



# 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. : 1154 589

अभ्यर्थी का नाम/Name of Student : Karishankar Ganesan

माध्यम: हिंदी/अंग्रेजी  
Medium: Hindi/English

English

तारीख  
Date

27/08/2023

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

केंद्र

Centre

Bhai Joga Singh  
Singh School

निरीक्षक के हस्ताक्षर  
Invigilator's Signature

Ashy



	<p style="text-align: center;"><b>महत्वपूर्ण अनुदेश</b></p> <p>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।</p>	<p style="text-align: center;"><b>Important Instructions</b></p> <p>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.</p>
1	<p>(क) अपना पंजीकरण सं. एवं अन्य विवरण केवल प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) में उम्मीदवार के लिए निर्धारित स्थान पर ही लिखें।</p> <p>(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।</p>	<p>(a) Write your Registration Number and other details only in the space provided in the Question-Cum-Answer (QCA) Booklet for candidates.</p> <p>(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</p>
2	<p>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।</p>	<p>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.</p>
3	<p>परीक्षक को प्रत्यक्ष/अप्रत्यक्ष रूप से कोई भी प्रार्थना/धमकी भरी बातें न लिखें।</p>	<p>Do not make any direct/indirect appeal/threat to the examiner.</p>
4	<p>उत्तर अस्पष्ट अथवा मंड़ी लिखावट में न लिखें। इस प्रकार के उत्तर का मूल्यांकन नहीं भी किया जा सकता है।</p>	<p>Do not write answers in bad/illegible handwriting. Such answers may not be evaluated.</p>
5	<p>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।</p>	<p>Write answers in ink only. Do not use pencil for writing the answers. However, pencil may be used for drawing diagrams, sketches, etc.</p>
6	<p>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।</p>	<p>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.</p>
7	<p>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।</p>	<p>Write answer at the specific space (right below the question) only. Answers written elsewhere at unspecified places in the booklet shall not be evaluated.</p>
8	<p>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।</p>	<p>If you wish to cancel any work, draw your pen through it and write "Cancelled" across it, otherwise it may be valued.</p>

कार्यालय के प्रयोग हेतु For Official Use	कार्यालय के प्रयोग हेतु For Official Use
<p>परीक्षक के हस्ताक्षर Signature of Examiner(s)</p>	

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 की 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

Food security is a legal right of citizens in India covered under National Food Security Act, 2013 provided through network of 4 lakh ration shops.

### Dimensions of Food security

→ 1) Food availability → eg India had to import PL-480 from USA in 1960s due to deficit

→ 2) Food access → ensuring controlled food inflation "tax on poor"

→ 3) eg imported inflation due to Russian war  
Calorie sufficiency → ensured through Grain policy  
Cereal centric

→ 4) Nutrition Security → available enriching food with adequate macro nutrients (pulses) and micro nutrients (calcium from milk)

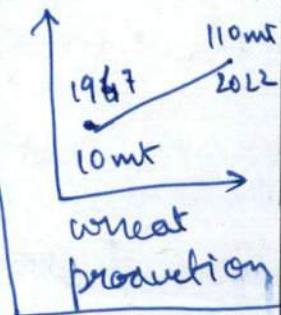


### 3) Food security of vulnerable sections @ maternal, child

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

India's status in ensuring in these dimensions

→ 1) Food availability → Green revolution has ensured sufficient



→ 2) Affordable → Yes, as

PDS ensure ₹3/2/1 as central issued price for rice/wheat/millet

→ 3) Calorie sufficiency → Met as per poverty norms

→ 4) Nutrition → [No], as NFHS 5 gives 35% under nourishment

→ 5) Children and women - [No] - high anaemia

Way forward

focus on

Hidden Hunger

@ millet Shree Anna

targeted PDS as given by Shanta Kumar committee (reduce to 40%)

reduce food

wastage (40% in India) as per FAO

While India's rank of 107 in world hunger index (Global Hunger Index) is not representative, scope of improvement in NUTRITION.



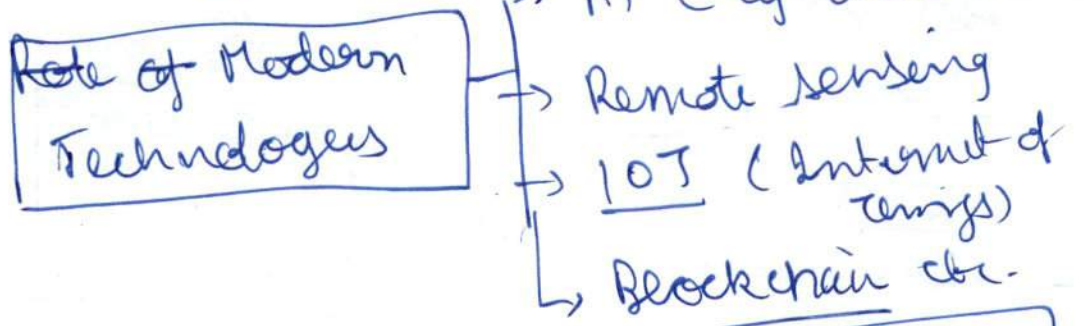
2.

ब्लॉकचेन और चैटजीपीटी जैसी आधुनिक प्रौद्योगिकियां कृषि को अधिक कुशल और संधारणीय क्षेत्र में बदलने की अपार क्षमता वाले शक्तिशाली साधन हैं। भारत के संदर्भ में चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)  
Modern technologies such as blockchain and ChatGPT are powerful tools with immense potential to transform agriculture into a more efficient and sustainable sector. Discuss in the context of India. (Answer in 150 words)

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

10

with advent of Web 3.0, blockchain and Chat GPT (Artificial Intelligence) have proved as digital "silver bullets" for breaking restrictions of sectors like agriculture.



Role of Blockchain in efficient & sustainable farming

- 1) Efficiency ↑ by digital blockchain land record management  
eg Bhumi in Karnataka
- 2) Organic farming certification & authentication through blockchain
- 3) CBDC use in DBT as cash



## Role of Chat GPT AI in farming

- 1) Resolve agricultural queries  
(e.g. extent of water usage extension services)
- 2) Interactive guidance redressal in case of insurance grievance
- 3) Understand information on government schemes

## Role of other technologies

- 1) Drones technology for fertilizer spray
- 2) Biotechnology (e.g. Dhara Mustard)
- 3) Internet of things - timely irrigation

### Challenges

- poor agricultural extension
- digital divide only 50% penetration

### Way forward

- physical model (KVK models)
- Higher agricultural R&D (only 0.3% now)
- Complete Bharat Net coverage

The Green Revolution 2.0 is closely

linked with democratized

Digital India 2.0 and Industrial Revolution



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

De-Dollarisation is the movement towards removal and replacement of US Dollar Hegemony as world's Reserve currency and Agency of transaction.

Factors for acceleration of De-Dollarise

- 1) Rising multipolarity → China and India's growing stature  
Rise of BRICS, SCO to replace IMF
- 2) Unstable USA policy on economy  
↳ Helicopter money in COVID  
↳ Rate rise and Taper tantrum
- 3) Arbitrary sanctions on Russia and Iran → without UNSC  
sanction → Scepticism
- 4) Rising cold war and trade war between China and USA



# Strengths of Dollar as compared to other currencies

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

→ Dominance of foreign trade

↳ 90% of trade Dollar dominated only 2% is India

→ 2) Dollar for settling oil trade  
↳ OPEC agreement for dollar based settlement

→ 3) US economy is stable and consumption based → ↑ import

→ 4) India's unbalanced trade eg \$70 bn deficit China

Therefore despite benefits it will be tough proposition to de-dollarise the US \$ in near future.

Way forward

NOSTRO & VOSTRO

global alliances

eg New Development Bank (6 new members)

complete capital account convertible (Tarapore committed)

Increase India's share of global exports (2% → 4%)

Bilateral trade in ₹ with UAE & Russia are important baby steps



4.

विकसित देशों द्वारा भारत पर खाद्य सस्मिडी व्यवस्था में बदलाव करने के अत्यधिक दबाव के बावजूद, भारत के लिए निर्धन व्यक्तियों हेतु अपना नीतिगत समर्थन बनाए रखना एक उचित कदम होगा। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

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

10

Despite the pressure in WTO to reduce food subsidies of 1.9 lakh crore ₹, India has stuck to the Doha Round stance of priority to food security -



Merit of the food subsidy regime

- $\rightarrow$  1) Legal obligation under Food Security Act, 2013  $\rightarrow$  ensure food for all.



→ 2) India's status as developing country → high degree of poverty (15% MPI as per Niti Aayog)

→ 3) Comparatively smaller subsidies by India → USA provides \$61000 per farmer, India gives \$277

→ 4) Calculation errors in amber box → not based on right

→ baseline

→ 5) Historical challenge faced for importing PL-480 from USA → denial

→ 6) Agriculture economy → 55% dependent on agriculture

Way forward

Reduce stockholding & wastage

(~47%)  
Shanta Kumar

Continuation of Nairobi exemption  
Peace clause

Slowly phase to  
DBT base approval

Therefore, food security is primary aim of SDG 2.0, must be upheld by India



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 इच्छा में नहीं लिखना चाहिए।  
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10

India has taken up the challenging task of water for all under Jal Shakti Abhiyan with outlay of 79,000 cr in Budget 2023.

Initiatives taken by government

→ 1) Water availability → 55 lpd under Jal Shakti piped water scheme in rural areas

→ 2) Reduce groundwater usage in agriculture by Har Khet me Paisa Scheme → Acceleration irrigation  
⊕ 500 cr micro irrigation  
funds.

→ 3) "Catch the rain" scheme - harvesting

→ 4) Water quality under Pani Panchayat Scheme.

Persisting issues of water availability

→ 1) Per capita availability at 1420 lpd vs 1800 lpd in 1951



→ 2) India is water stressed as per Miti Aag (< 1700 lpd)

→ 3) Cities facing acute water shortage by November 2018  
Chennai faced 0 day

### Issues of water quality

→ 1) Arsenic levels are higher in Western India → > 0.01 ppm recommended

→ 2) Water pollution in rivers  
↳ Yamuna has 10x recommended  
BOD (as per WHO)

→ 3) Leakage pipelines lead to  
mixing of sewage with  
potable water

### Way forward

Mihir Shah

- Blue green economy
  - Integrated water management
- compulsory rain water harvest (Tamil Nadu)  
→ river inter linkage (Eg Ken Betwa)

The creation of 75 Amrit tanks  
in each district is a good step  
towards water for all (SDG 6.0)



6.

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

10

उम्मीदवारों को इस कॉपी में नहीं लिखना चाहिए  
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The arctic is melting at 2x the rate of global warming and will be fully melted by 2000 as per WWF.

Major drivers for arctic retreat

→ 1) Global warming → as per UNEP  
1.08°C warmer each as compared in 1750 → Albedo reduction

→ 2) Shipping pollution → caused by ice breaking in navigation

→ 3) Rise of sea levels → causes faster melting of ice

→ 4) Not global commons → Arctic Council controlled

→ 5) Oil leaks

eg Russian leak  
Okhotsk



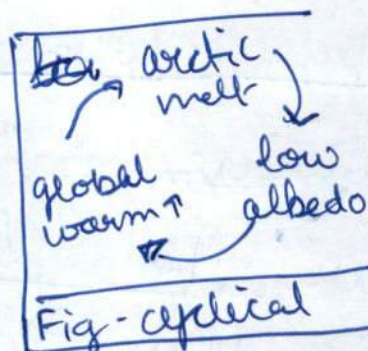


# Impact of arctic retreat on ecosystem

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

## Negative impact

→ 1) Arctic amplification due to albedo effect



→ Biodiversity loss

eg Polar bears species

→ 3) Release of hydrate methanes ( $\text{CH}_4$ ) → further global warming (already  $20\text{cm} \uparrow$ )

→ 4) Rising sea levels → cyclones

Positive impacts → better mobility (North sea route)

Way forward → 1) establish arctic as global commons

Appoint Arctic Ambassador and  
2) India to expand Himadri station (2007)

Polar retreat is a "tipping point" which if unattended can not be REVERSED.

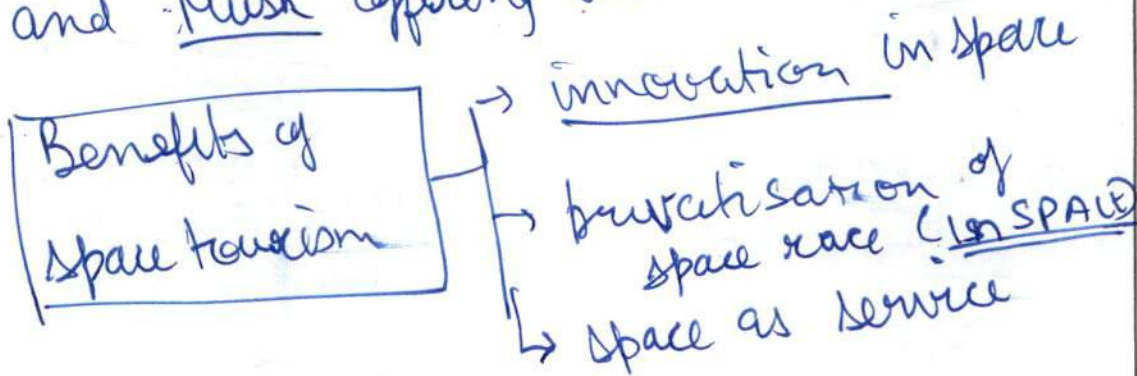


7.

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

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

Space Tourism has gained recent upsurge with private players like Norvin Atlantic, Jeff Bezos (Amazon) and Musk offering visits at a fee



Challenges associated with Space Tourism

- 1) Space situation awareness compromised due to space debris → Near earth object collision
- 2) Expensive adventure → Classist → only rich can afford.



- 3) Monopolisation by countries with  
space programs  
↳ impinges on space as global commons
- 4) Threat of safety or eg Deepblue
- 5) Threat of unethical use → Spying

### Measures to overcome challenges

→ 1) create quota based on country  
of launch for Equity

→ 2) Adherence to enter space  
treaty, 1967 → by creation of  
WTO like common structure

→ 3) Debris management →  
↳ laser based obliteration  
↳ DART mission → collision

→ 4) create Scholarships in African  
and Asian developing countries  
for equal access to space

India after the launch of "Gaganyaan"  
can drive growth in space tourism  
through INSPACE private players



8.

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

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

10

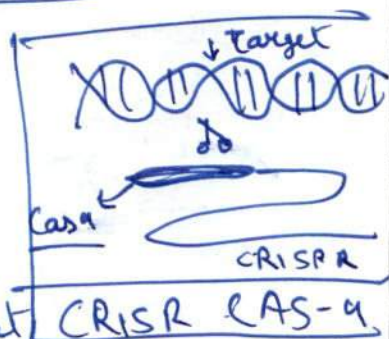
उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए  
Candidates must not write on this margin

CAR-T therapy is the novel therapy in oncology based on chimeric Antigen Receptor (CAR) T cells (CAR-T) therapy technology for targeted cancer therapy.

CAR-T's role in overcoming limitations of CRISPR-CAS9

(A) Limitation of CRISPR CAS9

→ 1) DNA alteration based on CAS9 protein



→ 2) Recurring treatment is expensive

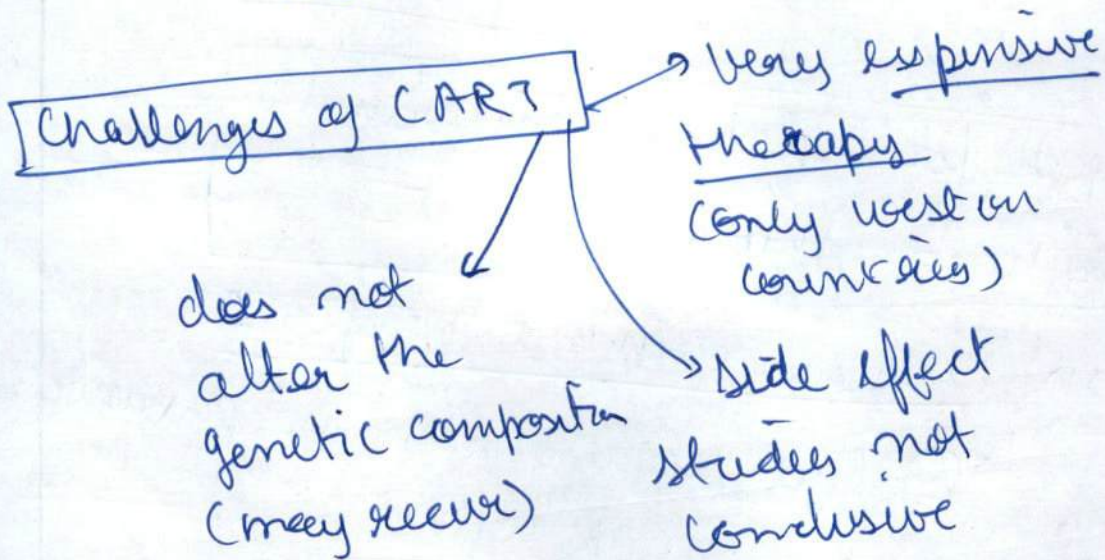
→ 3) Requires identification of the problematic DNA portion for nucleases using sensors.

→ 4) Not suitable for advanced cancer



## (B) CAR-T benefits over CAS-9

- 1) Higher efficacy → targetted delivery of antibody to antigen site
- 2) Automatic targeting using chimeric receptors binding to the cancer cell.
- 3) Bolsters immunity Memory of antibodies to specific cancer cells
- 4) Lower side effects as DNA is not mutated (No RNAi)



While in initial stages CAR-T has potential to revolutionalise Oncology. India must conduct research under Biotech mission (2020-25)



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

In recent times, emerging technology has been used as 5<sup>th</sup> generation warfare (Digital) by the violent extremist organisations.

New emerging technologies used

- Drones Eg LeT drug delivery in J&K
- Space Tech Eg GPS tech
- crypto used for Money for terrorism

Need for global concerted effort to thwart threat

- 1) Problems without passports
  - ↳ Eg Cyber security risk is pervasive like SOLAR WINDS
- 2) Non-physical Non kinetic threats Eg Drones can easily be returned across borders
- 3) Multiple Jurisdictions involved



eg Financing and technological cross  
of emerging tech

→ 4) like Blockchain

→ 4) Digital indoctrination and  
recruitment

eg 66 ISIS recruits from India  
"DIGIHAD"

Possible effects at global level

→ 1) Agreement on ethical use of  
technology eg UNESCO AI  
ethical treaty

→ 2) Global MNCs as partners in  
combat terror eg Microsoft cyber  
security

→ 3) "No money for terror" through  
Crypto policy coordination

↳ Budapest agreement & G20

→ 4) Resolve jurisdictional challenges  
like UNCLOS → deportation of  
fugitive

→ 5) Common data privacy law

eg OSAKA G20 declaration

Threat of technology everywhere is  
Threat to Digital prosperity  
everywhere



10.

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

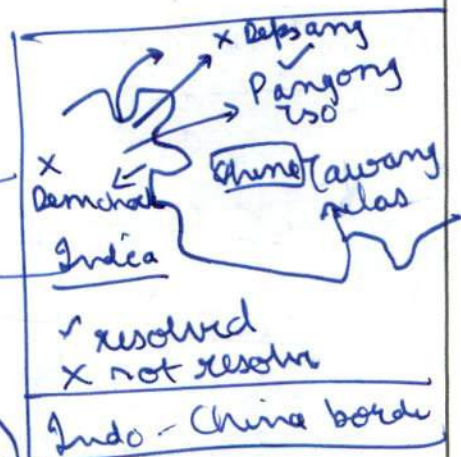
With the Line of Actual Control (LAC) remaining tense after the Galwan and Yangste incidents and both India and China ramping up infrastructure in the border areas, discuss the role that ITBP plays in the region. (Answer in 150 words)

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

Recently, India has enhanced 7 new battalions of Indo Tibetan Border Police (ITBP) on the eastern frontier with China. (Line of Actual Control)

China & India ramp up of Infrastructure

↳ post Galwan clashes



→ 1) Building connectivity

↳ new NE frontier highway

→ 2) Military infrastructure buildup

↳ eg 1 lakh + troops with bunkers in the region

→ 3) Social infrastructure → villages inhabited eg Vibrant Village scheme at ₹4800 cr cost

→ 4) Air defences built by armies



## Role of ITBP in region

→ 1) Firstline of defence against invasions of Chinese @ Tawang clashes

→ 2) Border patrolling to ensure territorial integrity → physical & prone

→ 3) Specialised in terrain → mountain corps specialisation in cold and rough terrain of Ladakh

→ 4) Coordination with army → in case of escalation @ 1962 war

→ 5) Contribution in war effort

## Challenges faced

→ poor working conditions  
→ unclear map

## Way forward

→ creation of maps in agreement

→ used class equipment  
@ snow scooter  
→ resolution using dialogue @ command level

ITBP is essential force for ensuring the curbed expansion of China



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

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

While India improved land productivity in Green Revolution, it's water productivity has reduced to 28% as compared to 53% in China

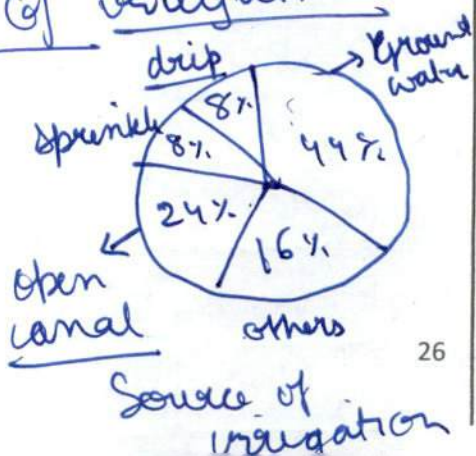
Need for shift from land productivity to irrigation water productivity

1) Water Scarcity Stress in India as per Miti Aag (< 1700 mpd)

2) Higher drought conditions due to global warming  
eg Maharashtra Waharabeta failure

3) Insufficient modes of irrigation

used in India  
↳ dominance of groundwater  
as per (Agri census)





- 4) Lack of crop diversification  
↳ 28% of land arable used for rice cultivation → low water efficiency [Agri Census]

- 5) Land productivity already maximised  
↳ green revolution has ↑ fertiliser use from 70kg per hectare to 140kg

### Challenges to making of shift to water productivity

- Change in food habits → riceal centric demand which is water guzzling
- 2) Reverse incentives → eg) MSP ~~on~~ unlimited procurement for rice and wheat.
- 3) Electricity subsidies → lead to high groundwater pumping for agricultural usage
- 4) Lack of capital with farmers to invest in micro irrigation



↳ 5) High export centricity → India  
is #1 exporter of rice → water  
export

Way forward and measures  
taken

→ 1) existing crops → System of Rice  
intensification for ↑ water  
irrigation productivity

→ 2) Funding → Micro Irrigation  
Fund of ₹ 5,000 cr

→ 3) Apurva of Dr. Anna →  
International Year of pellets  
which consume 70% less water  
than rice

→ 4) International cooperation  
eg A1 based fertilization from  
Israel

→ 5) Crop rotation extension for  
better soil

→ 6) Zero tillage for reduce evapo  
transpiration

Thus, need for judicious use of  
Scarce water resource



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)

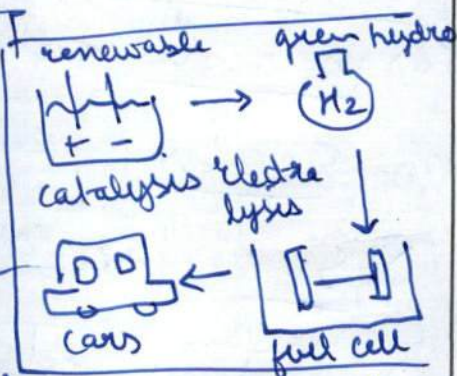
Examine the role that green hydrogen can play in unlocking the energy security of India. How can the National Green Hydrogen Mission help India in achieving its energy goals? (Answer in 250 words)

15

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

Green Hydrogen refers to use of renewable energy to catalyse water (electrolysis) and produce Hydrogen as fuel

Role of green hydrogen in unlocking energy security



- 1) Replacement of petroleum and gas in long distance vehicles like
  - ↳ 80% of oil and 40% of gas import
- 2) Reduced need for renewable storage → (battery) → can be used to create H<sub>2</sub> and stored
- 3) Hydrogen has higher energy density per unit of weight
  - ↳ increase efficiency.
- 4) Cleaner fuel → achieve phase down of coal-



↳ 5) Reduce need for import of Solar panels → 80% imported from China

Role of National Green Hydrogen Mission to achieve energy goals

India's energy goals

- ) 1000 GW total capacity by 2030
- ) 500 GW renewable
- ) 50% from renewable sources
- ) Reduces oil import by 100%

Role of Green Hydrogen Mission 2023

→ 1) Finance availability → 19740 cr allocated to mission

→ 2) Capacity creation → 5 MM T of green hydrogen by 2030

→ 3) Electrolysing capacity of 100-125 GW target to be achieved by subsidies for sustainability of the mission



→ 4) Creation of skilled workforce for long term growth → 10 mn jobs to be created

→ 5) Demand generation → as to be needed subsidy for steel, shipping, trucking

→ 6) Industry grooming (under LEAD 17)

### Challenges

high cost of green hydrogen (\$5/kg vs \$1 for grey hydrogen)

fuel cells used platinum which is rare

unsafe storage (inflammable)

### Way forward

long term vision

PPP for growth

Technology transfer (eg ICIET with USA)

Reliance investing

National Green Hydrogen Mission has potential to propel India to first green superpower of world.



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)

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

15

The government is approaching a maximalist approach of upgrading from minimum wages.

Minimum wage → bare minimum for food, shelter

Living wage → to achieve full opportunity of education expenses also

As per Article 43 of constitution there is need for living wage administration

Benefits of living wage

→ 1) will increase formalisation of economy as higher wage payments



→ 2) Beneficial to gig and platform economy without social security

→ 3) Rise in capability levels through higher spend on nutrition

→ 4) Increase GDP growth through demand boost of wages

### Constraints

→ Fiscal challenge → fiscal deficit at 6.4% of GDP (2023)

→ 2) Against labour reforms  
↳ rise in cost of doing business

→ 3) Reduce labour competitiveness with China countries like Vietnam

→ 4) May rise unemployment due to unaffordable wages by

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



- ↳ 5) May impose high cost on MNREGA budget  $\rightarrow$  lower utilisation  $\rightarrow$  as minimum wages not paid on MNREGA

### Way forward

- $\rightarrow$  1) Prioritise national implement of minimum wages (eg Building workers)
- $\rightarrow$  2) Effect reduction in contractualisation of workforce for effective implementation
- $\rightarrow$  3) Explore Universal Basic Income instead (eg) Economic Survey 2018 suggestion
- $\rightarrow$  4) Higher government spend on social infra like health to reduce cost of living



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)

15

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

Union Budget or Annual Financial Statement (Article 112) of constitution is a pervasive element for planning and resource allocation in economy. This requires transparency & accountability.

Union budget 2023 → touching every sector

→ overall economy target of 6-7% growth

→ 1.12 lakh cr for education

→ 2.4 lakh crore for railways

Health → 7200 cr for PMJAY etc

Public Scrutiny of Budget

(A) Achievements

(1) Budgetary processes

→ 1) creation of Outcome budget enhanced scrutiny by people



→ 2) Panchayat Plans → Bottom up  
process of budgeting → creates

→ 3) Public scrutiny led to new  
practices like Balikhata,  
merger of rural budget

### (i) Budgetary Policies

→ 1) Debate on MNREGA reduction  
to 60,000 cr (30% ↓) → policy  
decision

→ 2) Taxation policy feedback  
↳ led to creation of simpler  
lab rates

→ 3) CAG performance audits the  
implementation

### Limitations to public scrutiny

(Insufficiency)

#### (A) Budgetary process

→ 1) Lack of data backed decisions  
↳ not shared publicly

→ 2) Use of off budget borrowings  
to escape scrutiny on Deficit



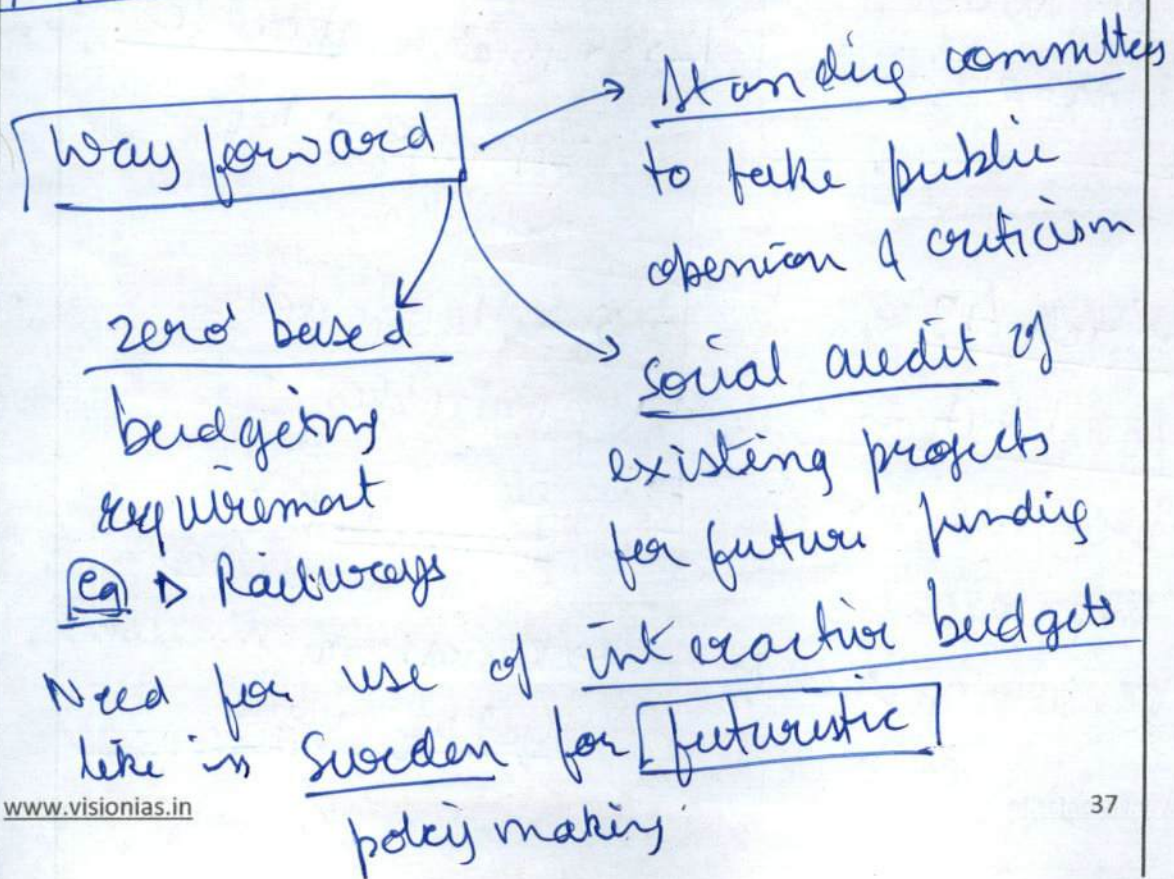
L3) Limited reasoning revealed for  
new schemes or removal of old

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

(B) Budgetary policies

- 1) Storkiness of health & education funding
- 2) Gender based budget has stagnated at 5% despite pressure.
- 3) Role of media eroding due to corporatisation

Therefore, while scrutiny exists in media and public need for further participative budgeting process





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

15

White Revolution under

Leadership of Dr. Verghese Kurien

helped to create India as #1 milk producer in world from scarcity in 1960s.

Factors for improvement of milk production

→ 1) Cooperative movement eg AMUL in Anand

→ 2) Higher storage capacity → refrigerator vehicles

→ 3) better fodder available

→ 4) Fonasee for cow purchase  
↳ Randhawa mission, Gokul mission

Article 48 of constitution provides for improving variety of breed of cows.



## Productivity of dairy animals as concern

- 1) As per Livestock census, the productivity of Indigenous breeds is 30% lower than hybrid  
↳ ↓ in indigenous headcount
- 2) Inadequate micro nutrition and fodder supplements
- 3) Younger calving period leads to premature milking
- 4) Use of antibiotics reduces milk quality

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

## Challenges of dairy animal productivity rise

- 1) Poor diet → fodder scarcity  
(100% inflation in 2023)
- 2) Marginal dairy holding  
(only 1-2 cows per farmer) → ↓ speciality
- 3) Lower yield of indigenous cows  
(By Sahiwal vs Jersey cows)



## Way forward

1) Biotechnology: usage → Artificial insemination for better yield variety

2) Selective breeding technologies for preservation of high yield species

Eg) Indigow chip

3) Integrated farming → use of stalk for feed → NPV

4) Veterinary training infrastructure  
↳ lack of specialised vets

5) Reduce stray cattle problem by creating Goshalas in every district

6) Use of scientific behavioural methods  
↳ soothing cows

Dairy contributes 25% of farm income, need for growth to achieve 2x farmer income (Dalwai Committee)



16.

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

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

15

Agriculture is both a cause and impacted party of global warming and climate extreme weather events

Role of climate change in crop failures

→ 1) Failure of pre-monsoon rains  
↳ causes failure of cotton crop  
in Bihar → suicides

→ 2) Rising incidents of droughts  
↳ impact on livestock as well  
as higher crop failure

→ 3) Heat waves are inducing  
early maturity of crops and  
give lower yield (smaller grains)

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



→ 4) Problem of plenty → intensely  
heavy rain spillage of crops  
eg Onion feature in Maharashtra

→ 5) Locust attacks and higher  
invasive species due to warmere  
climate eg 2020 locust attack

Agriculture as cause of global  
warming

→ 1) Methane release → 26.7% rise  
in methane, most important  
contribution is livestock, rice

→ 2) [17%] of total carbon release  
and global warming  
↳ land use change

→ 3) clearance of forests for  
agricultural requirements  
eg slash & burn Amazon

→ 4) reduce Carbon sequestration of  
soil through filling



## Strategy under Agri disaster Management Plan

उम्मीदवारों को इस भाग में नहीं लिखना चाहिए  
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- 1) Setup of National Adaptation Fund under NABARD  
↳ finance change to resilient cropping
- 2) Research orientation CRAP for climate resilient crops  
eg) Bahadur flood resistant crop
- 3) Shift to hardy crops such as millets (only 10% area under millet cultivation)
- 4) Traditional agricultural systems knowledge eg) Koraput
- 5) Reduce climate attribution to agriculture by system of rice ~~with~~ intensification → Imethane



17.

दिल्ली सहित भारत के कुछ क्षेत्र हिमालय में आने वाले भूकंपों के प्रभाव के प्रति अत्यधिक संवेदनशील हैं। विवेचना कीजिए। भारत में भूकंप से होने वाली हानि को कम करने के लिए कौन-से संस्थागत उपाय किए गए हैं? क्या आपको लगता है कि कुछ उल्लेखनीय कमियां अभी भी मौजूद हैं? (उत्तर 250 शब्दों में दीजिए)

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

उम्मीदवारों को इस खंड में नही लिखना चाहिए  
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15

while 39% of India is in Zone 3 of earthquake prone, 11% is in Zone 5 of most vulnerable  
→ Delhi lies in Zone 4

Reasons for high vulnerability

→ 1) Seismically active

Himalayan folding

↳ rising by 5cm/yr continuously

→ 2) Alluvial soil (Ganga Yamuna Basin) leads to low soil strength → higher impact of seismic activity

→ 3) Multiple swarms of tremors witnessed in Delhi & adjoining areas





→ 4) Recent events of earthquake in Himalayas eg Nepal earthquake 2015

उम्मीदवारों को इस बॉक्स में नहीं लिखना चाहिए  
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→ 5) High population density in North India eg 11,000 people/sqkm in Delhi → higher vulnerability

→ 6) Vulnerability of other regions (apart from Delhi)

↳ North East → unstable Eastern

↳ Terai region of UP & Bihar -

↳ Uttarakhand & Himachal Pradesh as they are lower sedimentary prone to

Institutional measures to mitigate earthquake losses

→ 1) NDMA, 2005 after Shing and Tsunami

→ "Golden hour" response by NDRF

↳ Zonation based development  
↳ no development zone in vulnerable areas

→ Prepare  
Rehab Sendai  
ketan 2015  
← Respond

Sendai 2015



- 3) Building code [893] → used for earthquake resistant buildings
- 4) Reinforcement policy → for strengthening existing infrastructure
- 5) ERA for construction of mega dams → mitigate earthquake

### Gaps in the earthquake preparedness

- 1) Poor on ground building norms
  - ↳ LAG flagged excess use of sand
- 2) High density dwellings in cities in Himalayas
- 3) Unsustainable tourism over the carrying capacity.
- 4) Lack of NDRF witnessed in Amarkantak disaster

Way forward

- Japanese model of reinforcement
- Planning focus decentralise

Earthquake is hazard, we can prevent from becoming risk



18.

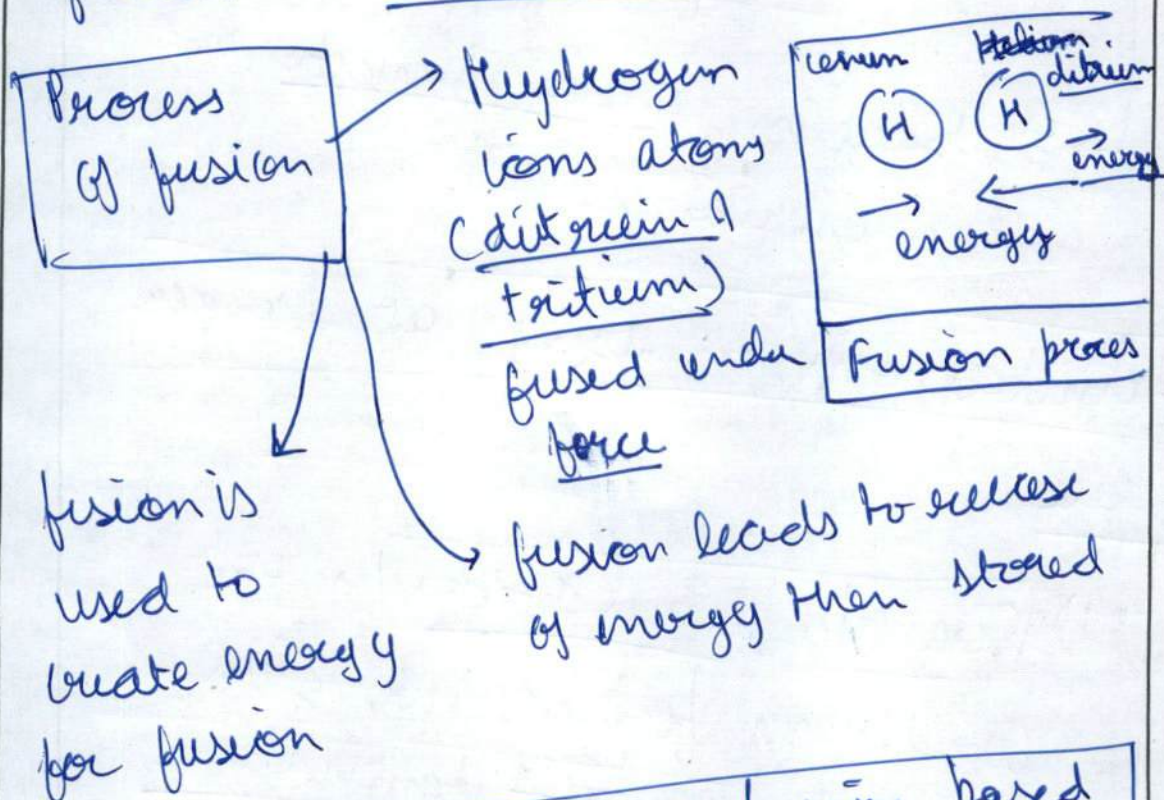
हाल ही में, वैज्ञानिकों ने परमाणु संलयन अभिक्रिया में निवल ऊर्जा लाभ की घोषणा की है, जिसे स्वच्छ ऊर्जा के भविष्य के लिए एक बड़ी वैज्ञानिक सफलता माना गया है। परमाणु संलयन आधारित विद्युत उत्पादन के क्या लाभ हैं? व्यावसायिक स्तर पर विद्युत उत्पन्न करने के लिए इसके उपयोग की क्या सीमाएं हैं? (उत्तर 250 शब्दों में दीजिए)

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

उम्मीदवारों को इस हदिए में नहीं लिखना चाहिए  
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15

Fusion energy positive gain refers to net out put when compared to smaller input for inducing fusion in Tokamak reactors.



Advantage of nuclear fusion based power generation

1) No residue → reduces the wastage of gamma radiation based nuclear fission



→ 2) More efficient ⇒ release of more energy per unit of atomic mass

→ 3) Safer than fission since fissile material is radioactive

→ 4) Green energy as it is carbon neutral → climate change friendly

→ 5) Usage in mega projects and industrial usage

### Limitations to using at larger Scale

→ 1) Scientific limitations → the conditions for positive gain are extreme ~~cold~~ <sup>hot</sup> temperature  
↳ not possible at scale

→ 2) High upfront cost of building  
↳ not scale adaptable



→ 3) Challenges of safety of usage  
↳ will be difficult to control  
and store in

→ 4) Challenges of usage at will  
↳ high energy requirement for  
generating energy

→ 5) Divide of haves and have nots  
↳ only NSG countries have  
access

Way forward

industry academia  
link -

Use of  
Space technology  
for conducting  
experiments

International  
Collaboration  
(ITER)

India's role in  
theoretical basis  
generation

It is a small step towards a  
pathbreaking innovation.



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 वार्ड में नहीं लिखना चाहिए  
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PMLA, 2002 has been amended to give more powers to the enforcement Directorate in investigation and scrutiny of money laundering  
 ↳ As per NICFE, 25% of GDP is black money in India, 80% of transactions still in cash.

### Major amendment provisions

- 1) Tenure of ED director to be decided by Government
- 2) Under application PMLA, 2002 to open International Jurisdiction
- 3) Legal basis for self incrimination in front of ED
- 4) Covered fake and currency notes
- 5) ease asset impounding



## • efficacy of PMLA, 2002 in tackling menace

→ 1) High asset catch → ₹3000 cr of assets impounded

→ 2) High rate of conviction after the amendment → due to power of self incrimination

→ 3) Acceptance by Supreme Court of plenary powers of enforcement Directorate

→ 4) Integrated data base tracking of income tax, GST and enforcement directorate

→ 5) Reduced Terror funding @ LWE

→ 6) Successful raids against misuse of funds by NGOs  
↳ 13000 FCRA licenses cancelled



## Limitations of PMLA, 2002

→ Overall Conviction rate at only 20% against 40% in other case

→ 2) Forgetting of actors in opposition → Perception

↳ e.g. Senthil Balaji case

→ 3) Against Constitutional morality of evidence against self (Article 20)

→ 4) Failure to capture crypto based laundring → \$20bn transfers

Way forward

fast track  
courts for  
asset disposal

Coordination  
with EOU

Extradition treaties  
with UK, US  
e.g. Nirav Modi

PMLA, 2002 is effective tool for  
checking termites of corruption  
and money laundring



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

India has a 7500km long coastline in Indian Ocean Region which creates threats to India's maritime security towards SAGAR (Security & growth of all in Region)

Security Threats in Maritime Border IOR

→ 1) Piracy off the coast of Somalia

↳ impacts commercial as well as trade shipping

→ 2) Organised crime such as smuggling of gold → cause revenue loss

→ 3) Terrorist attacks → beliguerent Pakistan → 26/11 mumbai attack



#### 4) International border threats

eg Sir Creek issue between Pakistan and India border (Kutchh)

#### 5) Inursions by foreign navies

eg USA freedom of navigation

eg Italian Marines entered and killed fishermen

#### 6) Security issues to Indian economic interests

eg arrests by Sri Lankan police in Katchaiewer Islands

7) Chinese surveillance - Wang Yang  
spy ship, balloon over Andaman

#### Steps taken by Indian state

→ 1) Multilayered security

→ a) State coastal police

→ b) National coast guards

→ c) Navy



- 2) Appointment of National Maritime Coordinator → lynchpin
- 3) Australia India → Somalia piracy platform created
- 4) NAVIC satellite system for surveillance

### Further steps to be taken

- 1) Increase patrolling of in the Arabian sea
- 2) Use of geospatial resources for mapping and identification of threats
- 3) International defence exercises to be increased eg Malabar
- 4) Increase white flag fishing
- 5) Resolve border disputes

This is essential to achieve goal of India as net security provider in region under UNCLOS principles



## SPACE FOR ROUGH WORK

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