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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 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. : 1005570

अभ्यर्थी का नाम/Name of Student : TUSHAR CHAUHAN

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH.

तारीख
Date

27/08/2023

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

केंद्र
Centre

NOIDA
C114

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)					



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

According to FAO, Food security is the situation in which the food production is adequate to meet the accessibility, affordability and availability to all along with adequate nutrition.

Dimensions	India's Status
① <u>Availability</u> ⇒ Food production is surplus to meet needs.	→ Lacking due to <u>Rice-Wheat system</u> → Lack of <u>crop diversification</u> like millets. → India has <u>achieved food sufficiency</u> in grains evident from exports, surplus with FCI
② <u>Accessibility</u> ⇒ Ensuring food at affordable cost.	→ India has PDS under national food

③ Affordability

↓
Easily
available at
cheap cost

Security Act for ensuring
food to vulnerables.

- However, Nutrition
availability is low.
- Rising junk-food culture
also affects food security

④ Nutrition

→ prevalence of malnutrition
and hunger

→ Global Hunger Index ranked
India at 107

→ NFHS-5 indicators

↓
Stunting 0/5 children (36%) wasting (15%) under-nourished (32%)

There is a need to promote
crop diversification along with increasing
food production and minimizing food
losses (~₹ 92000 cr annually). Implementation
of Shanta Kumar Committee and
Ashok Dalwai Committee recommendations
are way forward for SDG-2 (Zero hunger,
food security)

2.

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

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

10

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

Agriculture sector contributes to 18% of GDP and employs more than 50% of population (labour force).

Moreover, Agriculture is marred with low yield below world average, wasteful use of resources etc.

In this context, Modern technologies can transform Agriculture as:-

① Promoting Precision Agriculture

eg. Chat GPT is an AI which can monitor information like inputs, yield, fertilisers and recommend the most efficient quantity.

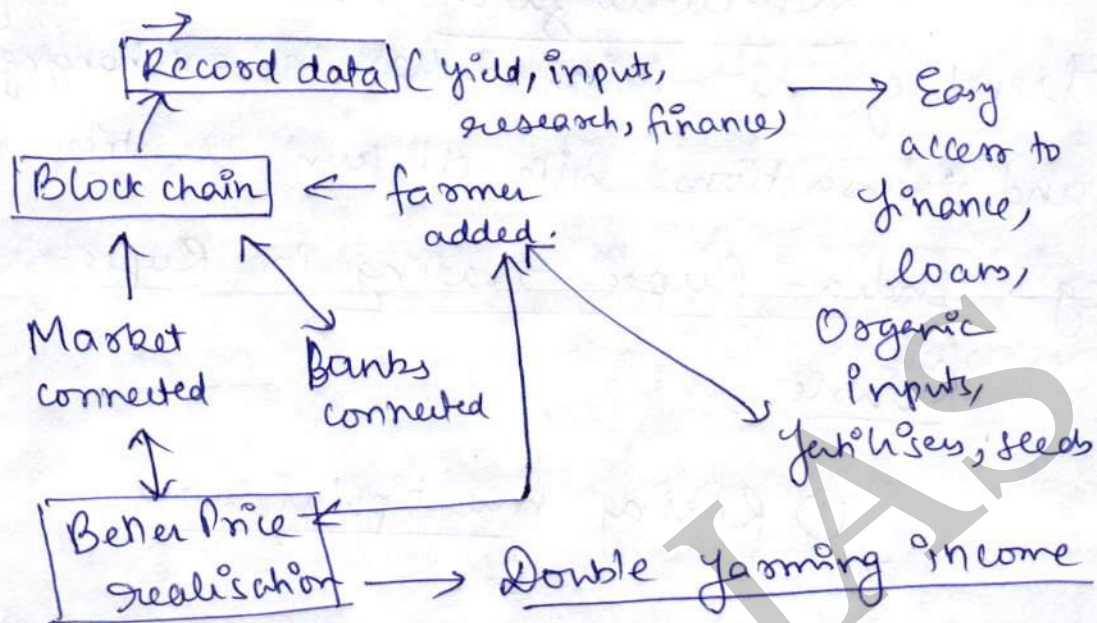
② Increasing Efficiency ⇒

eg. sensor technology to monitor

water use $\Rightarrow$ improving water use efficiency

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

③ Sustainable Agriculture



④ Integrated Pest Management

$\hookrightarrow$ Use weedicides, insecticides can be applied in desired quantity

$\downarrow$
Safeguarding Ecosystem & Human Health.

⑤ Prevents Eutrophication, Green House Gas Emissions

⑥ Increase Yield per ha of farm through better seeds, fertilisers etc.

Technologies can be a game changer in achieving SDG-2 (Sustainable Agriculture), this requires global cooperation

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 कक्षा में नहीं लिखना चाहिए
Candidates are not to write on this margin

De-dollarization means the rising trend of not using dollar in exchanging and transactions with different countries.

eg → India - Rupee trading in Rupee-Rouble

① Rising multipolar world



Emergence of strong economies like China, India

Factors

→ ② To de-risk the country from geo-political crisis

eg. Russia sanctions due to Russia - Ukraine war

③ To prevent USA hegemony in global financial system

④ To reduce economic cost associated
with exchange rate with dollar

Will Dollar will lose its dominance
anytime soon?

Yes

No

① Rising bilateral
agreements.

eg. recent India-
UAE agreement
on Diarham-rupee
trade.

② Emergence of new
Economic Order

③ Rising Cryptocurrencies

① Dollar controls
large transaction
(nearly 80%) of
world.

② de dollarisation
may impact
small developing
countries.

With rising winds towards de-
dollarisation, there may be a time when
dollar may lose its dominance.

4.

विकसित देशों द्वारा भारत पर खाद्य सस्बिडी 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 spends food subsidies on production subsidies (power, irrigation, fertiliser subsidy) and food supply (MSP, low cost PDS distribution).

Pressure from Developed Countries to alter its food subsidy regime?

① Believe the subsidies are distorting markets.

② Preventing the entry of developed countries product in India.

③ Pressure in WTO $\Rightarrow$ India has used escape clause frequently for its MSP regime

There is a pressure but still merit in India to retain its support.

- ① Low farmer income $\Rightarrow$ NSO estimated $\sim ₹10,000$ monthly income
- ② High input costs $\Rightarrow$ fertilisers, irrigation will become costly $\Rightarrow$ inflation.
- ③ Small & Marginal farmers $\Rightarrow$ India has nearly 70% of farmers having less than 2 hec (NSO) $\Rightarrow$ US has large farms.
- ④ Lack of farm mechanisation ($\sim 60\%$) as compared to USA (95%) $\Rightarrow$ Our farmers need price support
- ⑤ Exploitation in Agriculture Market $\Rightarrow$ low price realisation.

Thus, food subsidy regime protects the poor farmers, however, resource distortion and harmful subsidies can be reformed as NITI Aayog @ 25 report

5.

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

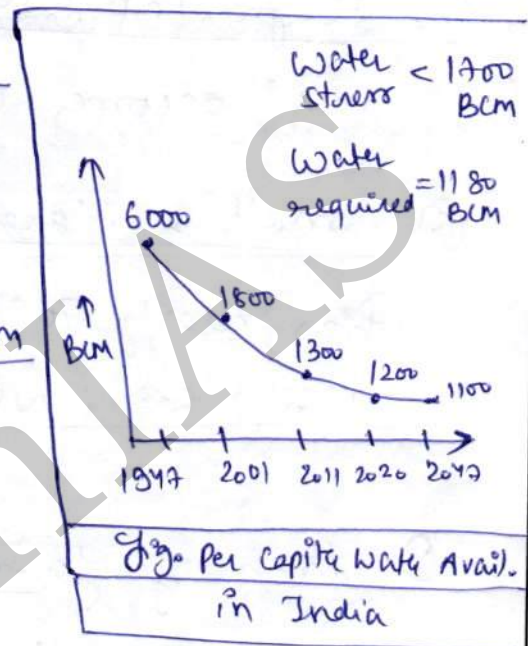
Several initiatives have been taken by the government towards addressing India's water needs, but the issues of water availability and water quality still warrant prioritised intervention. Discuss. (Answer in 150 words)

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

10

India has 18% world population but only 4% of water resources.

As per fig, the India's per capital water availability has reduced ~~below~~ below 1700 BCM making it water-stressed



① Jal Shakti Abhiyan to promote water harvesting

② Swachh Bharat Mission and AMRUT for

treatment of sewage $\Rightarrow$ to improve water quality

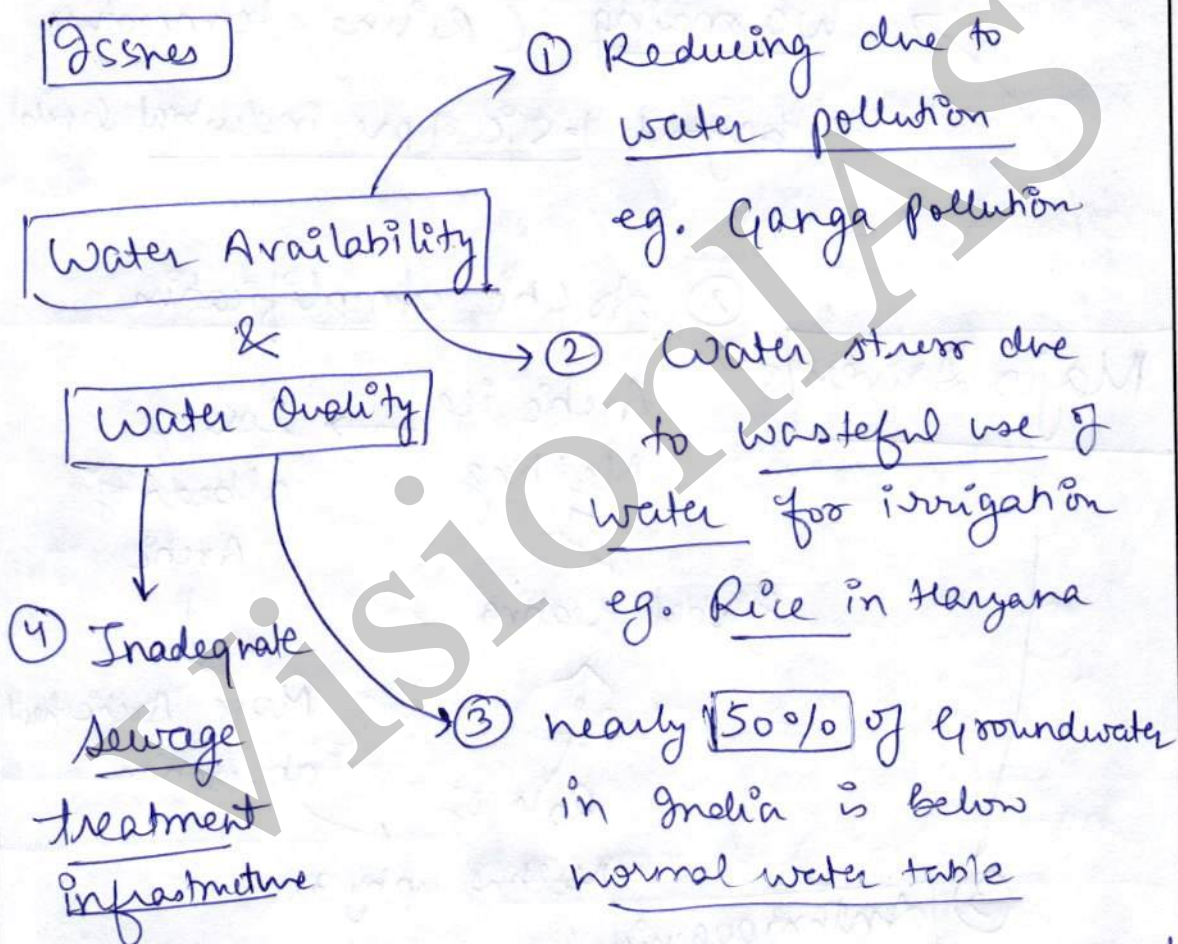
Government initiatives

③ Jal Jeevan Mission (Rural & Urban) to provide functional household tap connection

④ Agriculture → PM Kisan Sinchae Yojna, Natural Farming programme

⑤ Integrated Water Shed development

Issues



This calls for 'One Water Approach' focused on Conservation & Treatment. Adequate funds needs to be provided to missions like Namami Gange to achieve SDG-6 (Clean water)

6.

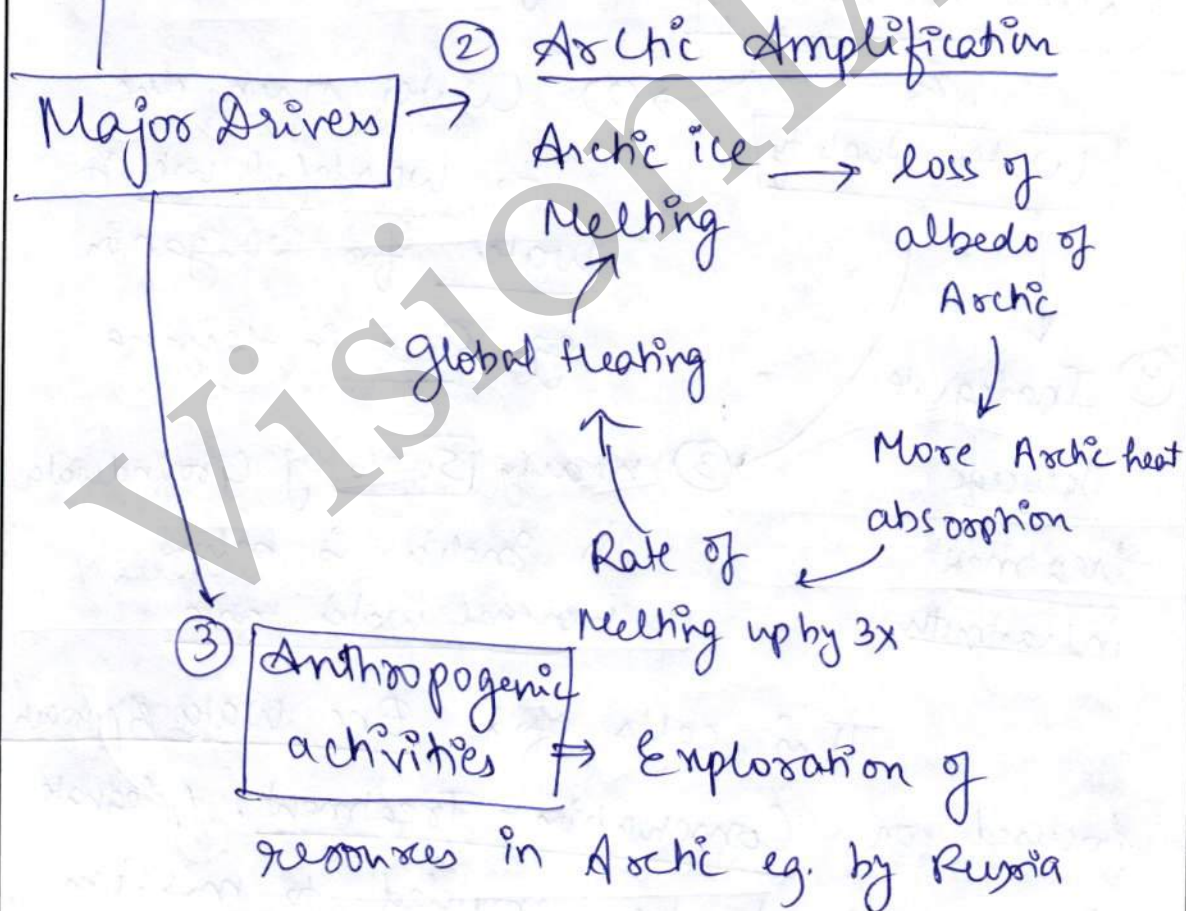
आर्कटिक में हिमनदों के पिघल कर संकुचित होने के लिए उत्तरदायी कारक क्या हैं? पारिस्थितिकी तंत्र पर आर्कटिक हिमनदों के पिघलने के संभावित प्रभाव का वर्णन कीजिए। (उत्तर 150 शब्दों में दीजिए)
What are the major drivers of glacial retreat in the Arctic? Describe the potential impact of the retreat of Arctic glaciers on the ecosystem. (Answer in 150 words)

10

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

According to IPCC AR6 Report,
Arctic ice is melting at faster rate.

① Climate Change due to Global Warming (Rising temperature beyond 1.5°C of pre-industrial levels)



① Threat to Biodiversity $\Rightarrow$ loss
of wildlife like Polar Bears

②. Climate change rate will increase
as Arctic is a tipping point

③ Resource Competition for oil &
minerals $\Rightarrow$ further degradation
eg. opening of North Sea route



④ Sea level Rise $\Rightarrow$ coastal
flooding in Europe and
other continents.

⑤ Mass level Damage due to
cascading effect. eg. coral
damage due to Arctic damage

This, calls for global
cooperation in adhering to Paris Agreement
goal of 1.5°C for preventing Arctic
glacier retreat.

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)

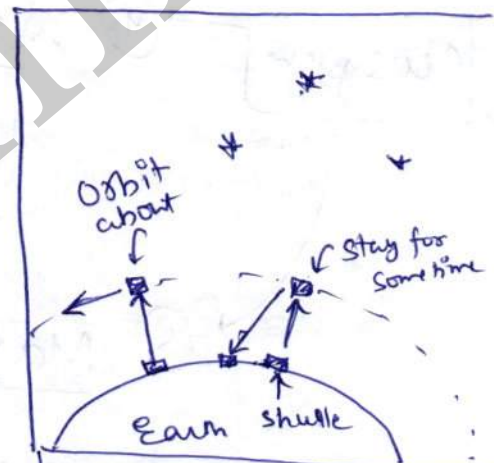
Space tourism, which was viewed as something straight out of a science fiction movie, is now becoming a reality albeit not without hindrances. What are the challenges associated with space tourism? What measures can be taken to address these challenges? (Answer in 150 words) 10

उम्मीदवारों को इस हशिप में नहीं लिखना चाहिए
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Space Tourism means going to space for recreational by going and coming back or spend time in orbiting about Earth etc

eg → Blue Origin flight to space made it a reality

- ① Development of technology
- ② Demand for funds for R&D

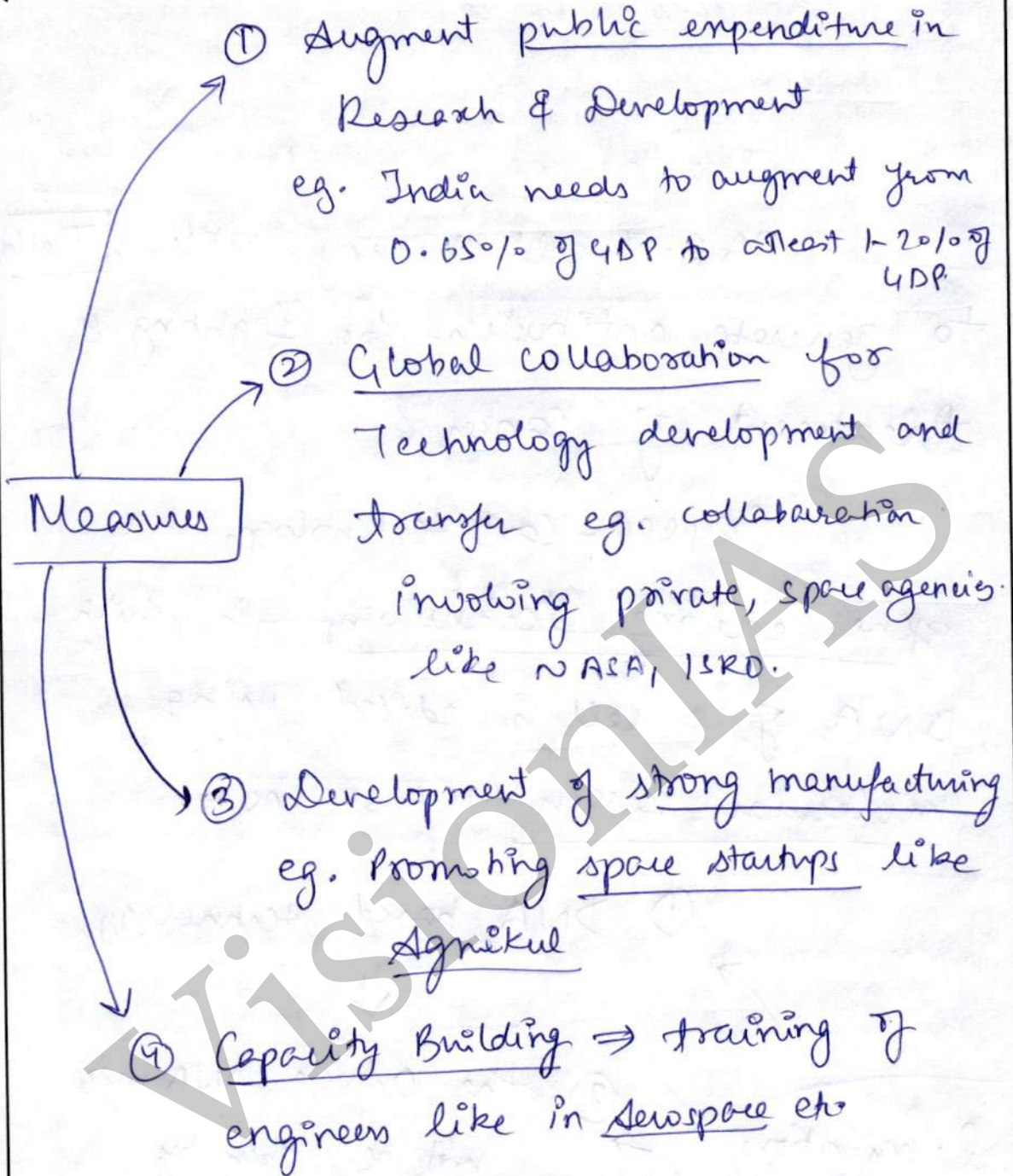


Challenges →

③ Human safety

Eg. recent TITANIC submarine crash under water tourism

④ Technical challenges like Karman line, magnetic particles, radiations etc



India is betting on Gaganyaan success for exploring space tourism in India which is a global multi-dollar business. These measures can be helpful in realising our goal.

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)

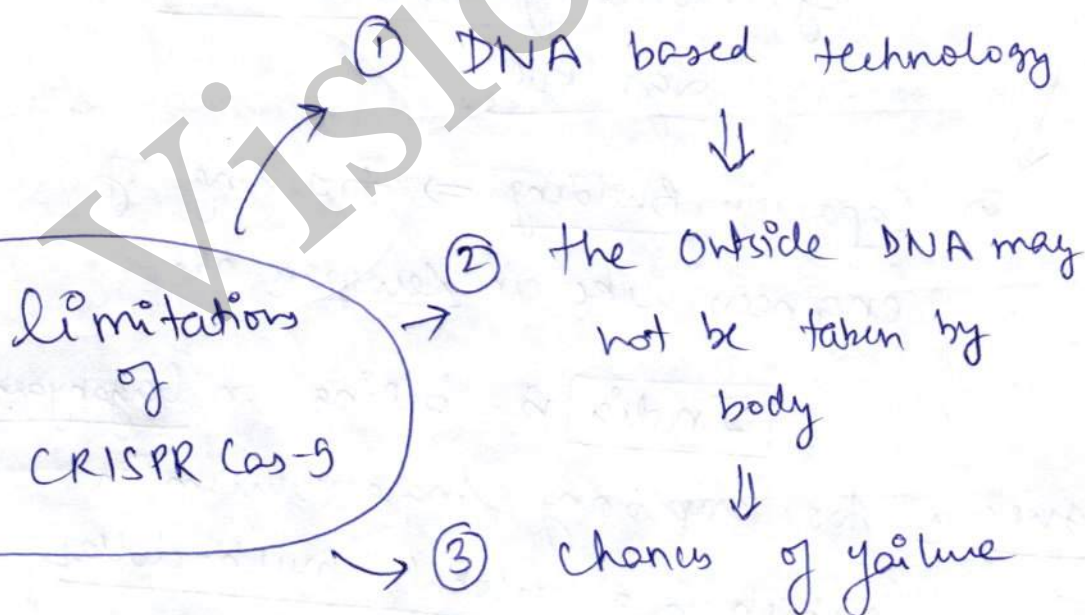
Global health experts widely believe that the development of CAR-T cell therapy can be a game changer in the treatment of cancer. How can CAR-T cell therapy overcome the limitations of CRISPR-Cas9 technology? (Answer in 150 words)

10

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

CAR-T cell therapy utilises T cells to generate antibodies for fighting & treatment of cancer

CRISPR-Cas9 technology is a gene editing technology in which DNA of a cell is edited using molecular scissors (CRISPR-CAS9).



How Overcome? → By promoting T cells
of the host body ⇒ cancer is damaged.

Thus, Car-T cell therapy can
overcome CRISPR-Cas9 Technology.

9.

चर्चा कीजिए कि प्रमुख हिंसक चरमपंथी संगठनों द्वारा नई और उभरती प्रौद्योगिकियों के बढ़ते इस्तेमाल के विरुद्ध संगठित एवं ठोस वैश्विक प्रयासों की आवश्यकता क्यों है। (उत्तर 150 शब्दों में दीजिए)

Discuss why the rising deployment of new and emerging technologies by prominent violent extremist organizations demand concerted global efforts. (Answer in 150 words)

10

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

The drone attack on Airforce base in Jammu and Kashmir highlighted the rising deployment of new and emerging technologies by militant & extremist organisations

① Trans-national nature of using technologies
eg. using Cryptocurrency for Terror funding

Why demands concerted global efforts.

② Hard to monitor and regulate
eg. Use of Dark web to communicate

③ Rising Cyber-Terrorism
eg. recent Cyber attack on defence servers originating from Pakistan.

④ Lack of adequate resources with nations like Afghanistan and Bangladesh,

⑤ Shortage of equipments like countering drone attacks,

⑥ Lone-wolf attacks are on rise due to rise in radicalisation by social media. eg ISIS handlers.

This calls for global cooperation by strengthening agencies like FATF, Interpol and bringing a global UN convention on Terrorism like CCTN put forward by India.

This along with building regional capacity through technology transfer from developed countries will curb the use of emerging technologies for terrorism.

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

The drone attack on Airport base in Jammu & Kashmir highlights

ITBP (Indo-Tibet Border Police) force guards the India-China border.

Currently, the LAC is tense after Galwan incidents, Both India and China are building infrastructure through Border road, village development

① Guarding the border

② Building relations with locals through campaigns

③ Preventing trafficking eg. of wildlife

④ Ensure law & order in

Role of
ITBP
in this
region

Border areas.

- ⑤ Safeguarding the engineers and workers developing the roads and villages in the area under Librant Village program

Thus, ITBP plays key role in augmenting Border Security at Indo-China Border.

This demands modernisation of ITBP through equipments, training, chronos etc for better and comprehensive border security.

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

According to CGWA report, more than 50% area in India have high downfall in water table. The primary reason is exploitation of water using irrigation water.

This calls for a need from.

Land Productivity
(Focus on increasing yield per Ha of land)



Irrigation water productivity
(increasing yield per unit water use)

Reasons for need to shift

① Wasteful use of water due to power subsidy $\Rightarrow$ 46% area is under Tubewell irrigation.

② Lack of efficient water irrigation
only 20% area is under micro-irrigation

- ③ Impact on Soil Health $\Rightarrow$ Salinisation of soil in areas like Punjab, Haryana.
- ④ Water Stress $\Rightarrow$ the per capita water availability is under 1700 BCM
- ⑤ Environmental Reasons $\rightarrow$ Eutrophication due to flood irrigation with fertilisers.
- ⑥ Land degradation $\Rightarrow$ nearly $\frac{1}{3}^{\text{rd}}$ land as degraded (ISRO report).
- ⑦ Farmer Income $\Rightarrow$ lack of adequate yield $\Rightarrow$ decline in farmer income
(More than 50% households are under debt) (NSSO report)

Challenges in making shift

- ① Political $\Rightarrow$ vote bank politics for freebie culture eg. High power subsidies.

- ② Focus on water-intensive crops like sugarcane in Vidarbha
- ③ Lack of crop diversification like millets.
- ④ Lack of adequate farmer education
eg. on precision farming
- ⑤ Lack of subsidies for micro-irrigation
and fertilization.

Way Forward (Niti Aayog @ 75 suggestions).

- ① Promote microirrigation like sprinklers, drip irrigation based subsidies
- ② Promote Sustainable Farming like Organic farming, Zero Budget Natural Farming

In addition Mihir Shah
Committee recommendation for
improving irrigation productivity can be
implemented

12.

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

Examine the role that green hydrogen can play in unlocking the energy security of India. How can the National Green Hydrogen Mission help India in achieving its energy goals? (Answer in 250 words)

15

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
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According to International Energy Agency, India's primary energy demand is going to triple by 2030.

India imports more than 80% of its energy needs through oil.

Recently, launched National Green Hydrogen Mission aims to produce 5 MT of Hydrogen.

Role of Green Hydrogen in Energy Security

- ① Fulfill rising energy demand due to Urbanisation, Industrialisation
- ② Fulfill India's 'Panchamrit' of producing 50% of energy capacity

from non-fossil fuels by 2030.

③ Reduce Energy import bill $\Rightarrow$ providing security from global shocks.

④ Energy for Transport Sector
 $\rightarrow$ Green Hydrogen fuel cells.

⑤ Ensuring 'Just Transition' and Decarbonising Energy Sector

⑥ Clean source of Energy

Nation Green Hydrogen Mission
in achieving its energy goals.

① Mission Mode efforts to produce
Green Hydrogen

② Complements targets of producing
500 GW energy capacity by non-

Fossil fuels by 2030

③ Sustainable production of Clean Energy

Thus, the mission can help India in achieving the SDG-7 (Clean Energy). Timely completion through adequate funding is necessity.

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 Wages means the wages which are sufficient to meet the basic needs and are equivalent to the work done by worker.

Living Wages means the wages that are required for a healthy living like Health, Education ^{benefits} etc. on above the work done by worker

Recently, Government is weighing a transition from minimum wage to living wage.

→ ① Social Security Benefits.

Benefits.

eg. EPF, insurance included in living wages.

② Minimum wages are not able to fulfill the basic demands and the impact of inflation.

③ Prevents exploitation of workers by providing adequate insurance
eg. Mining workers are subject to several lung and skin diseases.

① Lack of criteria for living wages

② opposition from employers.

Constraints

→ ③ 90% workers in informal economy

→ ④ often, even wages are paid less than minimum wages.

⑤ Lack of adequate awareness with workers about their rights.

① Building consensus among stakeholders → Employers, workers, Unions etc.

Way Forward.

② Regulation should be stringent balanced with Ease of Doing business

Living wages are key for improving standards of workers as also directed under Article 39(e) of Constitution (Healthy workers).

14.

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

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

15

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

Union Budget is presented in Parliament as per the provisions of Constitution as Annual Finance Statement

It is the key part of fiscal policy affecting every sector of economy.

Eg → MISHTI mission for mangrove plantation

→ Agriculture infrastructure fund for reducing post harvest losses.

→ PM PRANAM scheme

→ PVTG Mission

were announced in Budget 2023.

Whether the Budgetary process^{and policies} come under public scrutiny?

Yes

- ① Budget is discussed in Parliament which is the representative of people in India
- ② Committees scrutiny $\Rightarrow$ Demand for Grants are scrutinised by Departmental Standing Committees
- ③ Voting $\Rightarrow$ as per Constitution, No withdrawal from Consolidated Fund can be done without authorisation of Parliament
- ④ Media Scrutiny $\Rightarrow$ Budget is debated in Media.

No

- ① Lack of meaningful debates in Parliament $\Rightarrow$ Hasty passing wing guillotined motion

- ② Media $\Rightarrow$ biased and profit motive for TRPs.
- ③ Lack of public awareness $\Rightarrow$ due to Rural-Urban Divide, lack of political education etc.
- ④ Lack of ^{adequate} working by Departmental Committees

Thus, there is a need for wider public participation including civil society, people through meaningful debates on media. for substantial public scrutiny of budget.

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 हाशिए में नहीं लिखना चाहिए
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15

India is the largest producer of milk as per Economic Survey FY23

The 'White Revolution' by Varghese Kurien has helped India in transforming itself from milk deficit to milk producer (no.1) in world.

However, the productivity remains a concern because.

① Lack of inter-breeding between indigenous and exotic breeds.

② low productivity of indigenous cows viz-d-viz exotic ones (~20L/day)

③ Lack of Bull Mother farms

④ Lack of Bulk chillers in villages.
↓
spoiling of milk.

⑤ Lack of adequate fodder ⇒ due to
rice-wheat system ⇒ decline in
nutritious fodder crops.

⑥ Lack of starcupost facilities

⑦ Lack of veterinary services

This calls for implementing

NITI Aayog @ 75 report suggestions.

① Inter-breeding should be promoted
through incentives to farmers.

② Establish Village Procurement Centres

③ Set up Bulk chillers to improve
storage infrastructure in villages.

④ Set up Bull Mother farms

Additional Suggestion

⑤ Promote SHGs in Livestock

↓

Empower women as 90% of women are in dairy.

↓

Education, Skill Development

⑥ Strengthen Rashtriya Gokul Mission

⑦ Use of Technology for monitoring Health of Livestock

⑧ Promote Veterinary services through building centers and training professionals.

This will help in augmenting milk productivity and strengthen livestock sector which contributes ^{income to} $\frac{2}{3}$ rd of rural population.

16.

जहाँ एक तरफ जलवायु परिवर्तन, फसल की विफलता के लिए जिम्मेदार है, वहीं दूसरी तरफ चरम मौसमी घटनाओं के लिए कृषि क्षेत्रक स्वयं आंशिक रूप से जिम्मेदार है। विवेचना कीजिए। भारत में कृषक समुदाय की प्रत्यास्थता को सुदृढ़ करने के लिए राष्ट्रीय कृषि आपदा प्रबंधन योजना के तहत क्या रणनीति अपनाई गई है? (उत्तर 250 शब्दों में दीजिए)

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

उम्मीदवारों को इस हिसाब से नहीं लिखना चाहिए
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According to IPCC AR6 report, The extreme weather events are rising due to Climate Change. leading to wide crop failures and threatening food systems.
eg → recent Tomato crisis in India due to erratic monsoons.

Crop failure due to Climate change

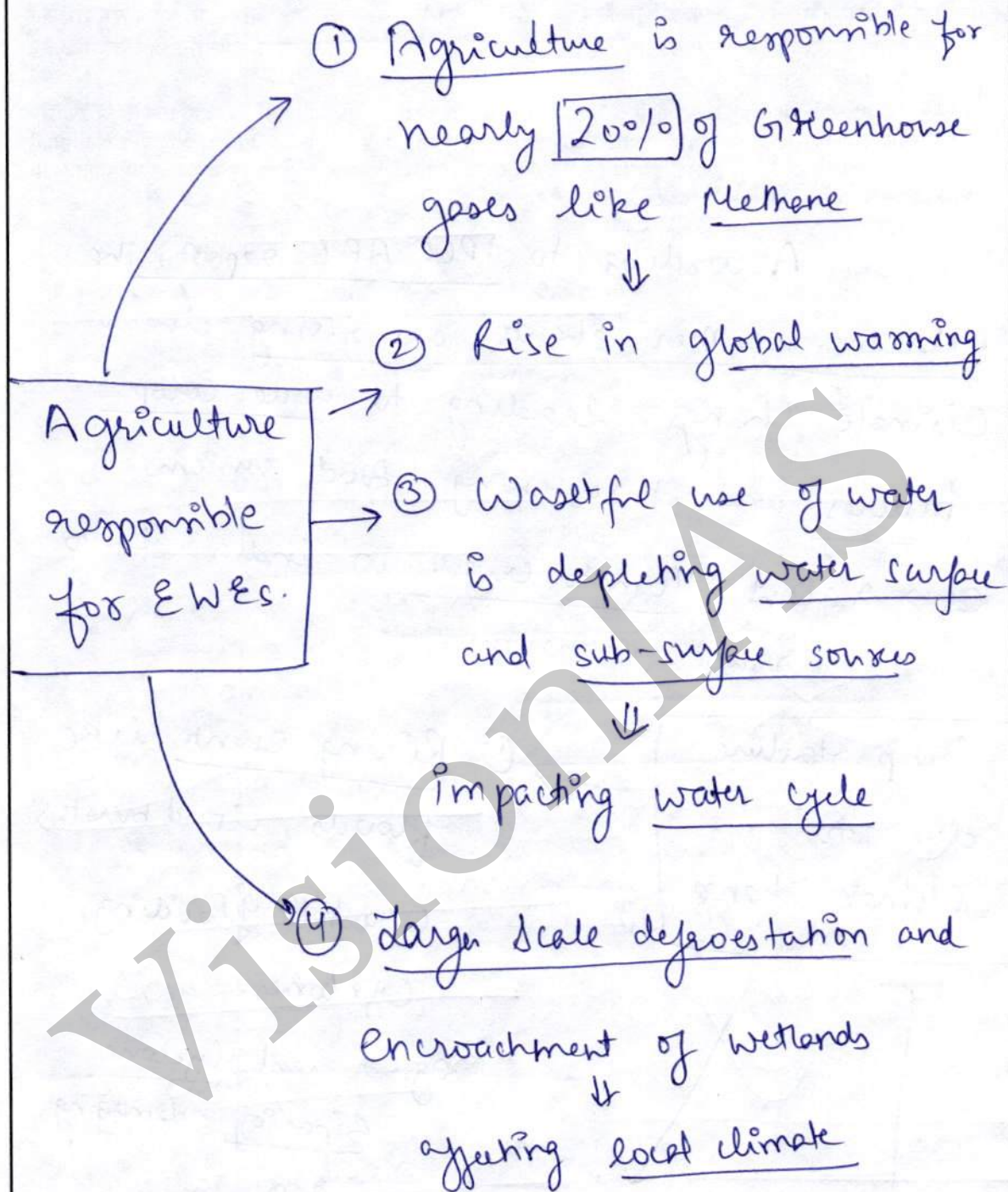
① Rising events like floods, cloudbursts, Coastal flooding, Cyclones.

eg. recent Cyclone Biparjoy damaging crops.

③ More Droughts with severity

↓
Crop distress like in Vidharba region.

② Strong Pests/locusts outbreak like in 2021



This called for a plan to strengthen resilience of farming. Government launched National Agriculture Disaster

Management Plan, which is based on strategy as

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इस हार्शिए में
नहीं लिखना
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- ① Promoting water-use efficiency through micro-irrigation, organic farming
- ② Early warning systems for predicting droughts as India is 68% drought prone
- ③ Awareness through campaigns, programmes like KISAN TV
- ④ Monitoring of climate through satellite like INSAT series
- ⑤ Hydrology Analysis $\Rightarrow$ reservoir capacity and channel discharge monitoring
- ⑥ Training $\Rightarrow$ farmers in Climate Smart Farming

Implementation of NADMP in spirit with specific target based approach is key for Climate Resilient Agriculture (SDG-2, SDG-13).

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

Earthquakes are felt due to sudden release of shock energy from the interior of earth due to tectonic movement, faulting etc.

Reasons for high vulnerability of regions like Delhi

- ① Continental - Continental Convergence boundary of Eurasian plate with Indo-Australian plate

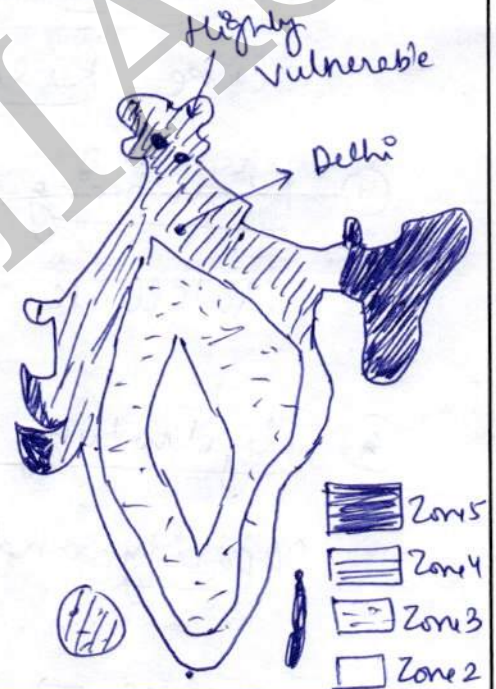


Fig. Seismic Map of India

eg. Recent tremors in Delhi due to earthquake hypocentre near Afghanistan

- ② Delhi and Himalayas, (Refer fig) are highly vulnerable due to in

Zone 4 and Zones

- ③ Presence of faults like in Kutchh.

Institutional Measures taken,

Structural Measures

- ① Building Earthquake resilient structures as per IS codes

- ② Seismic Retrofitting of existing structures

- ③ Legislation → enactment of Disaster Management Act, NDMA Act.

Non-Structural Measures

- ① Bodies like NDMA, NDRF, SDRF for evacuation, mitigation etc.

- ② Enactment of NDMA/SDMA plans

- ③ Awareness through mock drills in schools/ institutions

④ Preparedness through training of professionals.

① Lack of regulation and structural audit of buildings by authorities.

② Inadequate funds → non-establishment of National Risk Management fund ^{recommended} established by 15th FC

Significant gaps.

③ Lack of specific targets in National Disaster Management Plan.

④ Reactive approach ⇒ focus on during disaster evacuation rather than mitigation

Recommendations of 2nd ARC to bring local Government at front and stringent regulation for inspection of structures along with implementing Sendai Framework is the need of hour.

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)

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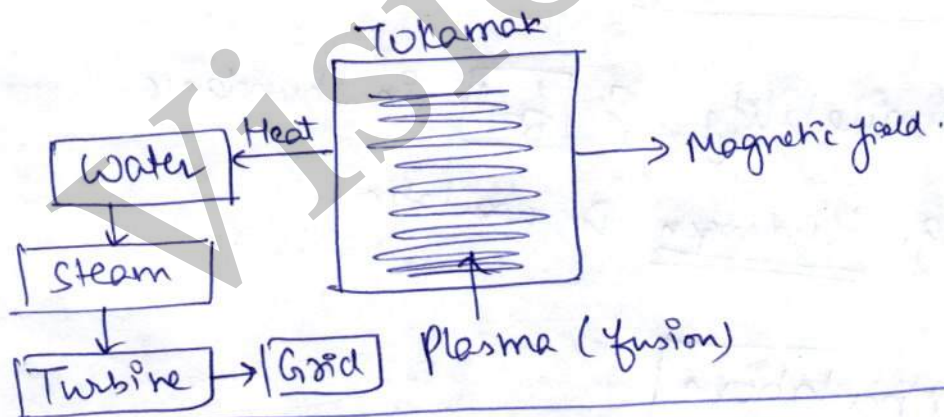
15

Nuclear fusion is the energy produced by the fusion of 2 nuclei like Hydrogen.



The equipment used to produce it is known as Tokamak

fig. Nuclear fusion production



Advantages

① Clean Energy generation without carbon emissions

② Safe as not prone to explosion
or radio activity like in Nuclear
fission reaction

③ Can fulfill Paris Agreement goals of
limiting global warming to 1.5°C

④ Fulfill countries NDCs like India's
target of net 0 by 2070 (Panchamrit)

⑤ High Energy per unit fuel $\Rightarrow$ sustainable
source

⑥ Availability of fuel in abundance
eg. Hydrogen is available.

Limitations

① Development of technology is hard
eg. maximum time is in milliseconds
so far for net energy gain.

② the Plasma reaches to a temperature of million °C $\Rightarrow$ making it hard to sustain that temperature using magnetic field.

③ Interruptions $\Rightarrow$ plasma dies very quickly.

④ Others $\rightarrow$ requires, massive funding for R & D
 $\rightarrow$ Resource competition $\Rightarrow$ Developed countries may not transfer technology

⑤ For India $\rightarrow$ low R & D expenditure (0.65% of GDP)
 $\rightarrow$ lack of indigenous development of Tokamak.

The need is for global cooperation as also evident from ITER, France where India is also participating. Further, the funding is a necessity to overcome the research difficulties, and achieve production of nuclear fusion energy to achieve SDG-7 (Clean Energy for all)

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

Prevention of Money Laundering Act was enacted to curb Money Laundering that is the process of showing the dirty proceeds of money as legitimate

Recent amendment gives strong powers to ED for enforcement and regulation of Money Laundering.

Efficacy

① Strengthen regulation ⇒ penalizing powers ⇒ Increase in penalty

②

Lacunae

- ① political misuse
- ② lack of clear safeguards.

PMLA recent amendment can help in curbing money laundering.
However, adequate safeguards needs to be provided to curb misuse.

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)

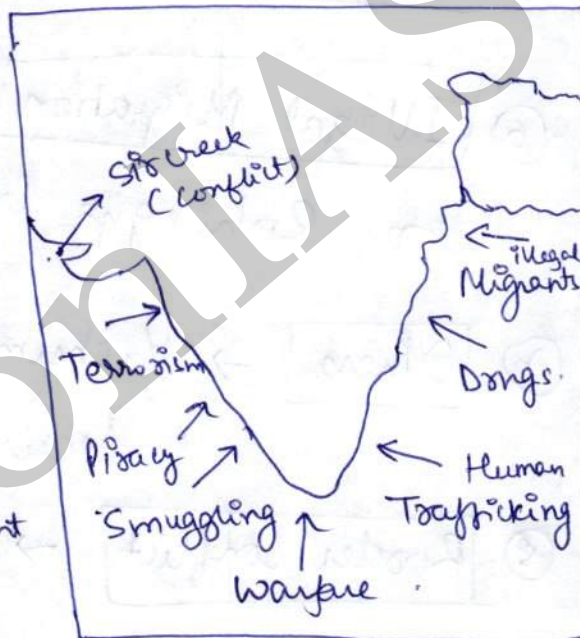
Discuss the security threats present in the Indian Ocean Region (IOR), which have a direct bearing on India's maritime border interests. Suggest a robust strategy to deal with these threats. (Answer in 250 words)

15

India has a ~7500 km long Coastline with 2 islands in IOR.

Security threats in IOR to India

- ① Warfare → Rising Chinese aggression in IOR and hostile Pakistan in our maritime boundary
eg. India-Pakistan war in 1971 was fought in IOR too



- ② Terrorism → IOR was used by 26/11 Terrorists for reaching Mumbai Coast.

- ③ Smuggling of goods, Human Trafficking and Drugs peddling ⇒ eg. Drugs caught on a port in Gujarat.

④ Piracy → theft of trade as
India imports 70-80% from sea
↳ eg. Somalia pirates.

⑤ Intelligence → Chinese military vessel

Wang 5 came to Sri Lanka for spying.
(String of Pearls)

⑥ Illegal Migration in South East due
to Rohingya crisis

⑦ Others → Fishermen security, Economic
Security

⑧ Border Conflict → Gwadar Creek in Pakistan.

Robust Strategy

① Institutional and Structural measures

(1.1) Strengthening and modernising
Navy, Coast guard in intelligence
and training like Malabar Exercise

(1.2) Comprehensive legislation for dealing with
Maritime security $\Rightarrow$ removing duplicacy
of agencies.

(1.3) Strong Satellite System $\Rightarrow$ use of NAVIC,
CIA GAN for surveillance

(1.4) Using GPS for fishermen security $\Rightarrow$
forming fishermen groups.

(1.5) Building submarines, Vessels like
Kalvari, INS Visat etc.

(2) Non-structural and International Cooperation

(2.1) Speeding up SAGAR MALA projects for
port development

(2.2) Engaging with countries like Iran
for Chabahar port to counter China's
String of Pearls.

(2.3) Cooperation through Humanitarian Aid
and Disaster Rehabilitation efforts to
countries like Maldives

India needs to develop strong
presence through its unstinkable aircraft
carriers $\rightarrow$ (Lakshadweep and A&N islands) for
comprehensive maritime security

SPACE FOR ROUGH WORK