



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. : Ans/ 0364372

अभ्यर्थी का नाम/Name of Student : Anshul Hindal

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH

तारीख
Date

27/08/2023

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

केंद्र

Centre 114 - NOIDA

निरीक्षक के हस्ताक्षर
Invigilator's Signature

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

Food security refers to the availability of food to meet the basic dietary requirements of the population. But it has other dimensions



Indian status

Availability

- ① India has enough food available - it maintains buffer in FCI
- ② National food security Act → 67% of the people entitled to food
- ③ Production has been robust

Affordability

- ① Deficiencies in PDS system leakages

- ② People forced to buy food from private shops → unaffordable
- ③ PDS benefit not available to migrants
- ④ Buying only cheap, low quality food

Accessibility

- ① Though PDS shops available everywhere
- ② still large part of people living in inaccessible areas like hills, tribes
- ③ Gender: Women have less food accessible

Utilization

- ① People sell the food in the open market for money.
- ② lack of cold storage → food rots
- ③ Bad health → less food intake and malnutrition

Thus India must improve its ranking in Global Hunger Index from 136.

2.

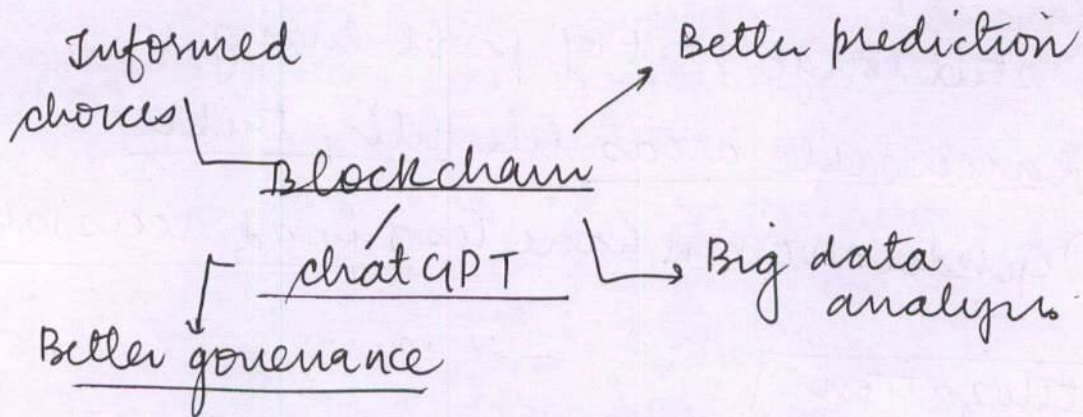
ब्लॉकचेन और चैटजीपीटी जैसी आधुनिक प्रौद्योगिकियां कृषि को अधिक कुशल और संधारणीय क्षेत्रक में बदलने की अपार क्षमता वाले शक्तिशाली साधन हैं। भारत के संदर्भ में चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

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

Blockchain and chatGPT are said to be the drivers for Industrial Revolution 4.0 but they can be helpful in agriculture



Usefulness for agriculture

① Improve the productivity of agriculture through data analysis

eg: production data feed to AI.

② Better weather prediction → less damage to crops eg: Mausam app use dynamic algorithm

③ Helpful for surveying the land and crops eg: ISRO FASAL initiative uses computer vision

- ④ Information available to farmers
in local languages
eg: Bhashini App: chat bot AI
- ⑤ Better market linkages → through
blockchain based → e-NAM
- ⑥ Land record management through
nodes in Blockchain
eg ULIP

Private sector

- ⑦ facebook has launched virtual AI
based e-chaupal for improving
farming
- ⑧ Help in research of genetically
modified crops → counter climate
impact of productivity
follow recommendation
of V Karnakoti committee on use of
AI on agriculture

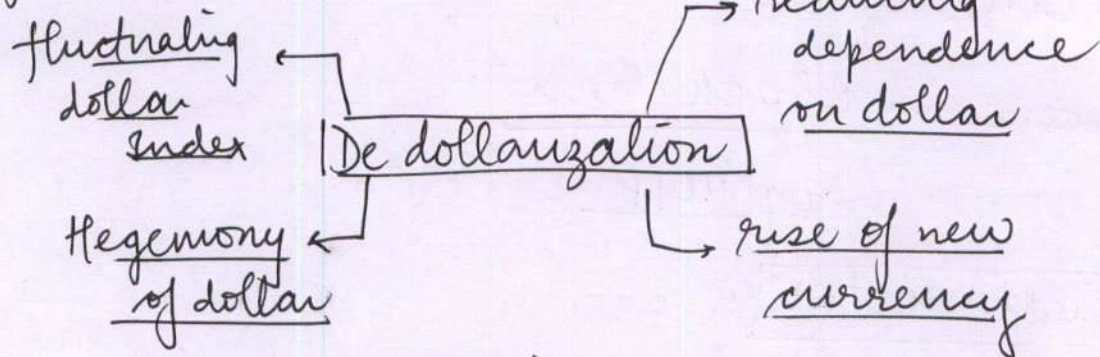
3.

वैश्विक अर्थव्यवस्था में वि-डॉलरीकरण की प्रवृत्ति में हालिया तेजी के लिए कौन-से कारक उत्तरदायी हैं? क्या आपको लगता है कि डॉलर का प्रभुत्व जल्द ही समाप्त हो जाएगा? (उत्तर 150 शब्दों में दीजिए)

What factors have led to the recent acceleration in the trend towards de-dollarization of the global economy? Do you think the dollar will lose its dominance anytime soon? (Answer in 150 words)

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

De dollarisation refers to the declining use of dollar in the exchange of trade for goods and services



- factors
- ① economic instability in the dollar impacted by global poly causes [Economic survey 2023]
 - ② Declining demand for dollar in trade
 - ③ currency swap agreement between different countries
ex: India - Japan
 - ④ Impact of US federal reserve movement on dollar
 - ⑤ fluctuating dollar Index & depreciation of every currency

Geopolitical

- ⑥ Banning of Iran and Russia from dollar trade
- ⑦ Trade protectionism, import substitutions
- ⑧ declining role of USA in world Affairs → 2 polar world

No dollar
would not
lose
dominance
anytime
soon

① Over 95% of the trade of the world happens in dollar

② dollar is the major currency in forex reserves of the country

③ It has become basis of world financial system

④ world institutions like IMF, world Bank deal in dollar

⑤ Highest weightage in IMF SDR

Therefore India should push for rupee internationalisation.

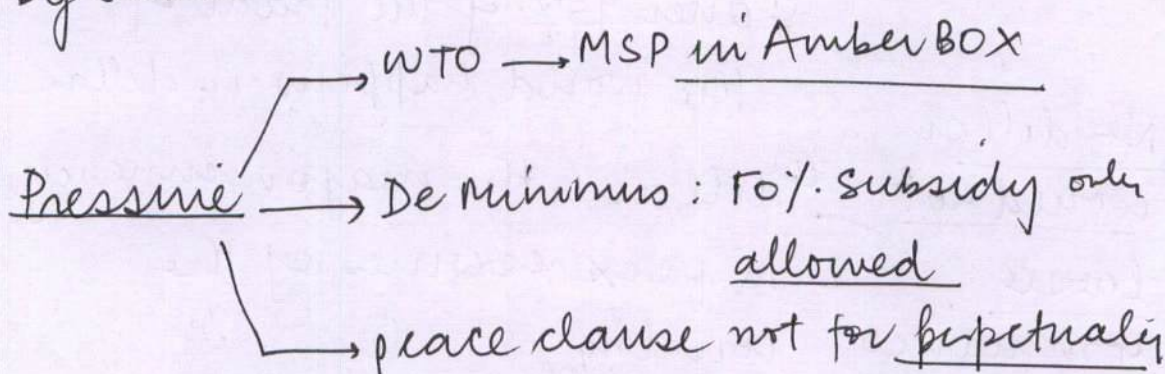
4.

विकसित देशों द्वारा भारत पर खाद्य सस्तिडी 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)

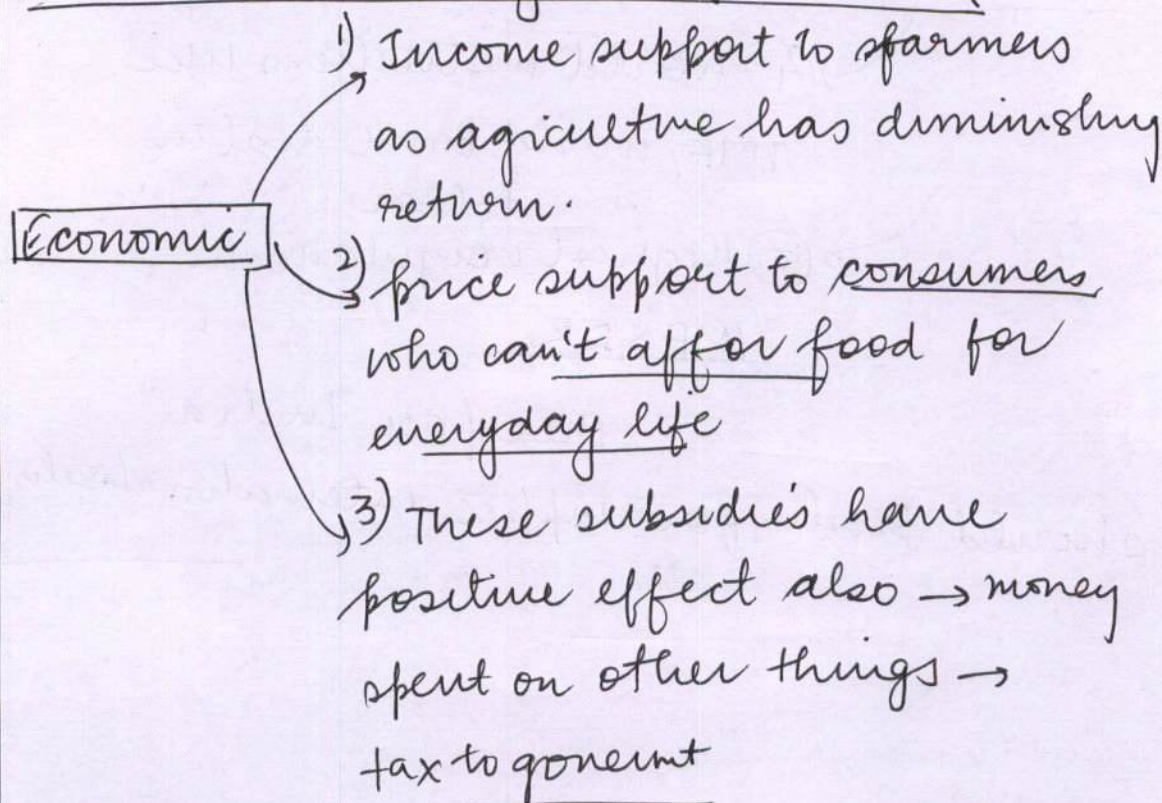
Despite significant pressure from the developed countries to alter its food subsidy regime, there is merit in India trying to retain its policy support for the poor in the country. Discuss. (Answer in 150 words)

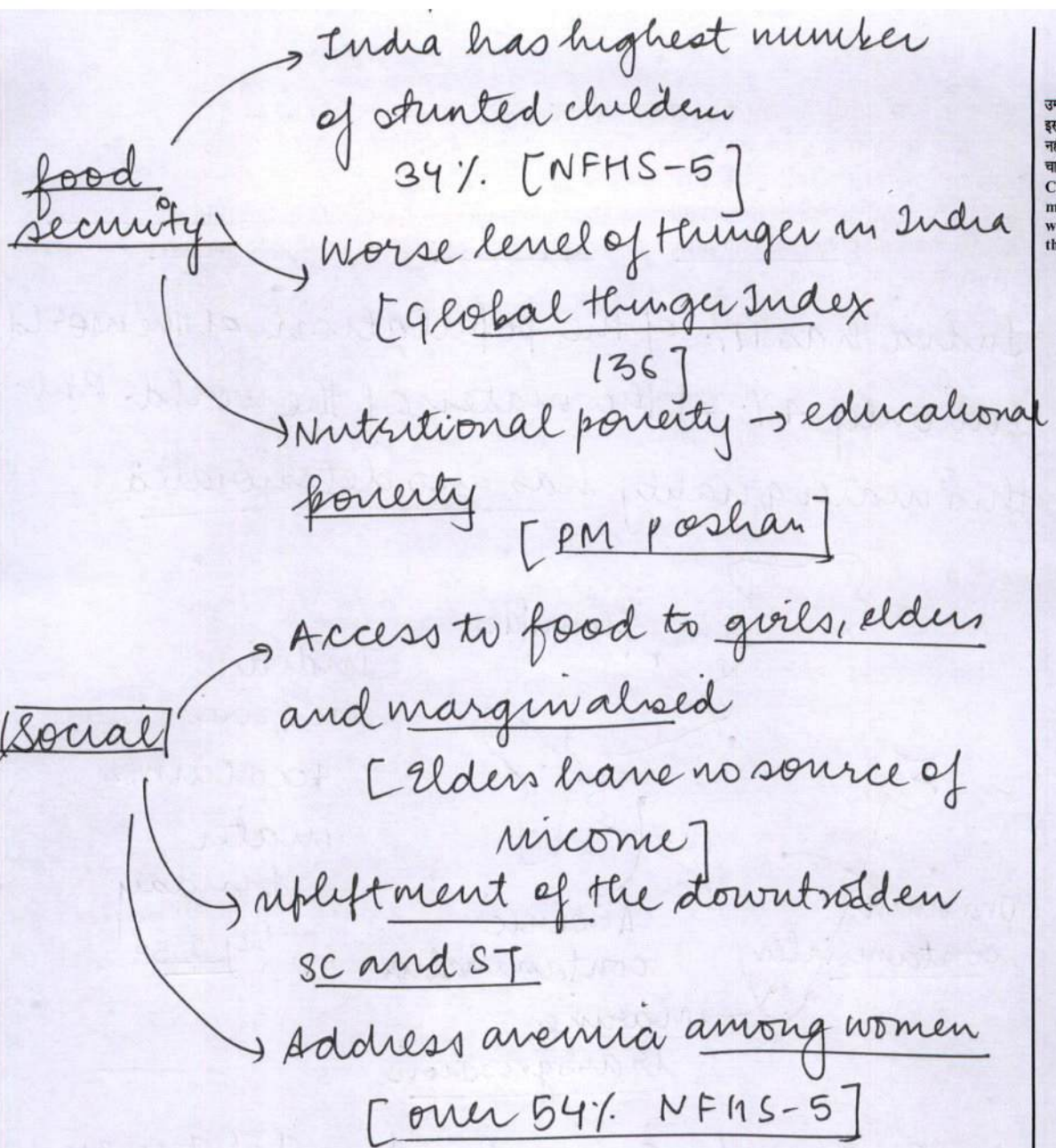
10

India and developed countries have clashed several times at the negotiations at WTO over the food security support given by India



Merit in retaining policy support





Thus as a way forward we must follow the recommendations of Shanta Kumar committee and rationalize our food security system while maintaining nutritional status

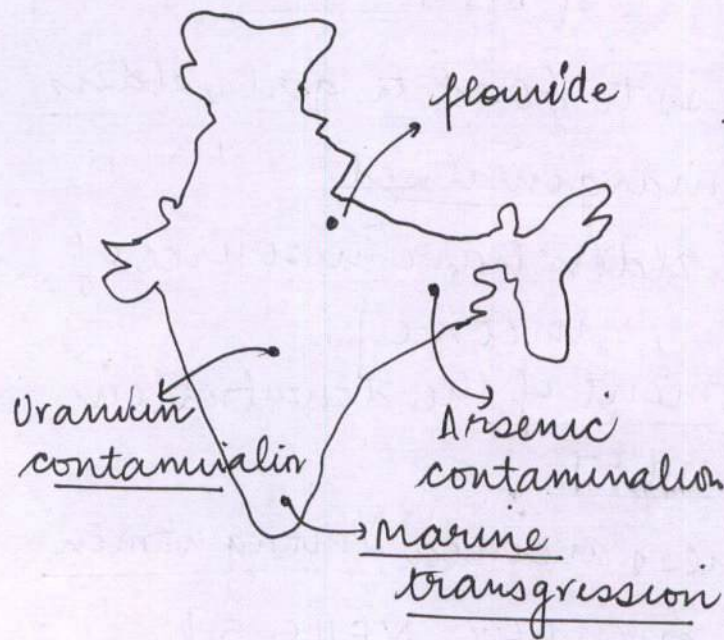
5.

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

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

10

India has 17% of the population of the world but only 4% of the water of the world. But this water quality has also deteriorated



India require 4000 cum water per day by 2050

Initiatives by Government → Jal Jeevan Mission
Atal Bhujal Yojana, Integrated water management

Further Improvement Required

Availability

① More funding to build the water resources

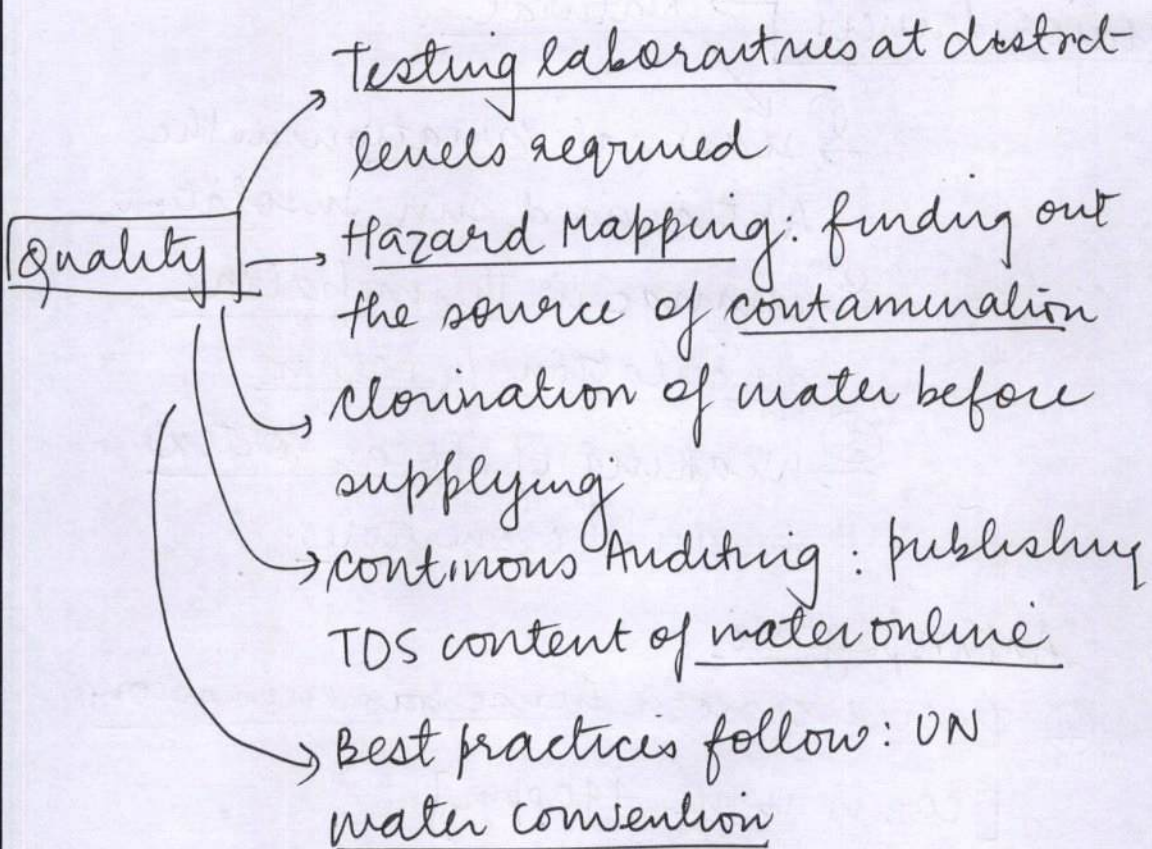
eg: Rigid nature of funds to municipalities prevent innovation

② community participation in conserving water.

eg: Rain water Harvesting

③ setting limit on water used in agriculture [over 89% water resources used in agriculture]

④ Integrated Watershed Management plan - afforestation → storing of water



Thus quality as well as availability of water plays important role for SDG-1 [end poverty]

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

Arctic region has been melting at a 2x rate faster than the other regions

- IPCC report
6th Assessment

Major drivers → Natural

① Seasonal Variation in the Arctic and sun Insolation

② change in Thermohaline circulation in oceans

③ Weakening of polar Vortex
→ cause Ozone hole

Anthropogenic

④ Increase green house gas emission
[CO₂ is above 440ppm]

⑤ Increasing use of persistent organ pollutants → they increase the Albedo

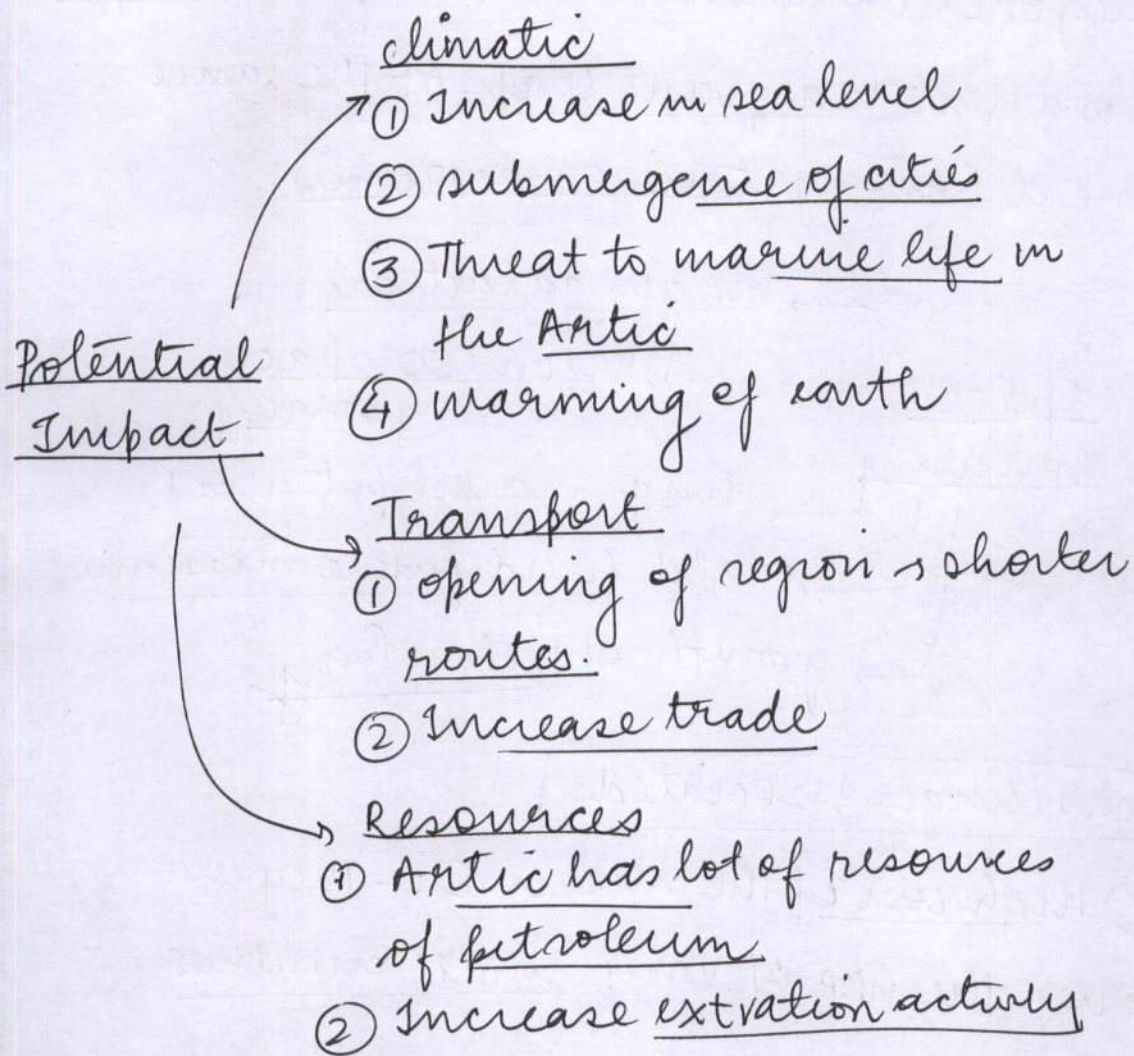
⑥ Increase activity in the region - opening

उम्मीदवारों को
इस धारि में
नहीं लिखना
चाहिए
Candidates
must not
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for transport → more heat and emission

⑦ marine heat waves

⑧ deposition of black soot → increase warming potential



Therefore Arctic council must preserve the Arctic Ocean and its glaciers through global cooperation

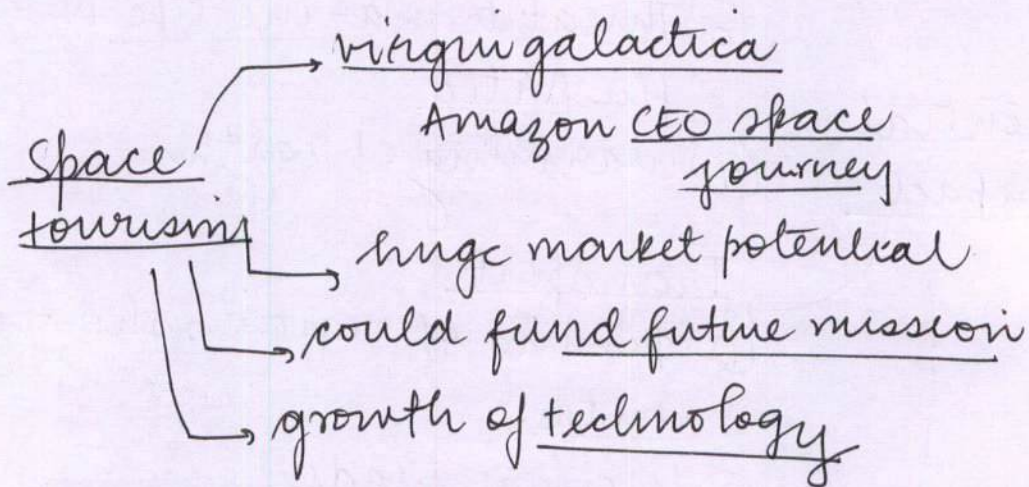
7.

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

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

उम्मीदवारों को इस हॉग्राफ में नहीं लिखना चाहिए
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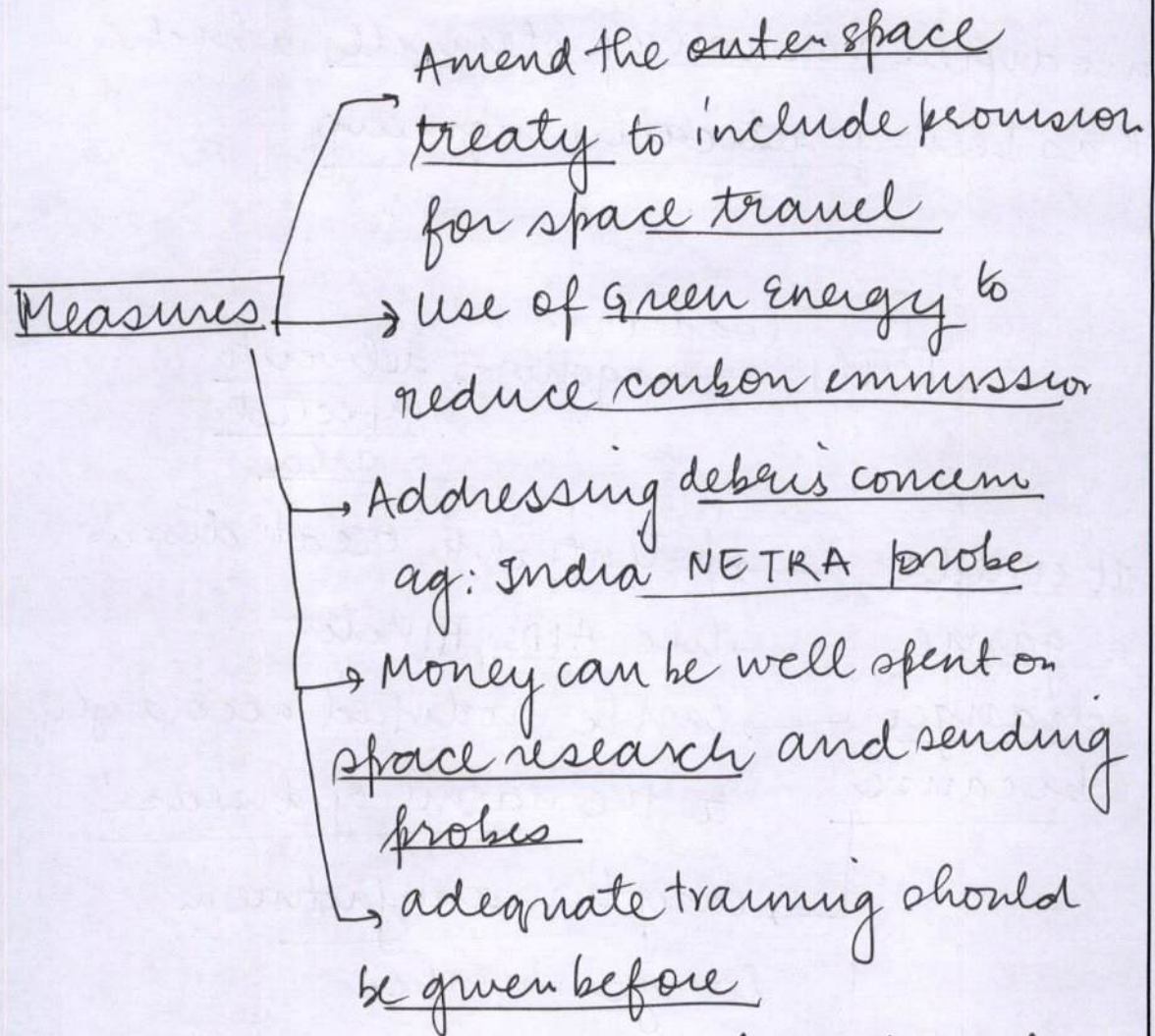
space has opened vast opportunities for everyone. The recent launch of Chandrayaan 2 is a next big giant leap. At the same time it has negative consequences



Challenges Associated

- ① High cost of the mission :- They cost over the GDP of very small countries
- ② ethical concerns : where to invest money when millions are starving
- ③ climate : huge emission from space rockets → Green Warming potential

- ④ Increase in the space debris → pollution
in space eg: some 30000 pieces > 1mm
- ⑤ Threat to life of passengers → lack
of accountability
- ⑥ No law governing space travel



Thus space travel
should be allowed but in a
sustainable manner

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

CAR-T cell therapy delivers the T cells which fight the infected area. They are a modified version of stem cells which has been genetically engineering

T cells $\xrightarrow{\text{loaded on agent}}$ $\rightarrow$ deliver to infected area

It could be a game changer because $\rightarrow$ potential to treat diseases like AIDS, HIV etc
 $\rightarrow$ can be modified accordingly to the nature of disease
 $\rightarrow$ easy to manufacture in large number
 $\rightarrow$ Better efficacy $\rightarrow$ as no alteration to body is done
 $\rightarrow$ Has little side effects

It is better than CRISPR Cas 9 because

- ① It requires less cost in comparison to crispr cas 9.
- ② T cells could be prepared in artificial medium in large number
- ③ It can be prepared in less time as do not require cutting of DNA and then inserting substratis
- ④ less side effects than crispr cas 9.
- ⑤ It would have wider acceptability than crispr cas 9 due to simplified process.
- ⑥ can be used to treat wide range of diseases.

Thus cost T cell therapy can be a game changer in medical science.

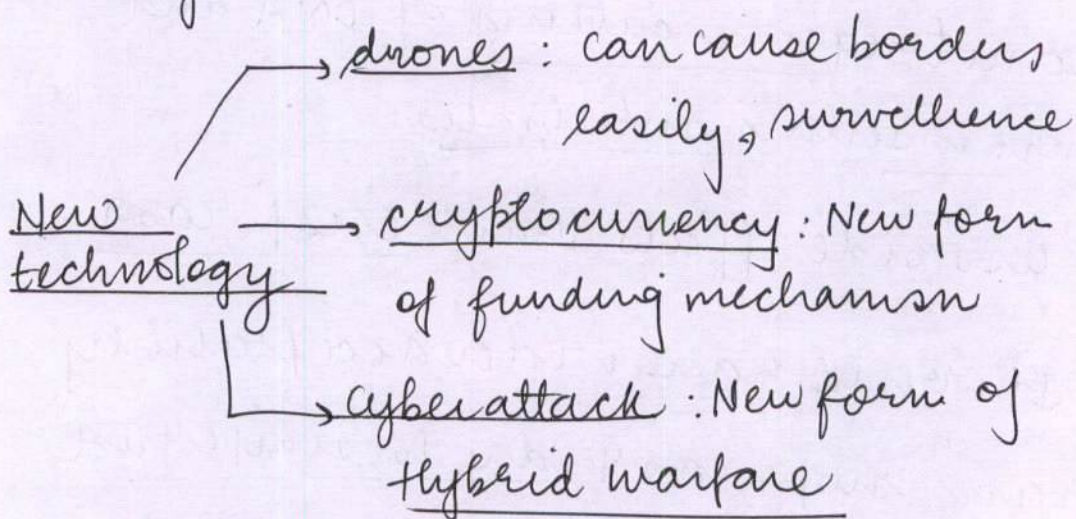
9.

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
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The terrorists have been resorting to use of new form of technologies like drone, attack on computer system and crypto currency.



Need for Global efforts

- ① Transboundary nature of crime can operate from any location
- ② effect the system and infrastructure of the world
eg: 1998 attack on windows system

③ New and Emerging technology → deep web
→ difficult to detect them.

④ Threat to the security system of the
country. eg: DRDO site hacked
Redecho → Naharashtra
power grid

⑤ Threat to financial stability of the
world. eg: Banking system

Global efforts
in form
of

- Joining of Budapest
convention on cyber security
- Regional mechanism like
RATS of SCO
- Global counter terrorism
forum (GCTF) → New form
of attacks to be included
- collaboration with other countries.

Thus India
should also make cyber command
like NSA cyberCOMM

10.

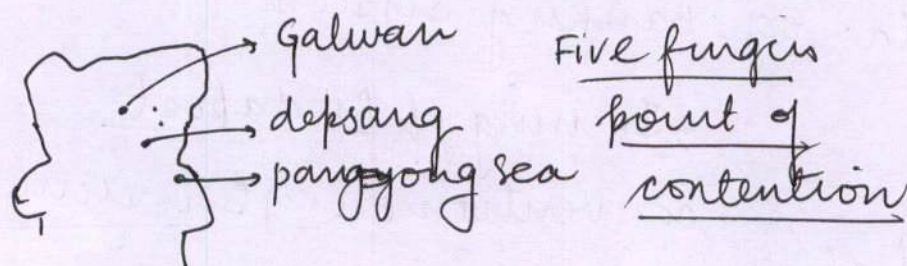
गलवान और यांगस्ते की घटनाओं के बाद वास्तविक नियंत्रण रेखा (LAC) पर तनाव बना हुआ है तथा भारत एवं चीन दोनों सीमावर्ती क्षेत्रों में अपने बुनियादी ढांचों को सुदृढ़ कर रहे हैं। इस क्षेत्र में ITBP द्वारा निभाई जाने वाली भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

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

LAC is the line between India and China in the Ladakh region. It denotes the actual positing of the armies



Infrastructure → satellite images show in the Region that China has built infrastructure in 5 finger region.
→ set up villages and built roads for easy movement of troops

Role of ITBP

Security

→ ① They guard the whole border in the India-China region. They were

raised after 1962 war

② They coordinate with the army in these regions

③ They are trained to deal with any form of emergency situation

④ They are specifically trained in china mode of warfare

Other

⑤ They protect the villagers in the region from attacks

⑥ They built infrastructure in these regions for easy movement of army

⑦ They guard the Integrated check points

Thus vibrant village programme is a right step in this direction to help forces and villagers

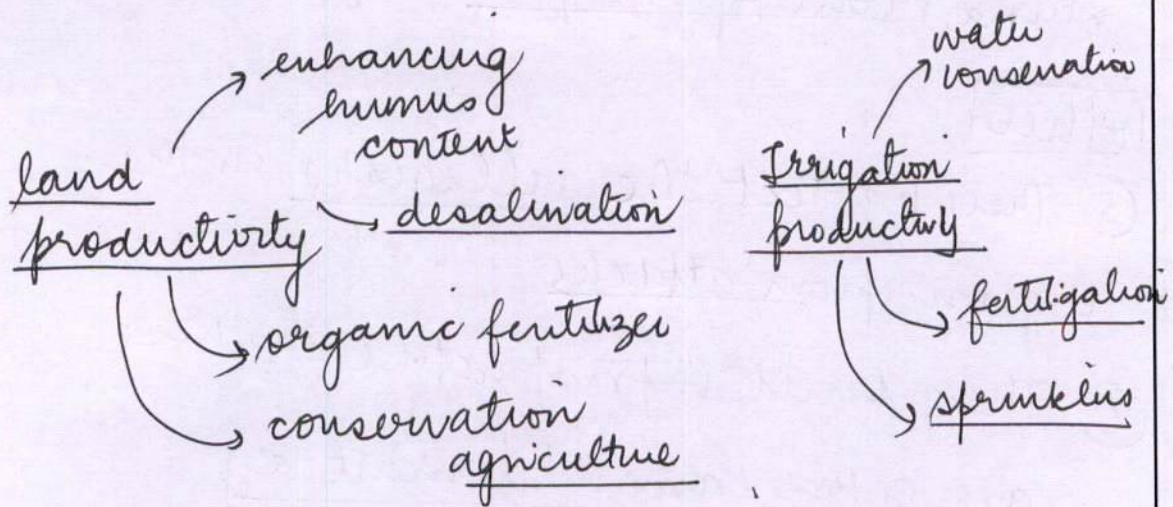
11.

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)

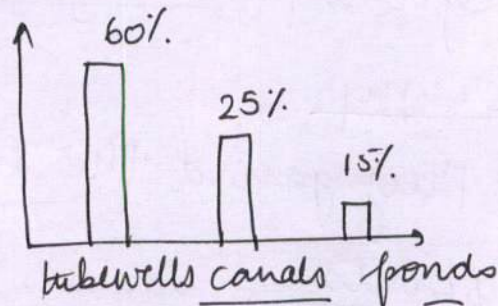
Do you think there is a need for a shift from 'land productivity' to 'irrigation water productivity' in India? Justify your answer. What are the challenges in making this shift? Explain. (Answer in 250 words)

15

India has the largest area under irrigation
yet the productivity has remained low
48% of the arable area is under irrigation



Irrigation systems



Need for irrigation productivity

- ① Heavy wastage of water in agriculture
as shown in graph above
- ② canal water often leads to increasing salination of the soil

③ Irrigation system in the bad topography regions have led to acidification of soil
eg: punjab - Haryana

④ fertilizer + irrigation $\rightarrow$ fertigation
can be effectively applied to the soil
 $\rightarrow$ reduces fertilizer absorption capacity

⑤ water use efficiency techniques
eg: sprinkler irrigation
drop irrigation

⑥ Declining water table at extreme low level is a cause of concern

⑦ 52% of the area of the country is rained requiring efficient irrigation system

⑧ The incidence of climate change like droughts has further worsened the situation

eg: 68% of the area is drought prone

Challenges

Financial

- ① High cost of new technology → drip irrigation require electricity to run
- ② lack of credit to farmers

Land

- ③ segmentation of land eg: 86% farmers own 1.15 hectares land.
- ④ Monocropping → wheat-rice system requiring large amount of water.
- ⑤ Awareness about the new system of the irrigation
- ⑥ Excessive use of fertilizer currently

MS Swaminathan
committee has laid emphasis on
increasing the productivity through
irrigation system

③ Address the issue of climate change
Green Hydrogen $\rightarrow$ only H_2O as
by product

④ It would help to meet our INDC
commitments

⑤ Hybrid energy: Green Hydrogen
+ solar could be used together

⑥ It could power large vehicles and
lead to efficient transportation
system

⑦ Investment in production of
Green Hydrogen would generate
employment to people

Achieving Energy Goal

① It has high calorific value than
coal and hence produce more
energy.

② Instrumental for India INDC

commitment of 2.5 B tonnes of carbon
absorption

and 50% of the energy from renewables
by 2030

③ Reduce sulphur emission → India
largest producer of sulphur

④ In along with the Indian goal of
LiFe

⑤ with rising population demand
would also rise → ensure energy
security as coal is limited

way forward → investment in R&D
→ collaboration with
other countries
→ exploration of resources
HELP policy

India - IAE have
collaborated with Green Hydrogen
mission

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

Minimum wage refers to the amount of money through which a person can sustain in life. It is decided by the policy makers and may not reflect the reality.

Living wage refers to the actual wage required for the survival and fulfilling basic needs

Minimum wage 1.9 \$ World Bank
[1000Rs
Tendulkar
committee]

Living wage
- livelihood
- food
- education
expenses

Benefits of Living wage

Economic

① It would help to improve the consumption behaviour of the people

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

and hence the demand for the products → more GST collection to the people

② It would diversify the choices of the people rather than depending on scheme like PDS.

[social]

③ Improve the level of nutrition in the country Ex: 106 rank in global hunger Index

④ Improve educational & living outcomes
ex: stunting 34%. wasting 17%.
[NFHS-5]

[other]

⑤ Economic survey is: wealth creation through the invisible hand of the market

⑥ less administrative burden on the people bureaucrats

⑦ Address extreme poverty

Challenges

- ① High fiscal burden on the government
- ② Different regions would have different living wages → difficult to quantify
- ③ could lead to inflationary trends in the market.
- ④ Implementation issues :- May use the money for other purpose → like alcohol consumption etc
- ⑤ Gender disparity in income among Indians IMF : 34% less

Thus living wage idea should be studied thoroughly with adequate data before implementation

14. •

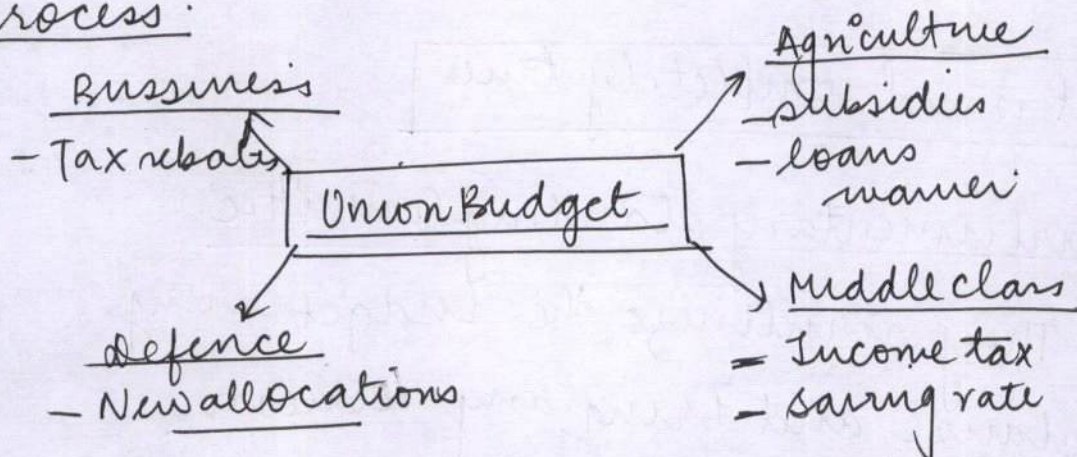
केंद्रीय बजट भारतीय अर्थव्यवस्था के लगभग हर क्षेत्र को प्रभावित करता है, फिर भी न तो बजटीय प्रक्रियाएं पर्याप्त सार्वजनिक जांच के दायरे में आती हैं और न ही बजट नीतियां। क्या आप इस कथन से सहमत हैं? अपने उत्तर का औचित्य सिद्ध कीजिए। (उत्तर 250 शब्दों में दीजिए)

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 हिसाब में नहीं लिखना चाहिए
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15

Union Budget begins along with the aspirations and the dreams of people. It outlines the path of growth. But the public opinion is missing in the budgetary process.



It does not come under public scrutiny

- ① No mechanism to take public opinion in the budget making
- ② Technical nature of the terms used difficult to understand by the people
- ③ Important provisions are often hidden which are passed through gullotine

④ No time period in the budget for public scrutiny

⑤ Sometimes the budget are passed in haste as priority to other work is also given.

⑥ lack of participatory democracy in India

[It is not completely true]

Parliamentary standing committee

① They scrutinize the budget every clause and bring any issues to forefront

② They includes expert members also

[Representatives of people]

③ They represents the will of people and their aspirations and people scrutinize budget through them

- ④ Various options available like question hour, Token cut motion, policy cut motion

Pressure Groups

- ⑤ They promote the interest of people against any discriminatory policy of government

eg: Bhartiya Kisan Union
against farm laws

- ⑥ They mobilize people

eg: ASSOCHAM against data privacy bill

NGO

- ⑦ Engage with people → explain them their rights and policies of government

Ex: NGO Naaz on transgender Bill

Thus people do participate but there is a need for more participation of people

15.

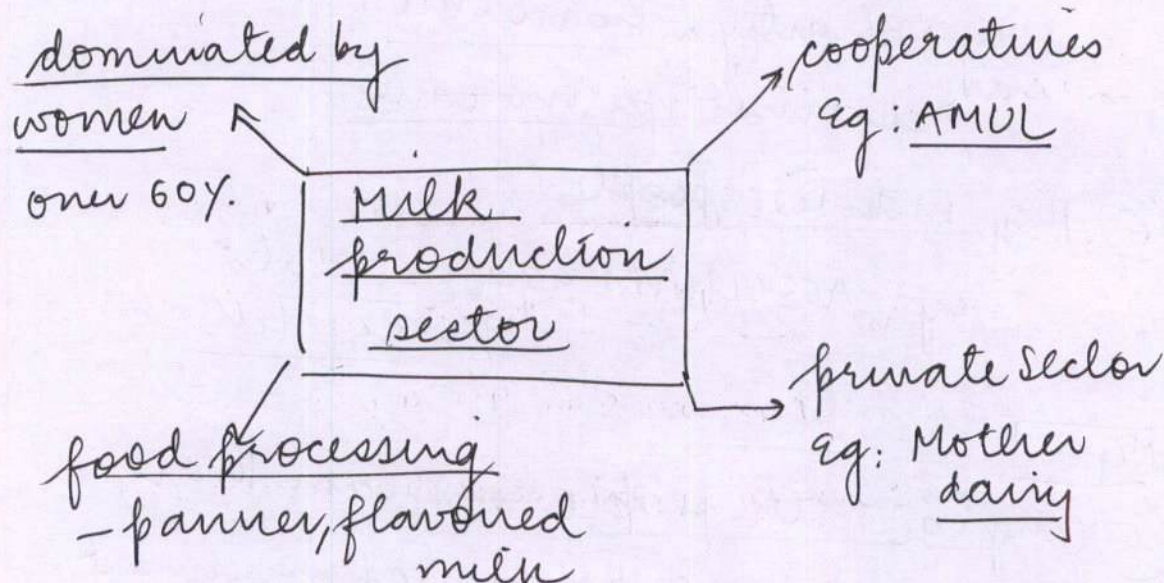
भारत स्वयं को दूध की कमी वाले देश से दुनिया के सबसे बड़े दूध उत्पादक देश के रूप में बदलने में सक्षम हो गया है, लेकिन देश में डेयरी पशुओं की उत्पादकता चिंता का विषय बनी हुई है। विवेचना कीजिए। (उत्तर 250 शब्दों में दीजिए)

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 लिखित में नहीं लिखना चाहिए
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15

India is the largest producer of the milk in the world. The per capita availability of milk is over 440g. But there are concerns which remain



Productivity of dairy farm animals

① India productivity of animals especially bovine animals is less than $\frac{1}{3}$ of the world

eg: low productivity of sahival cow

② Indian bovine animals suffers from various diseases

eg: foot and mouth diseases

③ lack of vaccination among the bovine animals

eg: recent pandemic in punjab,
Haryana

④ low quality of feed given to ~~for~~ animals
→ milk capacity continuously
declining

⑤ Lack of expansion of insemination
programme in the country

eg: require cold storage → less
storage [salmai committee]

⑥ Increasing import of foreigner
breed of cows replacing indigenous
variety

⑦ lack of focus on ^{small} ruminants

eg: goats, sheep

[Economic survey 2021
recommended this]

What can be done ?

- ① Strengthening the Artificial Insemination programme for indigenous variety
- ② National Mission on foot and mouth disease.
- ③ Universal vaccination with proper tagging
- ④ Rashtriya Gokul Mission :- Engage all farmers under this
- ⑤ Improve breed variety
Eg: ICAR Pusa aahar
- ⑥ Use of Biotechnology to increase productivity
Eg: ICAR IndiGau

Thus Indian cows and animals are suitable to its environment & must be protected

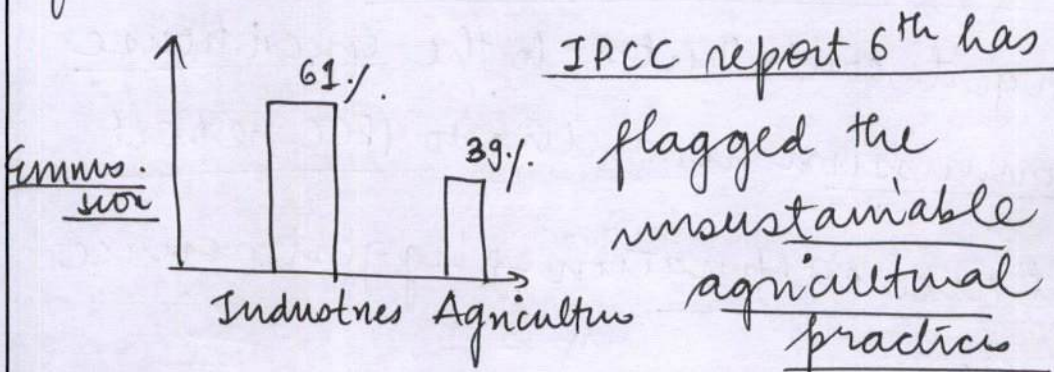
16.

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

climate change has affected each and every sector of the economy. Agriculture distress is both the making and product of climate change



climate change → crop failures

① extreme weather events → eg: droughts and flood → crops are destroyed
eg: flooding in North India

② changing seasonal pattern → disturb cycle of growing crops
eg: march heat → destroying wheat crop

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए।
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③ carbon fertilization: Increasing temperature has changed the climatic zones

eg: Ice melting in Temperate regions
→ crops can be grown

④ climate change → water crisis

changing monsoon pattern → crop failure

52% of Indian agriculture is rained

Agriculture → climate change

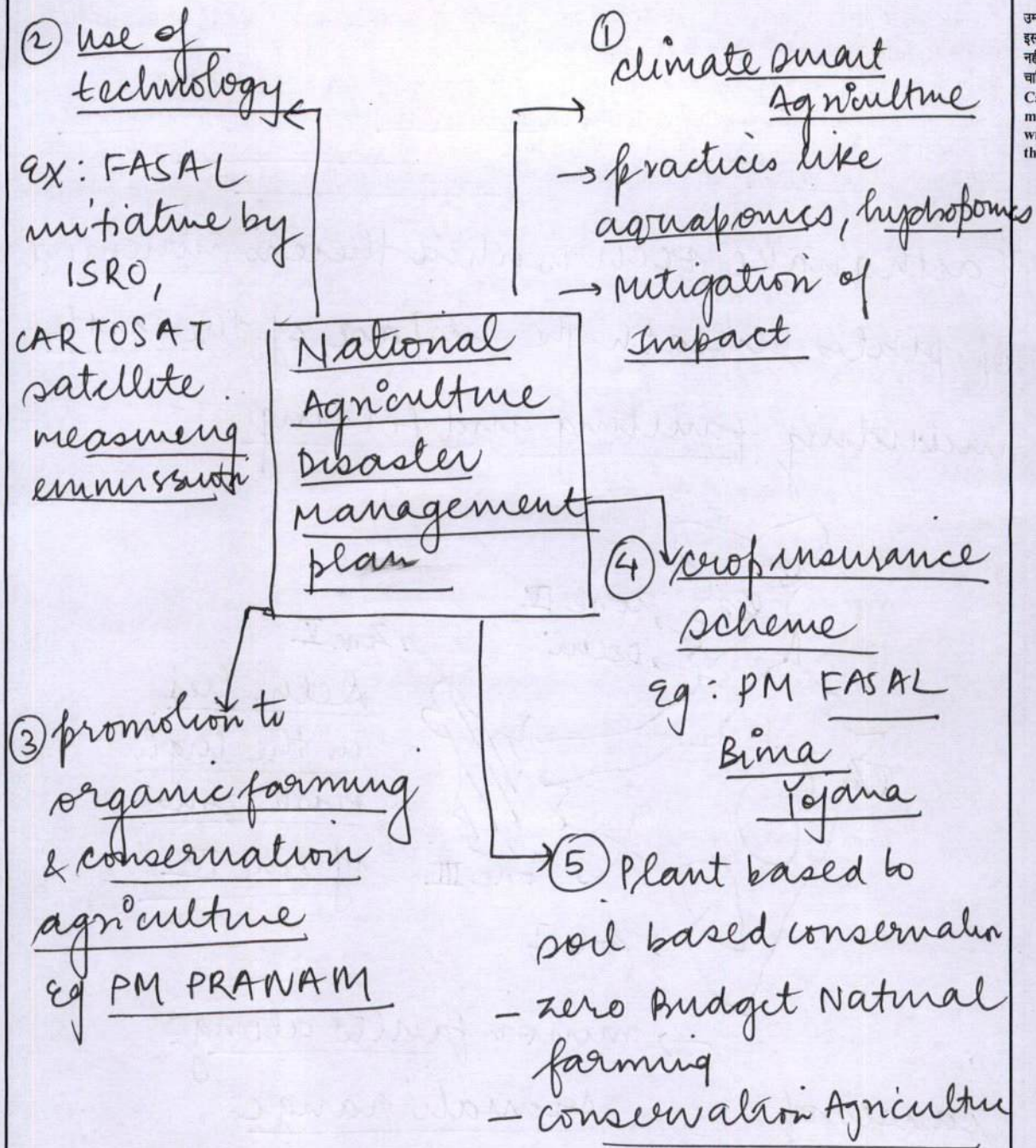
① largest contributor to the Green house gas emission according to IPCC report

② wet rice cultivation → biggest source of methane.

③ Animal husbandary → excretion of food → methane gas

④ practice of stubble burning → removes the stored carbon and release into environment

⑤ plantation agriculture → forest are cleared → less carbon sink



Therefore we must follow the recommendations of MS Swaminathan to increase productivity & make agriculture resilient

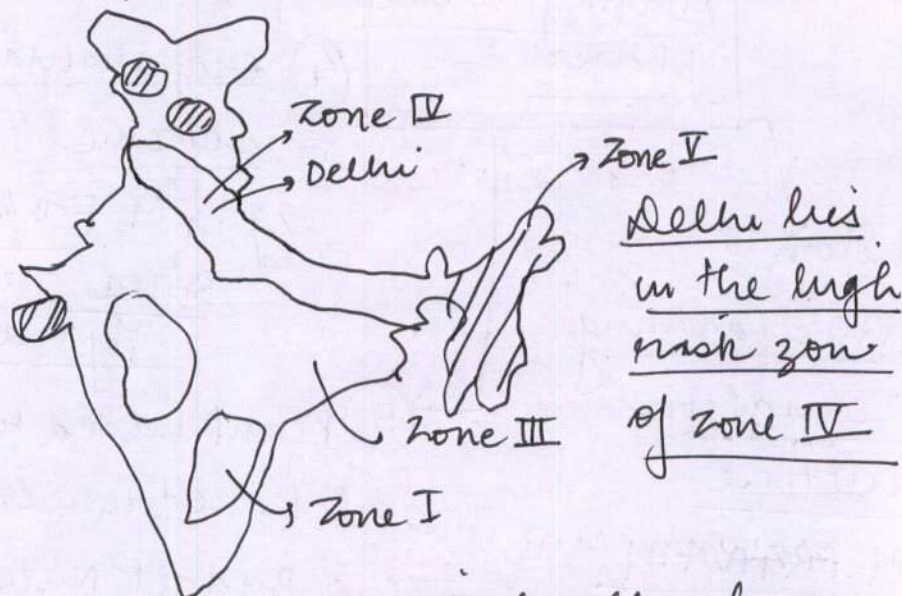
17.

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 occurs when there is movement of plates beneath the surface of the earth including faulting and folding.



causes of Delhi earthquake

- minor faults along Aravali range
- Impact of Himalay's
- Indian plate still colliding with emAsian plate
- present of 3 fault lines which builds tension

Other reason for vulnerability

- ① human induced earthquake → In areas where there are excessive mining
- ② lack of appropriate data to study the impact
- ③ construction in delhi → high density
→ large population at risk
- ④ Threat to critical Information Infrastructure
- ⑤ According to a study: Delhi could not withstand earthquake of 8 magnitude

Institutional Measures

- ① Earthquake monitoring center has been established at IIT Kanpur
- ② New construction: periodic checking
for ~~by~~ ~~QA~~ Quality checking.
eg: IS 1893 code for earthquake resistant building
- ③ Hazard mapping of the earthquake
into different zones

④ Structural & Non structural guidelines have been made under NDMA Act 2001 for earthquake

⑤ Decentralized ~~rep~~ response → District disaster management authority → DM is in charge

⑥ construction of safe houses

What more can be done?

① follow best practices from countries like Japan

② construction quality earthquake resistant → use mat foundation

③ Applying Sendai framework principles in earthquake impact mitigation

④ community training

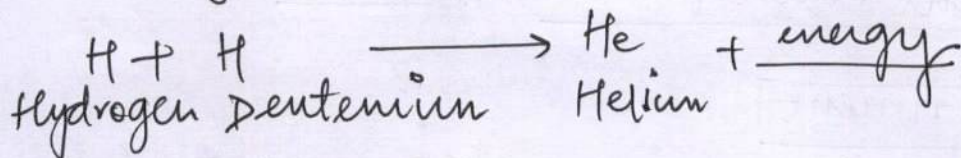
International participation is required like India did during turkey earthquake

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)

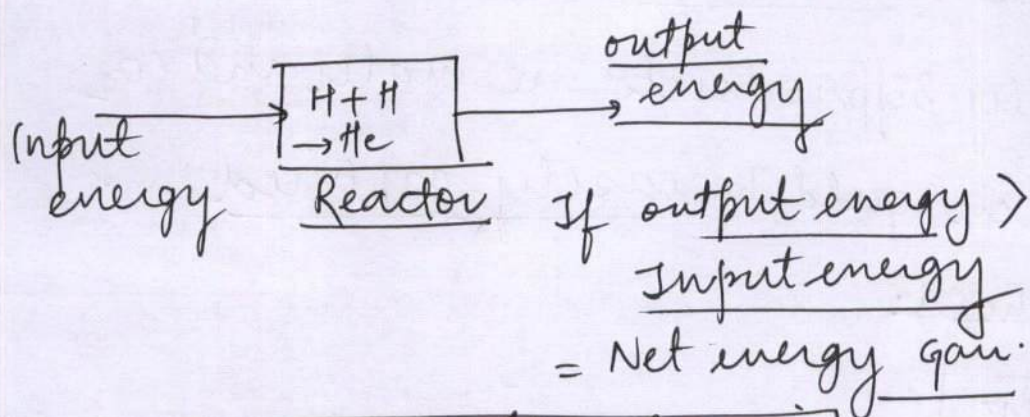
Recently, scientists announced net energy gain in nuclear fusion reaction, which is considered as a major scientific breakthrough for the future of clean energy. What are the advantages of nuclear fusion based power generation? What are the limitations in using it to generate electricity at a commercial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

15

Nuclear fusion reaction is the result of the collision of two lighter particles and formation of a heavier element thus releasing huge amount of energy



Net energy gain



Advantages of Nuclear fusion

Energy

① It could generate energy continuously and not seasonal like solar energy

② Energy density is more than coal
EX: 1 Kg of fusion Material $\rightarrow$ 40 M tonne
of coal

③ It is less expensive than other form
of energy beside set up cost
0.68 \$ per KWh

④ It requires less space to set up in
comparison to solar energy

⑤ plant load factor is more

Environment

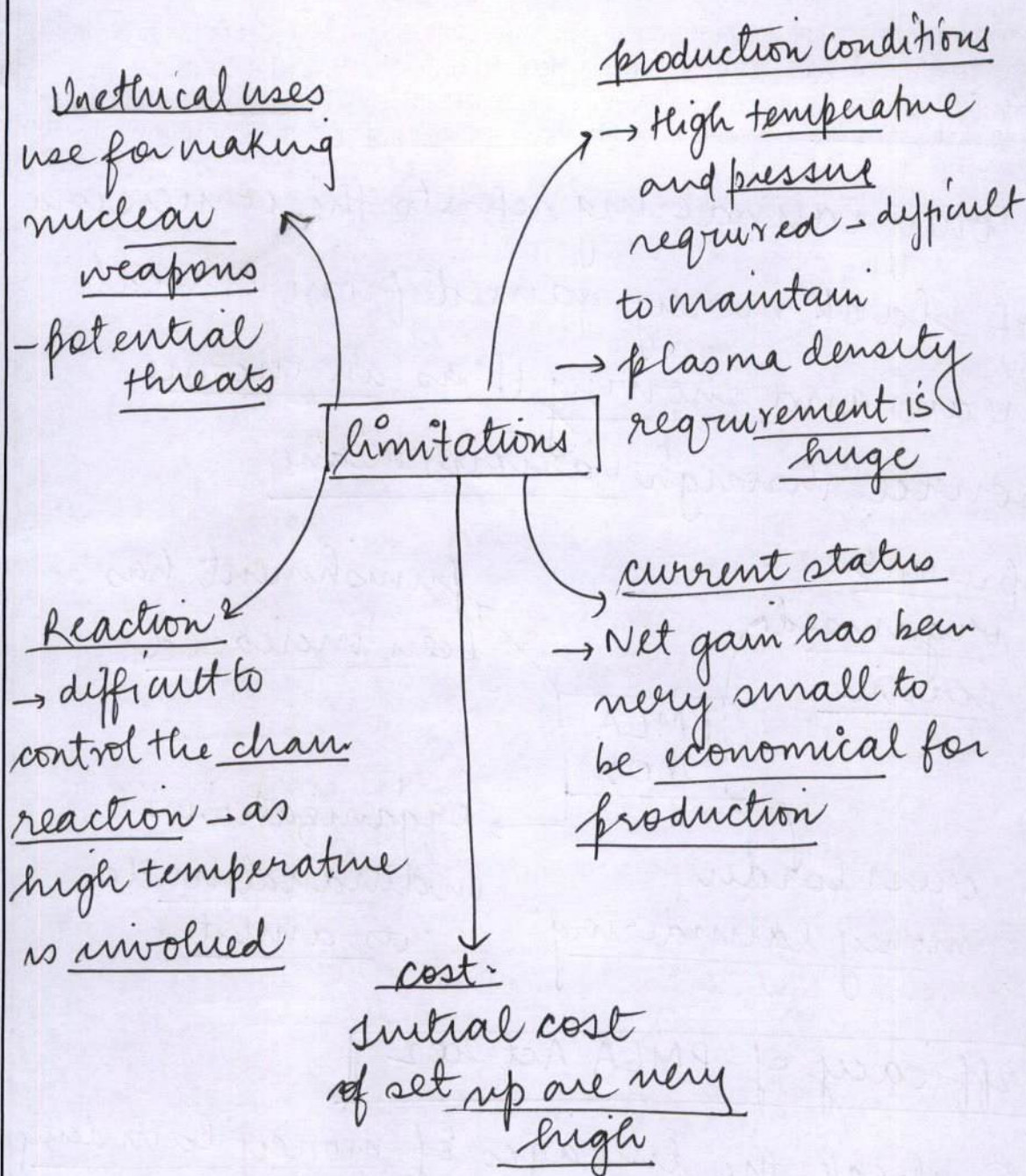
⑥ It produces no nuclear waste like
fission reaction

⑦ only Byproducts are water and CO_2
which could be easily captured and
utilized:

Other

⑧ Abundant availability of the
fuel input material

⑨ No enrichment required like
fission reaction



Thus Nuclear fusion
provides a possibility for future
energy security. India should also
follow china (Artificial sun)

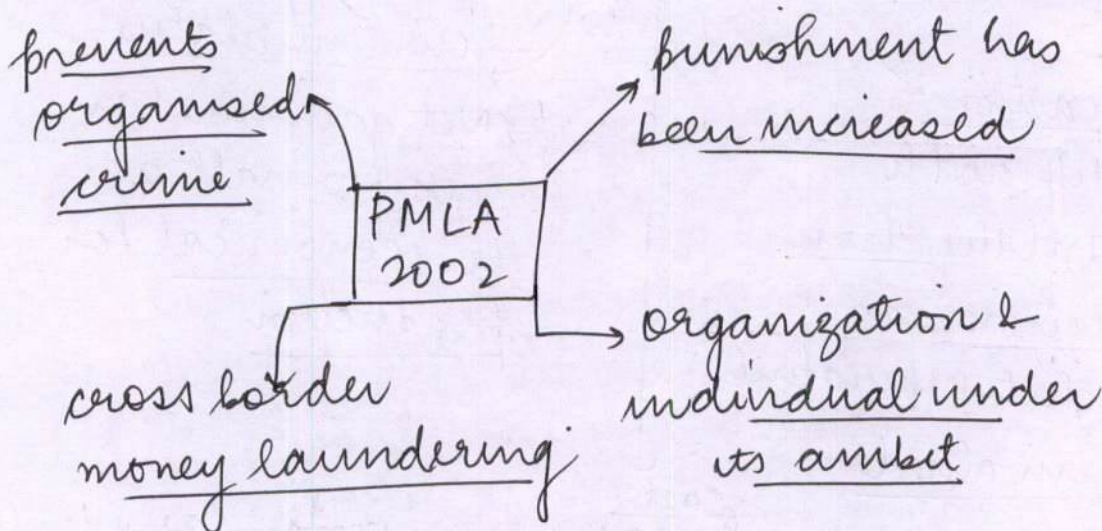
19.

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

Money laundering refers to the conversion of black money gained from ethical means and showing it as an income source through various means



Efficacy of PMLA Act 2002

- ① check the linkages of money laundering with other terrorist activities and other forms of organised crime
- ② Penal provision for different sources of money laundering → drug trafficking, human trade etc →

- ③ It gives power to the ED and other agencies of the finance department to forefright the property of the accused
- ④ Jail term for the accused extend till life imprisonment
- ⑤ Act has been instrumental for countering hamala transactions and other form of informal system
- ⑥ It has been instrumental in countering the menace of fake currency across borders.
- ⑦ several politicians and industrialists have been accused under the Act and has been used against them
- ⑧ Along with PMCA, Foreign currency Regulation Act & foreign exchange management Act, flow of black money has stopped

Limitations

→ huge pendency of cases under the law

→ low conviction rate

→ used as a tool for threatening opposition parties as claimed by many parties

→ defecience in countering cross border laundering

→ outdated: new form of technology emerging

way forward

→ Amend the law with mandate for all the agencies

→ stricter punishment

→ UK law: for money laundering should be adopted

Thus PMCA has been instrumental but require more changes to deal with current threats

20.

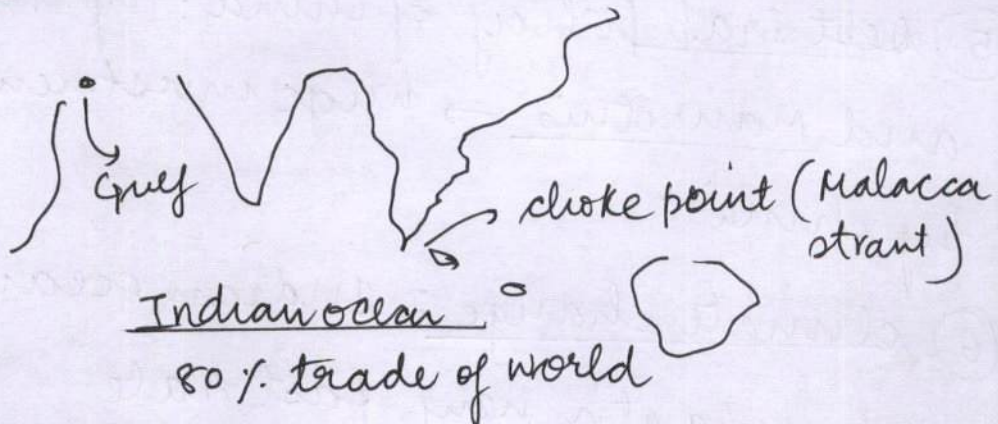
हिंद महासागर क्षेत्र (IOR) में मौजूद उन सुरक्षा खतरों पर चर्चा कीजिए, जिनका भारत के समुद्री सीमा संबंधी हितों पर सीधा असर पड़ता है। इन खतरों से निपटने के लिए एक मजबूत रणनीति सुझाइए। (उत्तर 250 शब्दों में दीजिए)

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

15

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

Indian ocean region has become the attention of the world and various initiatives surround it like QUAD, IPEF etc



Security threats of Indian ocean

- ① Piracy: has been a major cause of concern along horn of Africa
eg: Pigibanti code on piracy
- ② China Expansionism: Increase presence of china through its string of pearls strategy

③ Threat to the world trade → collapse of economic system
eg: choke point at Malacca strait

④ Nuclearisation of the Indian Ocean
eg: china nuclear submarine docked at Hambantota port Sri Lanka

⑤ Debt trap policy of china: eg: Fiji and Mauritius → huge investment by china.

⑥ climate change: Indian ocean warming at a very fast rate
submergence of cities

⑦ presence of strong power in Indian Ocean: USA at diego gracia

⑧ Indian vision of Net security prosperity and growth for all
through SAGAR initiative

Robust strategy

International

- ① Respect for convention like UNCLOS for maritime boundary
- ② Non proliferation of nuclear weapon in Indian Ocean

Geopolitical

- ③ Initiatives like QVAD to counter China
- ④ Increase trade with countries through IPEF, ASEAN etc

Internal security

- ⑤ coordination between Navy, Marine organization and Indian coast guard
- ⑥ Naval bases at other countries
- ⑦ Theatre command for Pacific

Thus Indo pacific confrontation is going to increase and India must build its capabilities

SPACE FOR ROUGH WORK