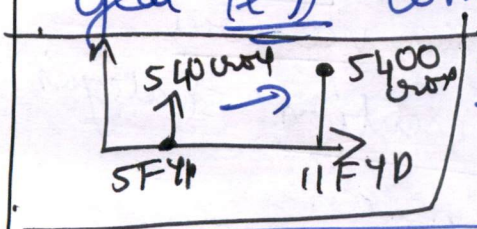
Every year by Civil Society Organisation for government project → is a form of public scrutiny on budget -
(e.g) CSO asked questions for increased funding on Border road infrastructure, but why decrease in MGNREGA -

2. Debates by economist:

Through Revision estimates promotes the public scrutiny for policies -

3. Citizen Report Cards:

Through grievances in policies will decides the impact of budget on policy next year (e.g) Command Area Development funding.

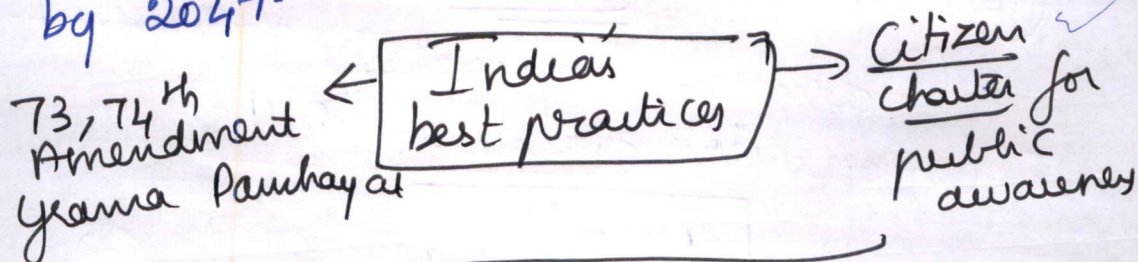


4. Public participation → Policy planning → Budgetary suggestions Support public scrutiny (e.g) Textile industries → PLI

Why there is questions towards less scrutiny

1. Due to issue of inadequate public partnership in certain budgetary policies (e.g) Border area management - Kashmir
2. Frequent guillotine motions → public policy + budget debates in DSC due to opposition + rising political parties issues.

Thus, it is justified that there is adequate substantial public scrutiny in budgetary process and budget policies and hence India could combat the challenges to become developed nation by 2047.



There further justifies public scrutiny in democratic India in the 21st century.

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

India forms the largest exporter of milk in the world, with the dairy sector providing 30% GVA to the agricultural economy under Ministry of Agriculture & Rural Development.

India's Transform → Milk deficit to Milk producers

✓ White Revolution 1970s - Varghese Kurien

① Gujarat - ANUL

(Farmer Cooperatives) Resulted in co-operative dairy industry

Result

① Increased milk cooperatives
(e.g.) Mandhira (Karnataka),
Aavin (T.N)

② Increased cold storages
(e.g.) West Bengal Cooperative

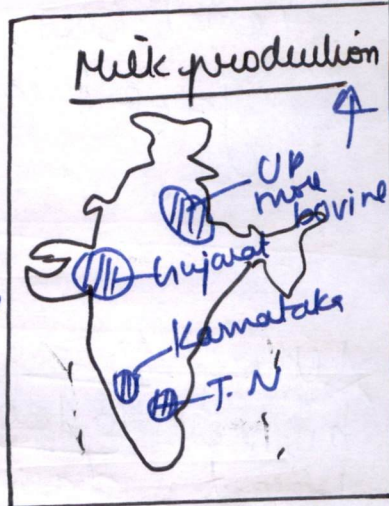
③ Increased Bovine animals
① UP Rank 1

Reasons - low productivity of dairy animals

1. Foot-mouth disease → Bovine animals causing deaths (e.g.) Recent deaths in Meerut.

2. Due to less nutrition food:

(e.g.) Safai Grass used in High altitude bovine are less in nutrition and less productivity of dairy animals.

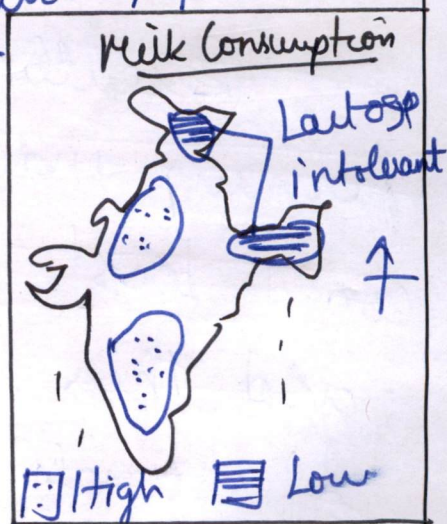


3. Increasing cross-breeding:

Foreign breed + local breed → decrease the milk productivity
(e.g.) Buffalo milk in Bihar, UP.

Result of the low productivity:

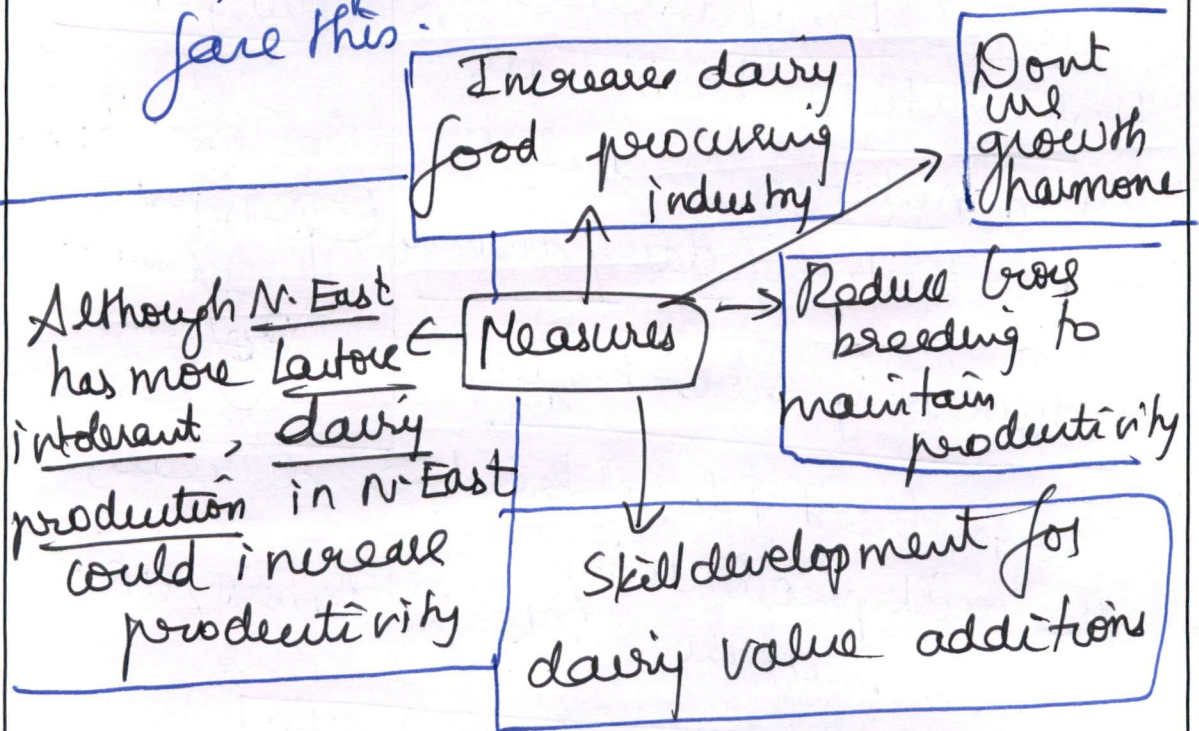
1. Reduced market → resulting in further reduced bovine farming
(e.g.) loss of Indian milk in farming international market.



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2. More cow slaughter for meat due to less productivity of bovine animals (e.g) Purvanchal of UP.

3. Decreased milk processing industries resulting in decreasing farmers income (e.g) Cooperative societies in Rajasthan face this.



Recently, PLI scheme in farming industry was enacted, which could boost the dairy industry and thus increase the productivity of animals through quality feed and medications.

जहां 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 हाशिए में नहीं लिखना चाहिए
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15

The climate change in India through heat stress and unfavourable weather pattern attenuate the agriculture crop failure hampering 3.5% GVA agricultural economy in India.

Climate change - crop failures

1. Extreme heat stress (e.g) Maruskhali crop failure.
2. Ground water depletion (e.g) Central Highlands
3. Increase in diseases + pests (e.g) Locusts spread in the Western India from Pakistan.
4. Change in monsoon (e.g) Failure of crops in Terai region and Krishna belt.

How agriculture - responsible for extreme weather events

1. Methane emission (e.g) Farm fields in Sutlej plains
2. CO₂ emission due to farm machinery (e.g) Punjab, Haryana
3. Increased water pumping in agriculture
Result: Water contamination (e.g) Narmada water stretch - MP.
4. More electricity usage because of subsidy (e.g) Vidharbha + Marathwada → Sugarcane cultivation.

Strategy adopted by National

Agriculture Disaster Management Plan

1. Rainfall data to the farmer through mobile apps - (e.g) KISAN apps - Cauvery belt.

2. Post-harvest loss through PM Fasal Bima Yojana to ensure farmer community (e.g) Widely used in Maharashtra.
3. Dryland farming → to reduce climate change events in agriculture - (e.g) Followed in the Central Highlands, Bundelkhand + Baghelkhand states -
4. Climate Modelling by integrating IMD + M.of. Agriculture - (e.g) Weather data.
5. Disaster resistant hybrid seeds for sowing. (e.g) Flood retaining Rice seeds in Tamil Nadu - Agri department -

The Best practice of in the Tamil Nadu, where 300 rice varieties of disaster resistant (local variety) is supplied by state govt for Cauvery delta (disaster prone region) could also imbibed by states towards combating agriculture crop failures.

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)

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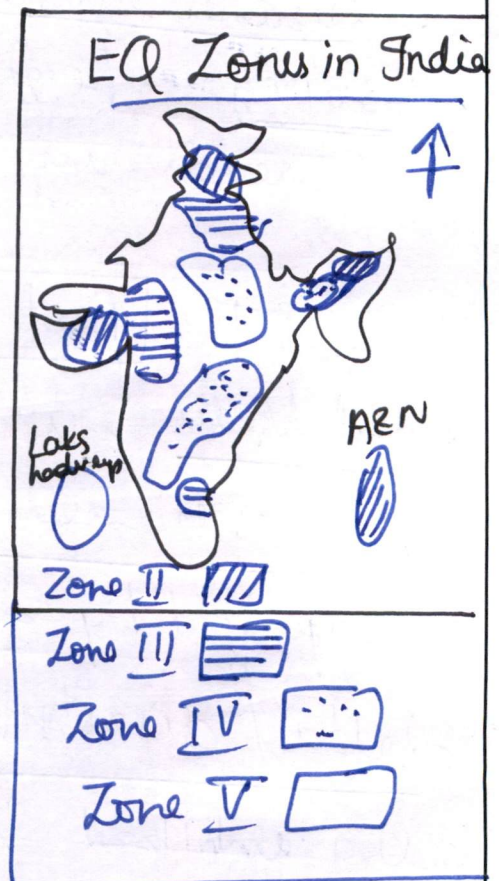
India land surface is prone to 58% earthquakes as per the data from National Disaster Management Authority and hence needs mitigation measures.

Vulnerable regions in India

1. Delhi
 2. Saurashtra
 3. Gujarat
 4. A&N
 5. High altitude regions
- Zone II high potential

Why regions are vulnerable to EQ in Himalayas:

1. Regions are located near the



Coastal subduction slab of Gondwana near Himalayas (e.g) Delhi, Meerut, ^{Chungram}

2. Seismic waves travel due to more hard rocks in the region

(e.g) Rohilkhand.

3. Lies in the Zone II (Himalayas) and thus neighbouring regions lies in Zone III

(e.g) Shimla, Munori, Dehradun -

4. Local induced seismic waves

(e.g) Hydro Reservoir induced seismicity (e.g) Bhakra Nangal, Tehri dam.

5. Isostatic readjustment moves down in regions surrounding Himalayas (e.g) Himalayas still rising 5cm/year.

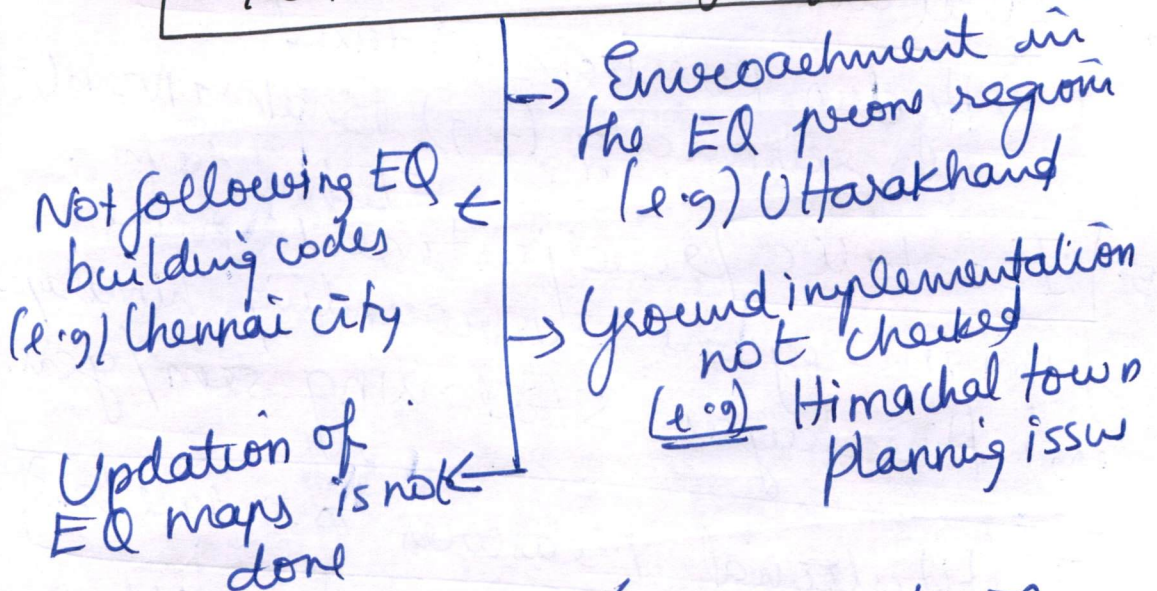
Institutional Measures to reduce loss

1. EQ warning through the Pitthen scale in Himalayan ranges.

2. Earthquake resistance building codes (e.g) Uttarakhand State.

3. Equipping SDRF through regular training in EQ disaster management.
4. Zoning the cities/town based on EQ maps -
(e.g.) Lucknow town/city planning -
5. TMD regular supplies data to State Water Resources → Rainfall data
To Reduce → Reservoir induced seismicity.

Yes, there are significant gaps



Sendai framework on EQ resistant building has to be incorporated for effective EQ management in India.

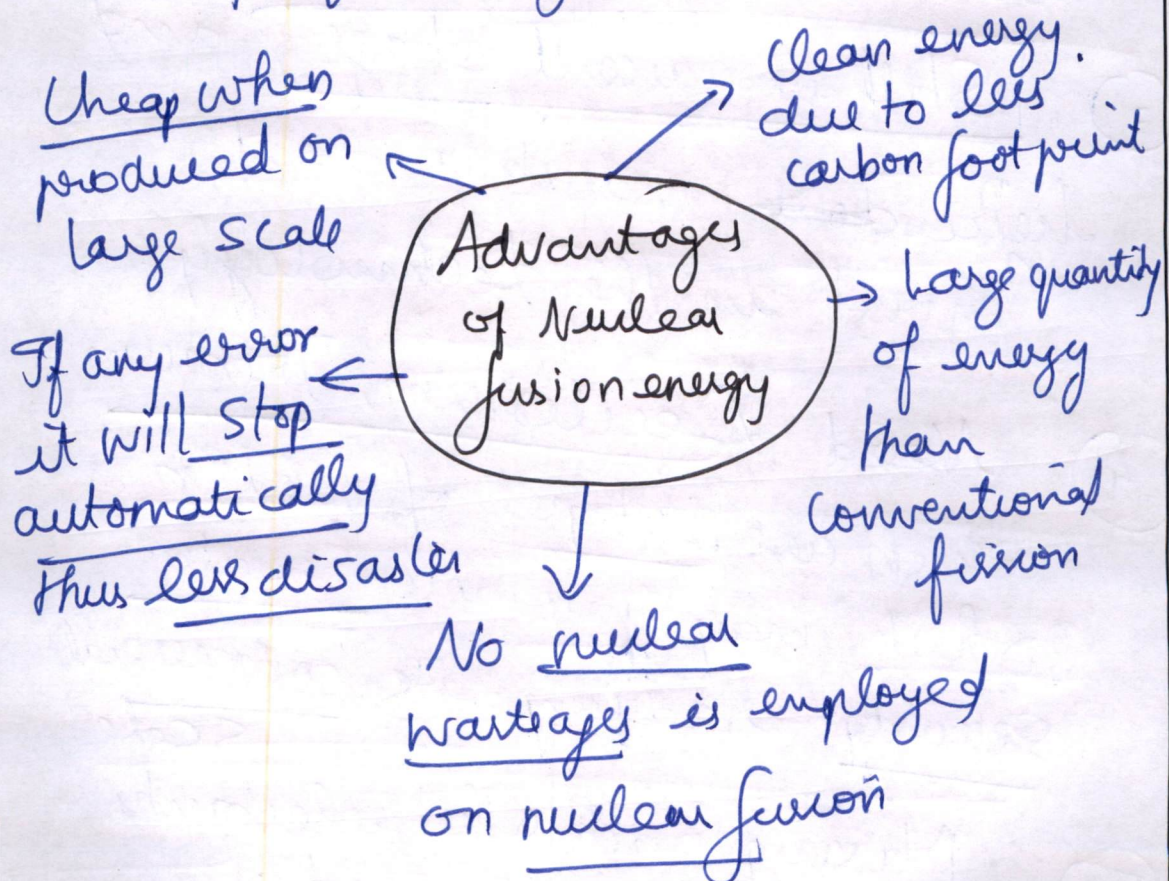
हाल ही में, वैज्ञानिकों ने परमाणु संलयन अभिक्रिया में निवल ऊर्जा लाभ की घोषणा की है, जिसे स्वच्छ ऊर्जा के भविष्य के लिए एक बड़ी वैज्ञानिक सफलता माना गया है। परमाणु संलयन आधारित विद्युत उत्पादन के क्या लाभ हैं? व्यावसायिक स्तर पर विद्युत उत्पन्न करने के लिए इसके उपयोग की क्या सीमाएं हैं? (उत्तर 250 शब्दों 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 दृष्टि में नहीं लिखना चाहिए
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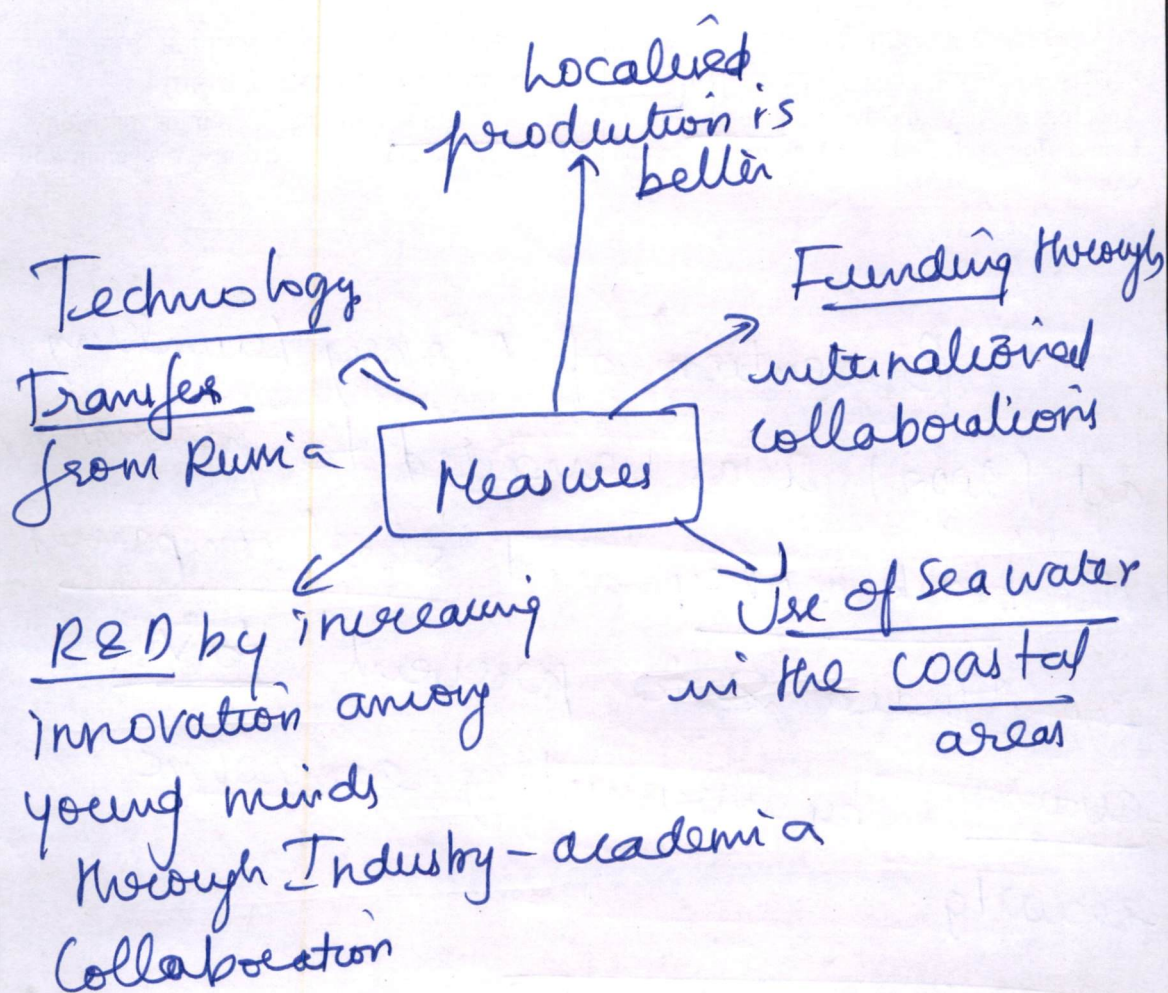
Nuclear fusion reaction in India is a result of India + Russia collaboration with ITER reactors promising clean energy in energy security for the global nations.



Limitation of using in Commercial

scale:

- ① Infrastructure needed which is expensive
(e.g.) ITER reactors.
- ② It will stop if error occurs
So no regular/continuous electricity generation
- ③ Still in nascent stage and
hence ~~don't~~ industries don't
invest in the technology.
- ④ Need Deuterium, Tritium
which are isotopes of water
which may promote water
scarcity reducing its commercial
scale.
- ⑤ Mixing with other electricity
is difficult in grid.
(e.g.) Remote areas.



To reap benefits from nuclear fusion, India could increase its saw material supply through regional partnership promoting energy security.

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)

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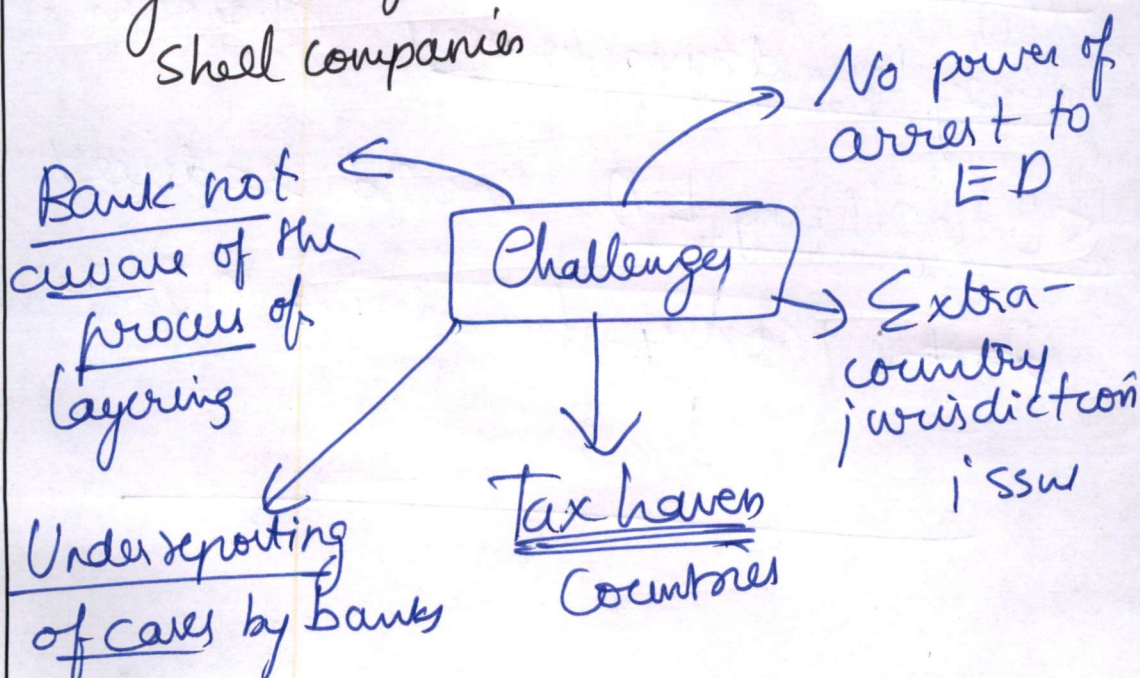
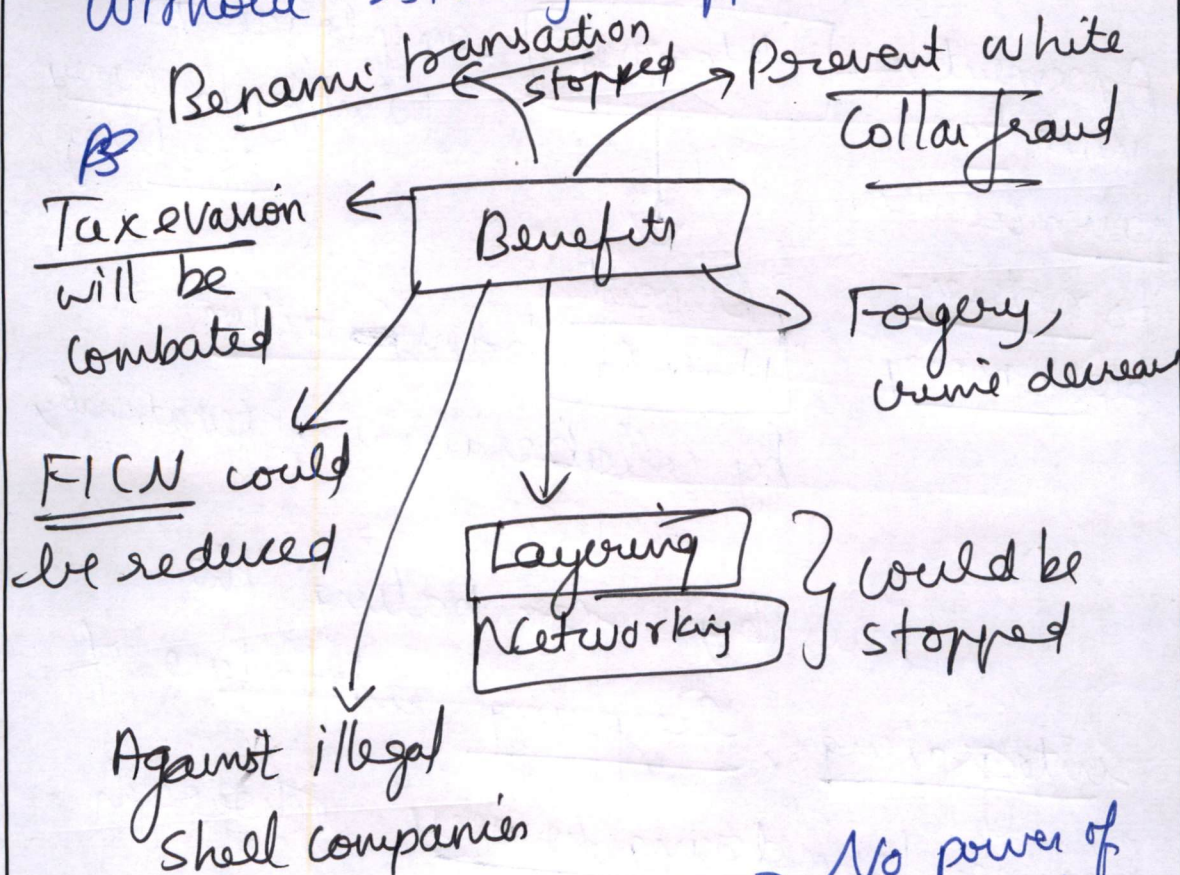
Prevention of Money Laundering Act (2002) was enacted to prevent the black money and shell companies in India & to prevent tax evasion by promoting economic security.

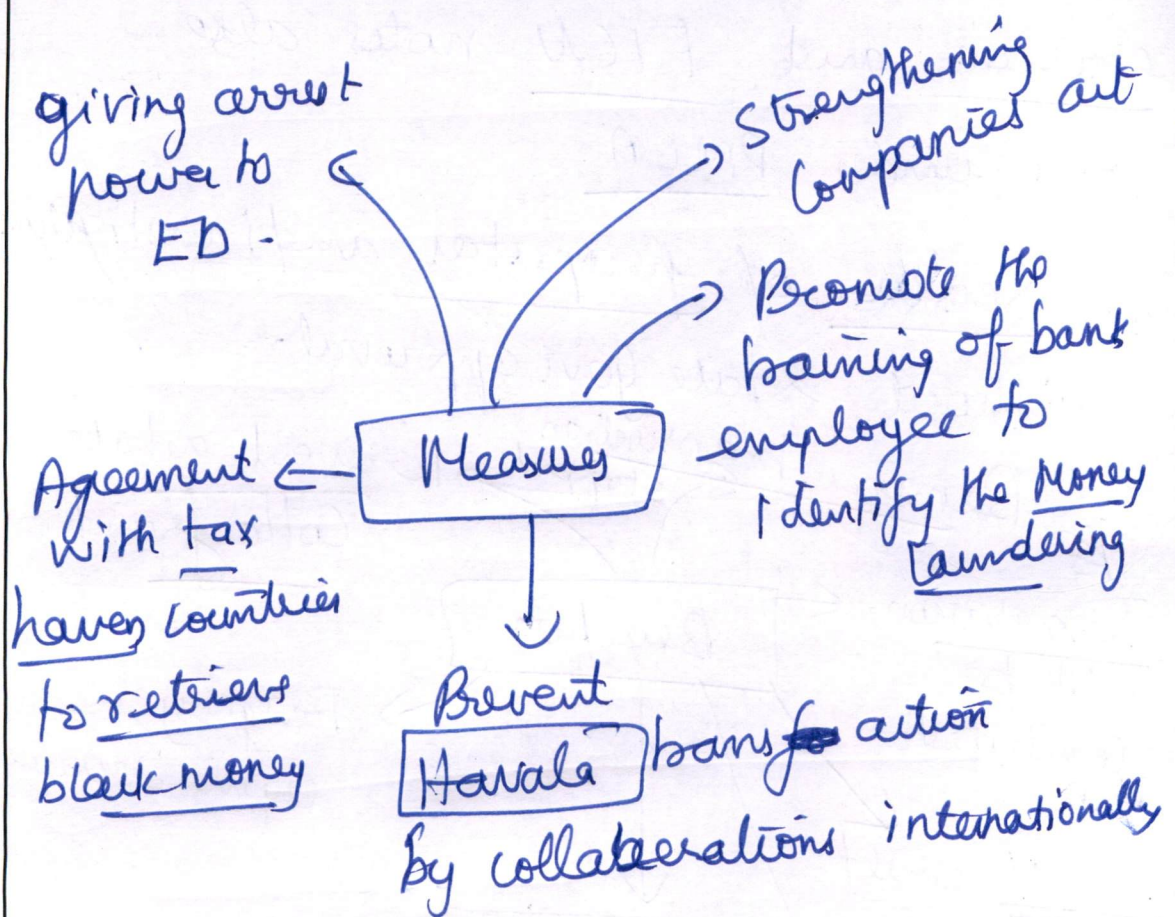
Recent Amendment

1. ED → Enforcement Directorate to investigate based on the case reports of CID, NIA
2. Incorporating the companies act 2013, PERA, FEMA provisions in PMLA 2002
3. Shell Companies for tax

evade and FICN notes also
come under PMCA.

4. Seizure of properties and investigation
without state govt approval.





Thus by combating the integrating, layering structure of money laundering process through Strengthening ED could reduce Black money laundering in India.

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)

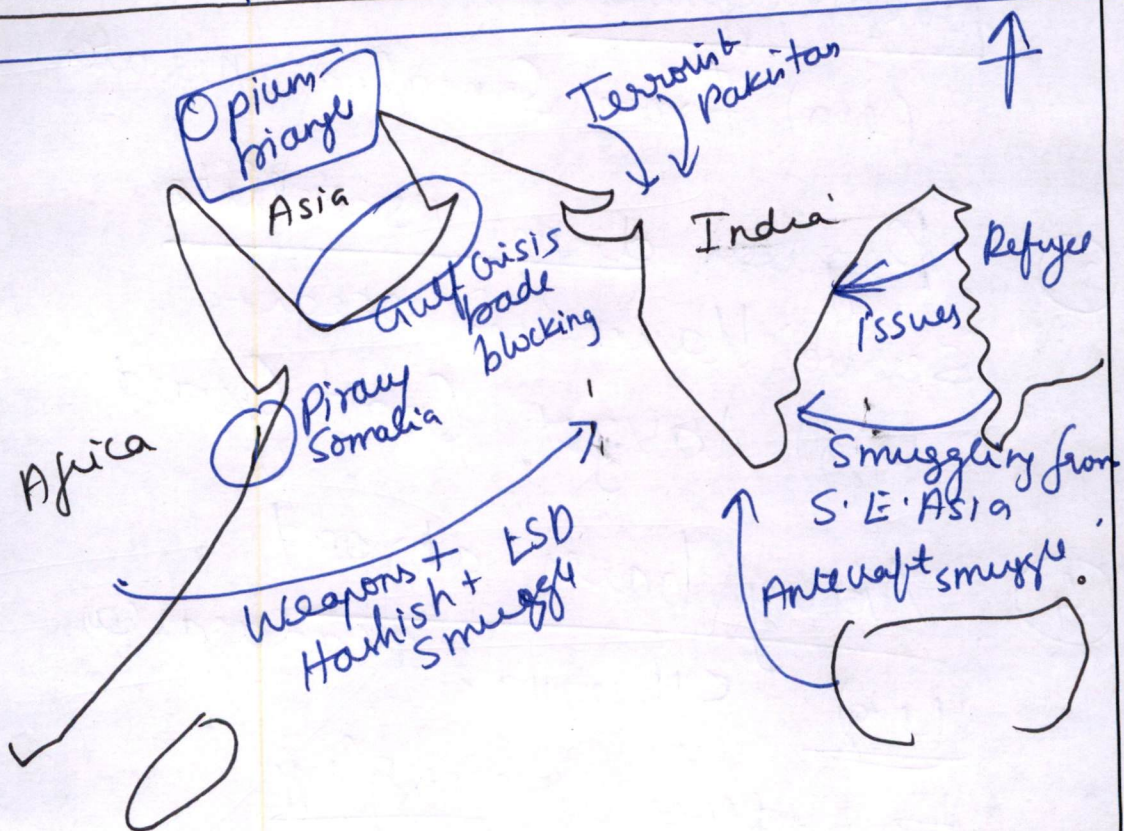
Discuss the security threats present in the Indian Ocean Region (IOR), which have a direct bearing on India's maritime border interests. Suggest a robust strategy to deal with these threats. (Answer in 250 words)

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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Indian Ocean region is the future of the sea power of littoral states in energy, trade and security in the globe.

Security Threats - IOR



Robust Strategy - Marine border

Threats

- ① Border patrol by Navy
(e.g.) Refugee crisis from S.E. Asia
- ② Security to Indian Ships by private agencies
(e.g.) From Somalia pirates
- ③ Regular drone + satellite
surveillance in ocean -
(e.g.) Navy + Coast Guard
- ④ Navy bases abroad
(e.g.) Ethiopia, Madagascar
to reduce smuggling

7) Coastal surveillance at border
by State Coastal Police
(e.g) Tamil Nadu.

8) Joint defense Exercises
(e.g) SAGAR among littoral States

9) Sharing of maritime security
data (e.g) Opium Crescent
and triangle movement

10) Use of technology +
community policing for
maritime border security.

Best practice of empowering
fisherman community could
help maritime border security.

SPACE FOR ROUGH WORK

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