



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 करें।

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. : 0105670

अभ्यर्थी का नाम/Name of Student : Medha Anand

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

English

तारीख
Date

27-Aug-23

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

केंद्र
Centre

BHAI JOGA
DELHI

निरीक्षक के हस्ताक्षर
Invigilator's Signature

[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 मंदा 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 हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

India ranked 107/121 in Global hunger index and 16% of Indians still remain multidimensionally poor. With NFHS-5 reporting 6 million 'zero food' kids, food security becomes important.



Fig - Dimensions of food security

India's status in terms of ensuring food security.

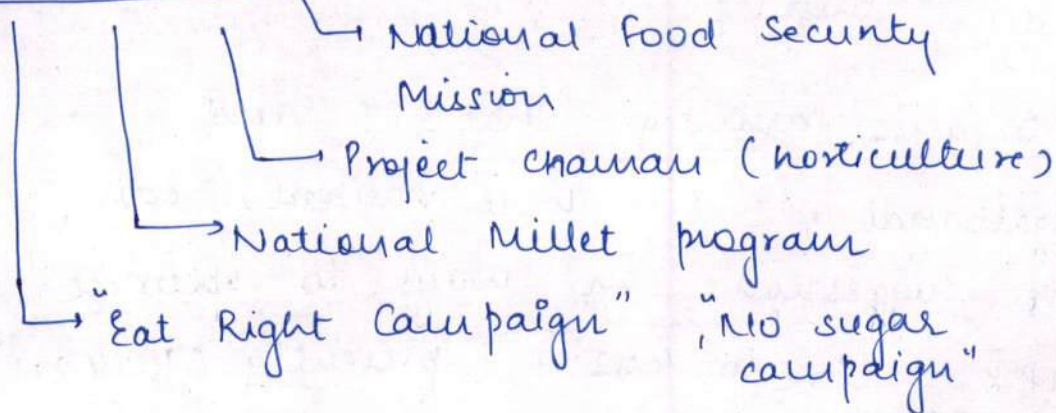
(1) Lack of nutrition - with 57% anaemic women, 37% stunted children and 38% wasted children, nutrient security remains an issue.

(2) Triple burden of disease - With obesity, undernutrition and threat of rare diseases, there remains triple challenge of food security.

(3) Poor awareness levels - Street foods rich in bad cholesterol (HDL), residues in oil, lead to rise in Non-communicable disease.

(4) Shift in dietary patterns away from traditional food like millets etc are a reason of micronutrient deficiency.

Steps for it → POSHAN ABHIYAN (one cooked meal)



Thus, to ensure a "Samsiddhi" Bharat, "Swasthya Bharat" is a prerequisite and that requires tandem of government and civil society organisations.

2.

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

10

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

Industry 4.0 have brought in opportunities to enhance agricultural production, make it climate resilient and enhance income using Blockchain and ChatGPT.

Immense potential to transform agriculture

(1) Precision agriculture - using laser levellers based on blockchain, micro irrigation systems can enhance productivity and reduce wastage.

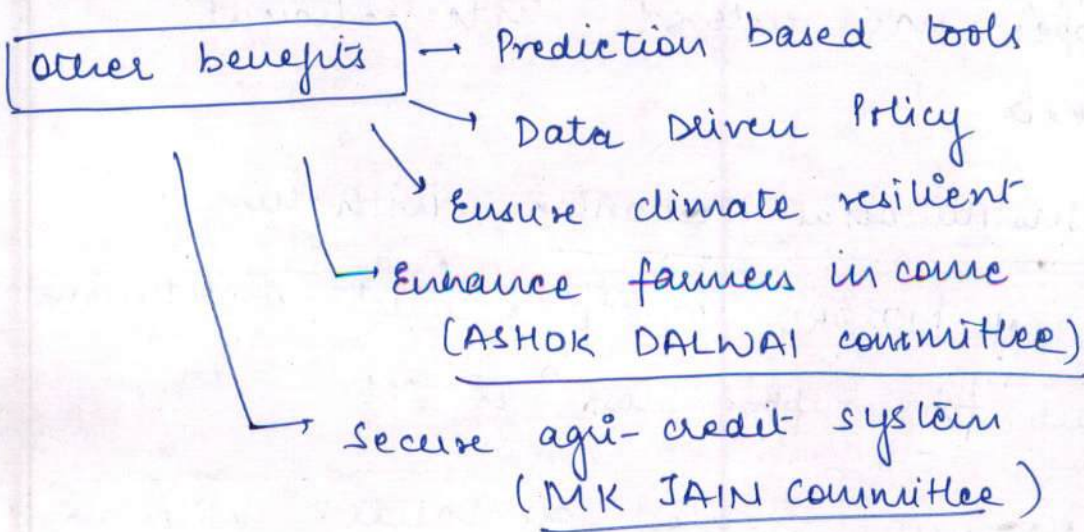
(2) Organic farming - ChatGPT and Jugalbandi GPT (its local variant) can give suggestions on ways to optimize NPK ratio to 4:2:1 (presently 64:4.2:1)

(3) Agricultural Extension - will help in enhancing Seed Replacement Ratio presently <30% by disseminating awareness via Agriⁿ and e-chaupal

(4) Price confirmation - Block chain can ensure better management of prices in APMC mandis while also showing real time price in e-NAM.

(5) TREDS platform can be secured via Blockchain and automatic Negotiable Warehouse Receipts can be given

(6) Food wastage (40-50%) can be reduced by controlling cold storage via Blockchain and also ensuring Food processing techniques via chatGPT.



Thus, modern technologies have power to revolutionise agriculture, in line with government's latest policy of "One Drone, One PACS".

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

The recent trend of enhanced trade in rupee albeit dollar have led to hopes raised of a potential de-dollarization and breaking of Indian rupee in international market as new hotshot.

Factors leading to recent acceleration

(1) Enhanced engagement - with currency swap agreements with Singapore etc, rupee has entered international markets.

(2) Institutional Mechanism - with coming up of NOSTRO, VOSTRO account, institutional setup for rupee use is set.

(3) Vacuum created by Dollar - With USA not trading with Iran, use of Rupee was a requirement

(4) Enhanced trade - With \$2.7 trillion

dollar economy, 3rd largest, Export of 770 bn USD, import of 890 bn USD, India has also shown its mettle.

(5) Strong basics - with inflation around 6.7%, CAD 2%, forex of 800 bn USD and 20% external Debt, our basics are pretty strong.

Might not replace dollar, as dollar won't lose its dominance

(1) Capital Account Convertibility not in India

(2) Shocks of External Economy create deeper ripples in Indian Economy.

(3) USA's hegemony is based on sound principles - good credit rating, investor confidence

Way forward → make our economy resilient

↳ build strong economic basics
↳ self sufficiency via Atmanirbhar Bharat.

Thus, based on Vijay Kelkar Committee Capital Account convertibility for liberalisation of Rupee should be brought in steadily.

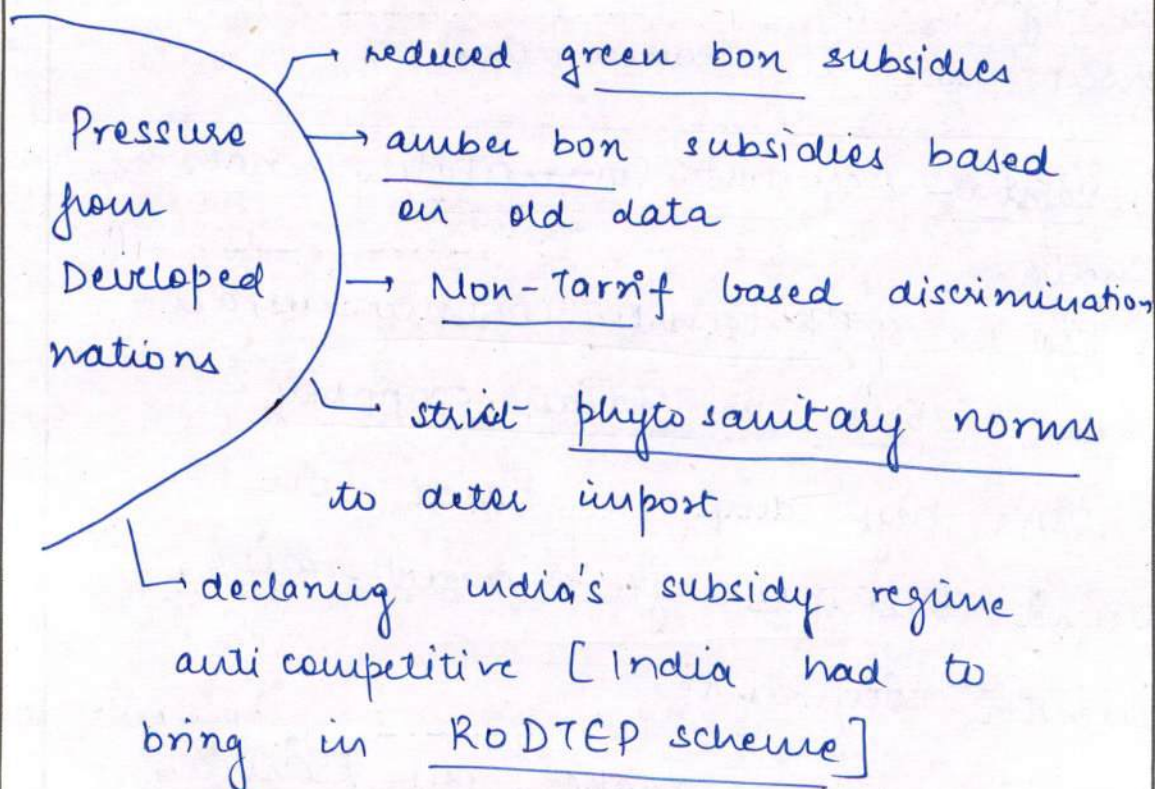
4.

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

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

10

With WTO pushing us to reduce amber subsidies and developed nations are twisting to reduce subsidies, conditions are still not ripe.



Merit in India trying to retain policy support

(1) Middle Income Trap - with per capita income of 1,15,000 India needs significant push to move out of it.

(2) Poverty and hunger : 22% poor (Tendulkar committee), 107/121 rank in hunger index, cases of "zero food", we need to subsidise our food system

उम्मीदवारों को इस कक्ष में नहीं लिखना चाहिए
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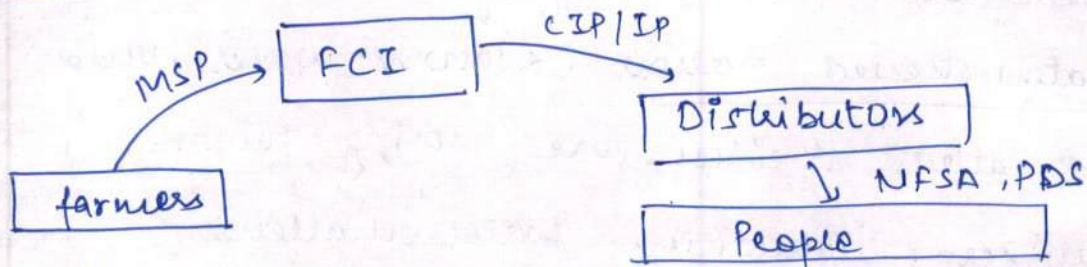


Fig - Trajectory of policy support for poor

(3) Undernourishment leading to rise in DALY's (Disability adjusted living Years) - 57%. anaemia, 37%. stunted and wasted
⇒ Need NFSA, POSHAN abhiyan

(4) To ensure food security and livelihood security (PM SVANIDHI, PM Ann Suraksha Yojana)

Way Forward

→ carry forward 'Agreement on agriculture'
→ lobby globally to retain them

Thus, to achieve our aim of becoming "Jagat Guru" we first need to feed our population and achieve SDG 1 and 2.

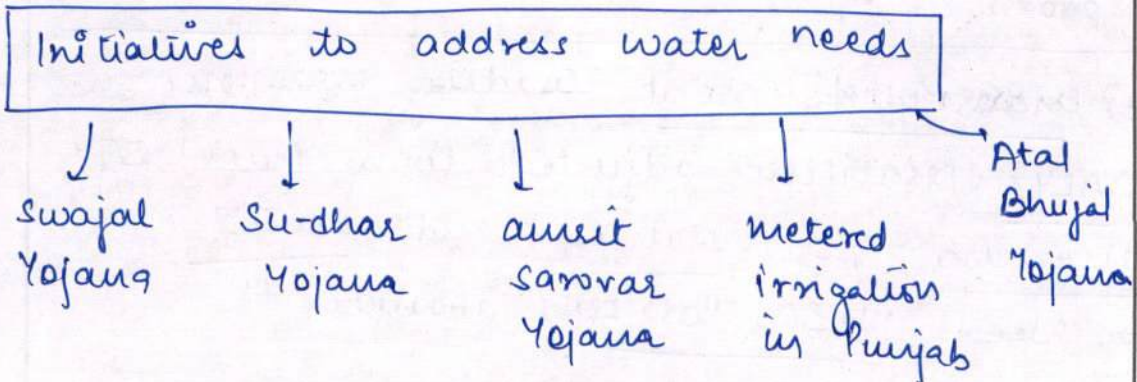
5.

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

Falkenwork index highlight us as a water stressed nation ($< 1000 \text{ m}^3 \text{ water / person}$) and at least 14 cities are moving towards Day Zero, highlighting water challenges



Issue of water availability because

(1) Regional variations - Areas like Vijaywada face droughts

(2) Climate variability - reducing rains and shifting patterns (50% agriculture is irrigation dependent)

(3) Inequality in use of water between ultra rich and poor

- (4) Day zero observed in Shimla.
- (5) Groundwater misuse - India uses 26% of
world's GW extraction
- Issue of water quality

- (1) Heavy metal contamination - Uranium
and arsenic contamination in Punjab
- (2) salt water intrusion in coastal
areas
- (3) Disposal of wastes lead to poor
water quality
- (4) Eutrophication leads to water
with fertilizers

Way Forward

- ① Mandatory Rain
water harvesting
- ↳ ② utilize best practices
from Japan and Israel
- ↳ ③ Community participation
- ↳ ④ Involvement of civil society
and Gram Panchayats

Water is the most misused natural
resource and its time we start
using it effectively in line with
WASH and SDG 12.

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 शीट में नहीं लिखना चाहिए।
 Candidates must not write on this margin

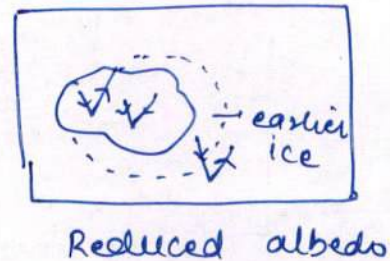
IPCC's latest report highlights that Arctic could be ice free by 2040, leading to it becoming a cause of worry.

Drivers of glacial retreat in arctic

(1) Global warming

Rise of 0.7°C is enhancing global temperatures

(2) Arctic amplification - reduced albedo enhances glacial retreat



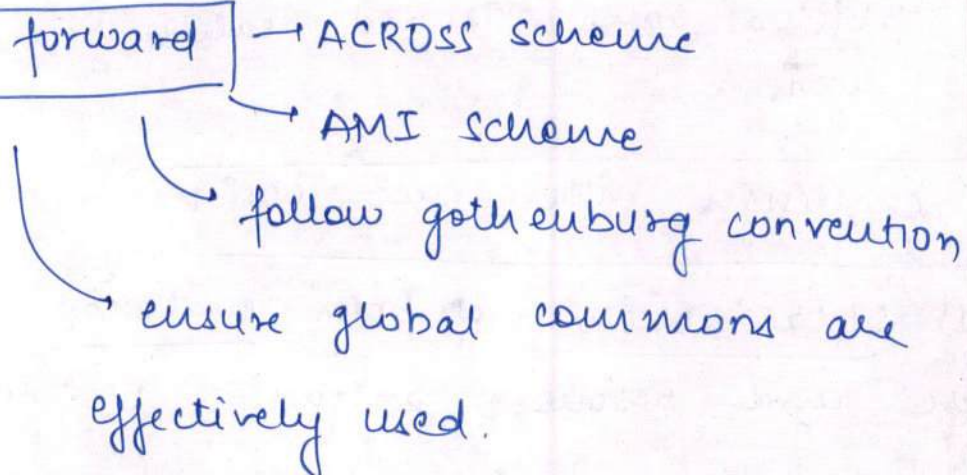
(3) Ozone hole - is further bringing in UV rays

(4) Deforestation and forest fires are leading to soot deposit on glaciers $\Rightarrow$ reduced albedo and more melting.

Potential impact of arctic glacier

- ① forms part of 9 tipping points of the world (UNEP).
- ② cryosphere has heaps of biodiversity
- ③ storehouse of pre-historic pathogens (if released might cause disease)
- ④ will lead to sea water increase (coastal soil intrusion will happen)
- ⑤ Reduced albedo will have more warming effects.

way forward



Thus, Arctic glacier ecosystem are the heart of world ecosystem and thereby need adequate protection.

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 industry constitutes a whopping 1.2 bn USD in 2022 and has become a reality with involvement of private companies like SpaceX.

Examples of Space Tourism

- └ space Tours
- └ buying property on planets
- └ adventure rides
- └ virtual and Extended Reality being used.

challenges with space Tourism

- (1) sustainability - of both material used and resource extraction to fund them. Ex- use of critical minerals
- (2) Security of travellers - International treaty on rescue of travellers is required (present for astronauts)
- (3) Space weaponization - might lead to space wars. Ex- Mission Shakti

(4) Enhanced Inequality - affordability of space tourism will remain a challenge and will widen inequality.

(5) space Debris - already 26,000 pieces are roaming in space and Kessler syndrome will only increase it further

Measures to address these

- (1) International laws on peaceful space use and rescue agreements
- (2) Test flights should be made mandatory
- (3) Fin responsibility in case of a tragedy
- (4) Artemis accord etc to be signed to ensure less space Debris.
- (5) Mangalyaan and collaboration with ISRO, INSPACE mandatory

Thus, with India successfully landing its Chandrayaan - 3, prospects of space Tourism are seeing further enhanced interest.

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)

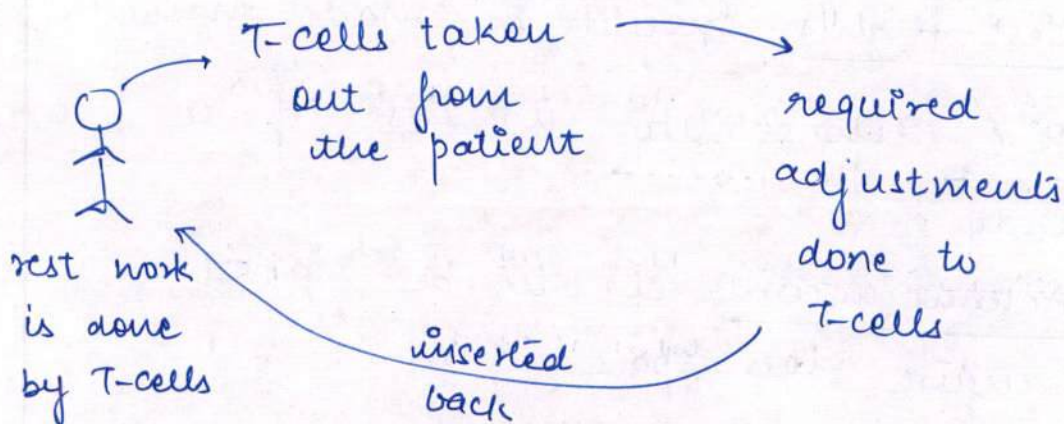
Global health experts widely believe that the development of CAR-T cell therapy can be a game changer in the treatment of cancer. How can CAR-T cell therapy overcome the limitations of CRISPR-Cas9 technology? (Answer in 150 words)

10

उम्मीदवारों को इस हाशिये में नहीं लिखना चाहिए
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chimeric Antigen T cell Therapy has recently been successfully used on a cancer patients, making it a talk of the town.

CAR-T Cells therapy

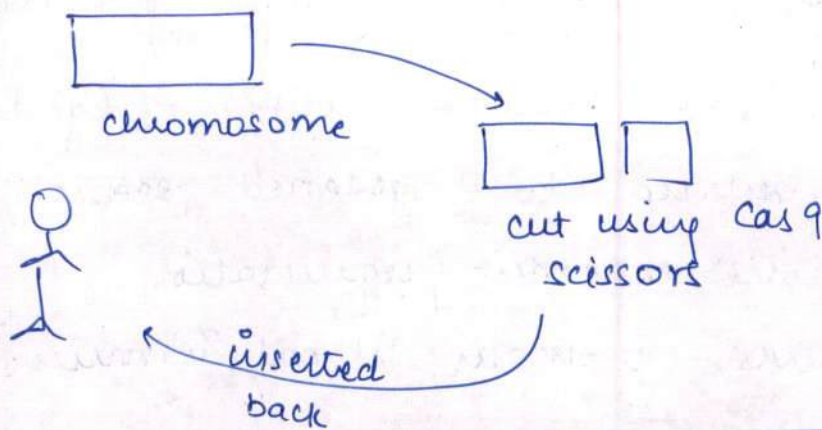


Benefits of CART Cell therapy

- ↳ use of person's own T-cells
- ↳ relatively ^{less} painful
- ↳ better than a bone marrow transplant
- ↳ showing positive results

CRISPR Cas-9

- Clustered Regularly Interspaced Short Palindromic



CAR-T cell overcoming limitations of CRISPR Cas9

↳ Targeted Delivery

- ② Ensure that body's own T-cells do the destruction
- ③ might have less negative effect on natural structures

Thus, in line with National Bio technology Mission (industry of 150 bn USD), CAR-T cell is a miraculous invention -

उम्मीदवारों को इस कॉलम में नहीं लिखना चाहिए
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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 हाशिए में नहीं लिखना चाहिए
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Technology has been a double edged sword and led to heightened security threats from extremist organization.

India ranks 10th in Global Terrorism Index

Rising technology used by extremists

- (1) Modern warfare - 3D printed artillery, drone led attacks, autonomous IEDs are new threats.
- (2) Radicalization via Internet - Operation Pigeon by Kerala govt. stopped 700 youth from joining ISIS (radicalized via internet)
- (3) Cross-border nature - Digihad being promoted online
- (4) Anonymity offered - Cryptocurrency based ransomware threats make it difficult to trace them. Ex- bully deals selling muslim women
- (5) Lone Wolf attacks - difficult to trace them

(6) New threats like sextortion, identity theft, DOS attack etc.

All these require global concerted efforts as

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इस कक्ष में
नहीं लिखना
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(1) Common Definition of what constitutes an attack

(2) Choke funding via Black listing, FATF ensuring no BEPS and shell companies.

(3) Trace cyber attacks using kill chain cyber security strategy.

(4) Technology transfer to benefit all nations

(5) concerted efforts by G20 etc to work in FATF etc.

(6) De-radicalize by enhancing development and ensure connectivity.

Thus, a National Security Policy alongwith signing of Budapest Convention and adhering to London Declaration is the need of the hour

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

Galwan and Yangste incidents had once again brought Indo-China on the verge of a war, highlighting their significance

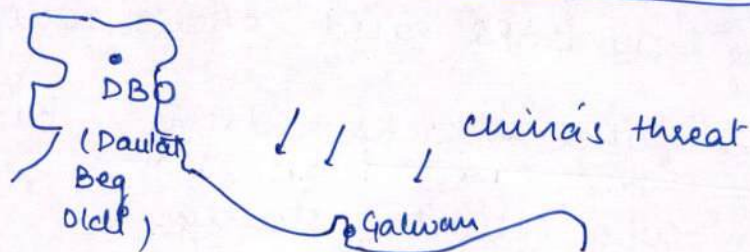


Fig - Indo China troubled regions

Ramping up of border infrastructure

- 1) Road till Daulat Beg Oldi
- 2) China's Belt and Road Infrastructure
- 3) China building heavy roads up till Bhutan's territory
- 4) high scale funding to infra on border in India (Madhav Godbole Committee)

Role of ITBT

- 1) Secure border assets
- 2) Reduce infiltration across border
- 3) Manual patrolling to catch hold of infiltrators
- 4) Border marking
- 5) Ensure no winter camps by Chinese on our side of the camp.

Reforms required

- increase funding
- make them better equipped with modern artillery
- Integrated theatre command
- build border infrastructure (Madhav Godbole committee)
- Use Shekatkar committee's recomm

Thus, to ensure good economics, good politics and security remain a pre-requisite and defence indigenism and border infra development are key to it.

11.

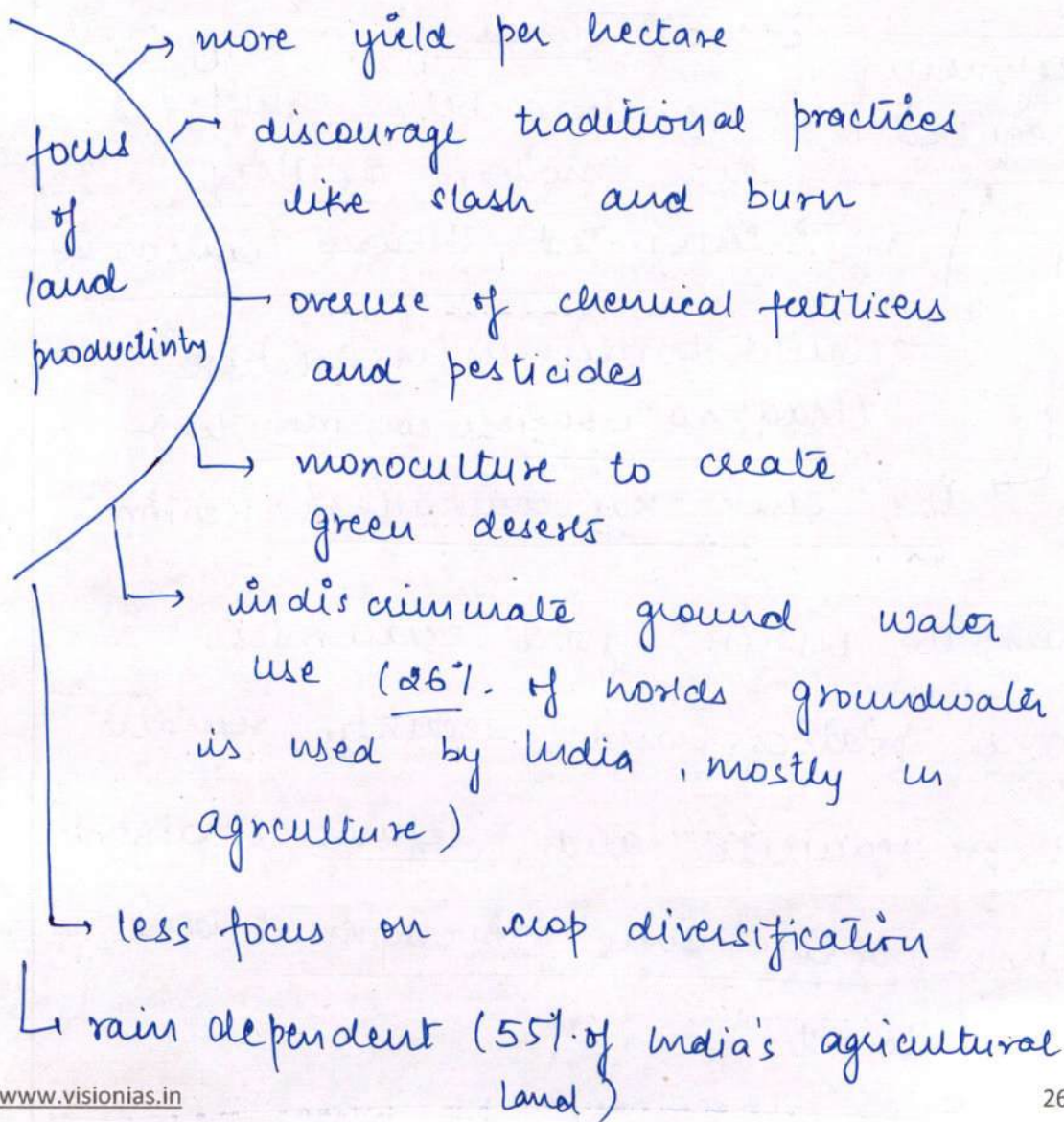
क्या आपको लगता है कि भारत को 'भूमि उत्पादकता' के सिद्धांत को छोड़कर 'सिंचाई जल उत्पादकता' के सिद्धांत को अपनाने की आवश्यकता है? अपने उत्तर का औचित्य सिद्ध कीजिए। यह बदलाव करने में कौन-सी चुनौतियां विद्यमान हैं? व्याख्या कीजिए। (उत्तर 250 शब्दों में दीजिए)

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 कॉलम में नहीं लिखना चाहिए।
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40% of India's land has undergone degradation (UNCCD) and cases of anthropogenic eutrophication have risen in a bid to enhance only 'land productivity'.



Need to shift to "irrigation water productivity"

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इस कॉलम में
नहीं लिखना
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- 1) Better resource use - use of micro drip irrigation, fertigation and precision farming.
- 2) Outcome based approach - sustainable use of inputs - water, to ensure more productivity
- 3) counter negative effects like eutrophication by targeting irrigation water with fertilisers
- 4) Government's push - per drop, more crop, PM sanchayee Yojana etc.
- 6) in line with organic farming - as irrigation can be supplemented with natural substitutes
- 7) Better productivity of water and also land ensured, and exploitation avoided. (reduced uranium and arsenic leaching into water)
- 8) Agro ecology - No wheat rice in Punjab. ↓ water guzzling crops

challenges in making this shift

- (1) Seething challenges like adoption at ground level
- (2) Will require more funds
- (3) Extension services will be required to educate farmers.
Krishi Vikas Kendras and ICARs can come to rescue
- (4) Targeted Mission objectives will be required
- (5) Wheat-rice hegemony will have to be broken.

Thus, to ensure that productivity of farmers is ensured, Mihir Shah Committee recommendations should 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)

उम्मीदवारों को इस हार्डिग में नही लिखना चाहिए
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15

With a plan to have 227 GW of installed renewable energy by 2030, National Green Hydrogen has a huge role to play

Role of Green Hydrogen

1) Better energy efficiency -

can release more energy than traditional fuels

2) Production is eco friendly as it uses water as base material

3) Waste generated is just Oxygen gas $\Rightarrow$ sustainable

4) A better option than fossil fuel (India is highly import

Goals of Green Hydrogen Mission

☐ Sustainability

☐ Employment

☐ Livelihood

☐ Energy security

dependent on coal and oil).

5) help save foren reserve by generating in-house fuel.

6) Doesnt have 'food vs fuel' debate as in Bioethanol.

7) can be used across our transportation fleet.

8) Reduce debt of Power DISCOMs by ensuring they get adequate supply.

9) Grid connection will ensure "industry to home" supply.

Challenges

→ storage

→ transportation

→ technological requirement

→ grid connectivity

→ requirement of large funds.

→ large scale changes will require quick modernisation.

National Green Hydrogen Mission helping India in achieving its energy goals

उम्मीदवारों को
इस हाशिये में
नहीं लिखना
चाहिए
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- (1) in line with Panchsheel targets to enhance renewable share (40%)
- (2) will lead to India becoming a net zero emitter by 2070
- (3) sector specific - will aid Railways in becoming Net zero by 2050
- (4) high potential - efficiency very high
- (5) lack imminent danger as in nuclear fuel.

way forward → build backward and forward linkages
→ ensure policy convergence
→ climate reparations to be utilised.

Thus, in line with SDG-7, Amrit
Kaal of Energy sector requires
max use of Green hydrogen.

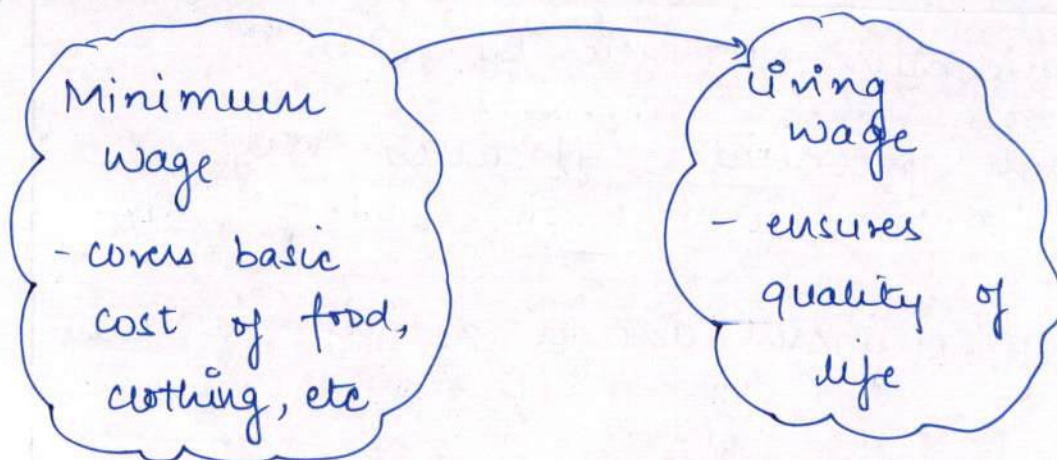
13.

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

New labour codes have deemed a shift from 'minimum wage' to 'living wage' to ensure we are in line with global standards



Benefits of shifting to living wage

- (1) Ensure quality of life by giving wages to workers → better child education, better health.
- (2) Create demand in economy - by increasing their purchasing power.

- (3) create floor level of wage - to ensure descent living to all (DPSP)
- (4) Act as social security - only 25% Indians have insurance, living wage will ensure it.
- (5) Importance enhanced due to rise of Gig economy (15 million workers, 10% contribution to GDP)
- (6) wage-growth spiral upwards by demand supply coherence.
- (7) Enhance tax collection (GST of 1.5 lakh crore) - will enhance due to more aggregate demand and supply
- (8) uplift rural economy - by heightened prices from industry and remittance from urban areas.
- (9) Ensure good macro-economic credentials by ensuring less fiscal deficit (6%), more savings (31% of GDP) and investments (30% of GDP)

Constraints in adoption of Living Wage

- (1) Limited scope with Indian govt financially to do out such incentives
- (2) Reduce companies profits $\Rightarrow$ might reduce hiring
- (3) May make our exports uncompetitive (cheap labour ensures our products are cheap)
- (4) Difficulty in fixing a price - what factors to consider, for which industry.
- (5) Rapidly changing economy and industry will require revision
- (6) Increase Fiscal Deficit.

Despite the challenges, 'living wage' as a concept will ensure 'Ease of living to workers' and achieve Gandhi's principle of Sarvodaya through Antyodaya.

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 हाशिए में नहीं लिखना चाहिए
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Budget is a method of allocating scarce resources to different sectors of economy, all wanting a lion's share in it.

Budget affecting sectors

(A) Agriculture → schemes like PM-KISAN, PM-KUSUM
→ tax and subsidies on Input

(B) Industry → tax structure and compliance
→ schemes like MUDRA, Stand up India, Start up India, PLI scheme

(C) Services → dole out benefits
→ schemes and tax incentive

Budgetary process and policy not coming under scrutiny as,

- L ① People take it on face value
- L ② less that people can do before the next election
- L ③ less political participation of people
- L ④ reduced awareness of people

Discussion topics should include

- ① off budgetary targets - While FCI has been included, why other off budgetary Revenues remain .
- ② Rationale of New Tax Structure
- ③ Reduction of Corporate income Tax from 30% to 22%.
- ④ Lack of outcome based budgeting
- ⑤ Gender Budgeting still not part of the system
- ⑥ Resource allocation - Railways got

2.5 lakh crore, but still its operating ratio is 107

⑦ Agriculture Income exemption is often misutilized.

Ex- Amitabh Bachan declaring agricultural income.

Way Forward

- ① Scrutiny Committee post budget
- ② Appropriate Discussions on Budget
- ③ Independent and strong opposition
- ④ Public should comment when bills are open for public scrutiny
- ⑤ Action Taken report on government aims

The difference in Budgetary Estimates and Revised Estimates show lack of financial marksmanship and should therefore be discussed.

15.

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

India has been able to transform itself from a milk deficit country to the world's biggest milk producer, but the productivity of dairy animals in the country remains a concern. Discuss. (Answer in 250 words)

15

India produces 230 MNT of milk annually and is the largest producer and consumer of milk globally.

India as world's biggest milk producer

(1) Effort of cooperatives

Like AMUL to ensure effective collection and distribution.

(2) Able leadership of

Vergheese Kunen to ensure lifecycle based approach

(3) Utilising lean seasons and
hyper production seasons effectively
using food processing industries
like Dairy powder, chocolates etc



▨ milk "super producers"

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए।
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(4) Indigenous breeds with higher production mated with good quality bulls from abroad.

(5) Government Policy to ensure operation White revolution.

Issues in productivity of dairy animals

(1) Unhygienic living - often Colistin is mixed with feed to keep diseases at bay

(2) Disease prone - Food and mouth disease often leads to reduced production and even death.

(3) Issues in culling - leads to non-milching animals become a burden on farmer, reduces his fiscal prowess

(4) Lack of awareness in farmers about the new diseases that hit animals.

(5) Financial costs of treating a milch animals, put farmers into debt trap.

(6) lack of veterinary services.

Way Forward

↳ (1) e-Pashu Haat

(2) Agricultural Dairy Hyge Development Fund should be utilized to treat animals

(3) FMD prevention scheme.

(4) mobile veterinary vans.

Thus, to ensure stability of farmer's agri income (25% contributed by livestock), healthy animals are a pre-requisite and part of one-health approach.

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

उम्मीदवारों को इस हशिफ में नहीं लिखना चाहिए
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1°C rise of temperature reduces 15-17% of farmers income (UNEP), highlighting the intricate relations they both share.



Fig - Link of CC with agriculture itself

climate change leading to crop failure :

- 1) Variability of climate enhanced and with 55% of net sown area dependant on irrigation, it leads to less production.

(2) Increased Pest infestation due to rising temperature and humidity.

(3) New infections being released along with invasive species which reduce crop production.

(4) Reduced productivity

(5) shifting of growth cycles

Agriculture leading to climate change

(1) Unsustainable practices like rice contributing to 30% of methane production

(2) Digestion systems of livestock also leads to enhanced emission

(3) Stubble burning directly adds to atmospheric pollution.

(4) Use of fertilizer's overuse leads to Eutrophication in lakes

Strategy under NADMP)

उम्मीदवारों को
इस हार्डिप में
नहीं लिखना
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(1) Ensure good practices

Ex - System of Rice intensification

(2) Collaborate good practices

Ex - Bivalve farming of growing oysters

(3) Converge targets

Ex - fish with rice can be grown

(4) Seeds should be drought resistant

(5) Irrigation practice shouldn't overuse
ground water

Thus, NADMP is in line with
ensuring that climate change
doesn't become agriculture led
and agri propelled.

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 हिसाब में नहीं लिखना चाहिए।
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Around 49% of India's area is Earthquake prone, with Eurasian and Indian plate faultline under Himalayas being a major source of such earthquakes.

Vulnerability to Earthquakes

—decided by which zone an area lies in
viz Zone 2, 3, 4 and 5.

These hazards often turn into disasters due to bad building practices and improper risk assessment

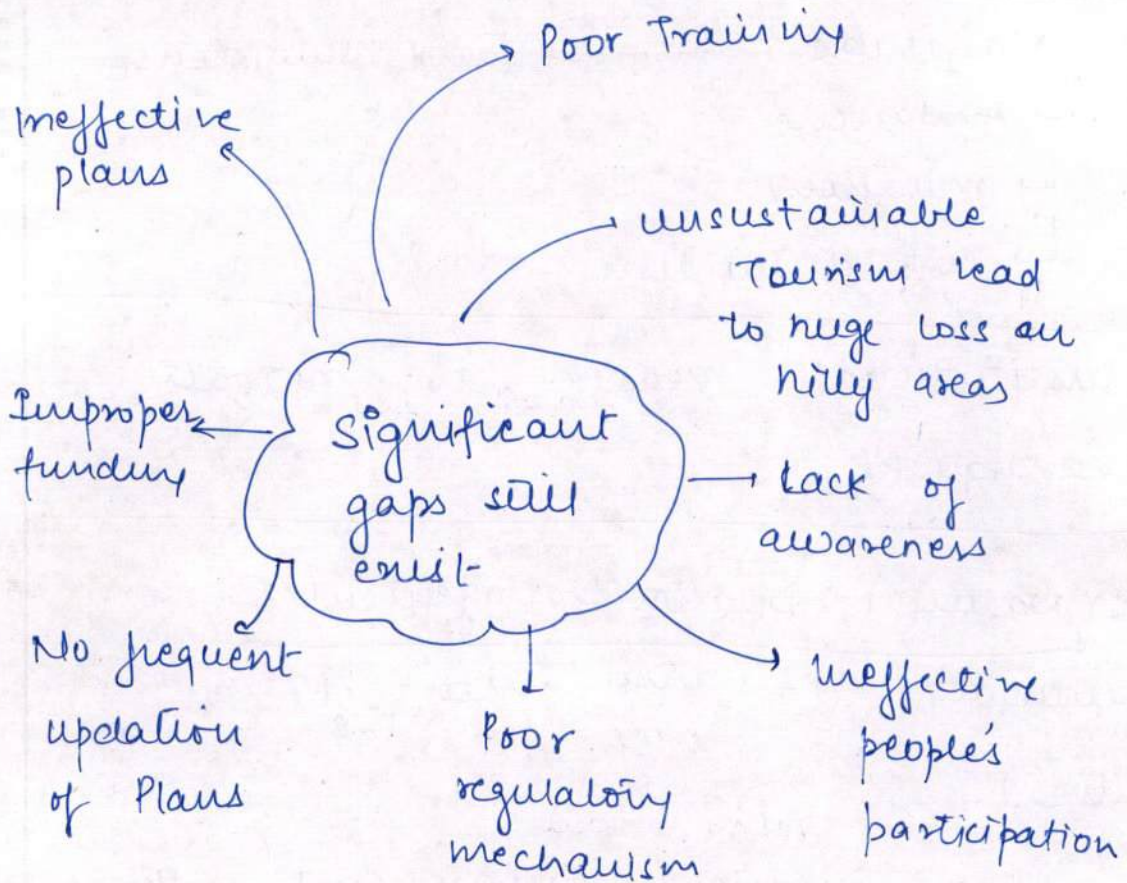


Accompanying disasters

- ↳ landslide
- ↳ land subsidence
- ↳ Avalanche
- ↳ mudflow
- ↳ crop destruction

Institutional measures to mitigate Earthquake

- (1) National Disaster Management authority constituted with PM as head.
- (2) State Disaster management authority constituted with CM as head
- (3) DDMA with DM as head
- (4) Earthquake manual and 'do's and don'ts during earthquake
- (5) Mockdrills conducted to ensure safety of people during disasters
- (6) awareness and training at school.



Thus, to ensure EQ doesn't convert into human disaster Disaster Preparedness and mitigation both are the key

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)

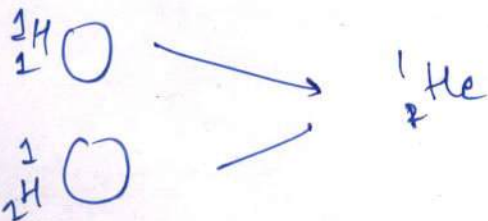
Recently, scientists announced net energy gain in nuclear fusion reaction, which is considered as a major scientific breakthrough for the future of clean energy. What are the advantages of nuclear fusion based power generation? What are the limitations in using it to generate electricity at a commercial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

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Nuclear fusion is the technology of combining smaller nuclei into a bigger one and utilizing the released energy.

Recent breakthrough of Net Energy gain in nuclear fusion reaction has led to sustainability and cost efficiency becoming a part of Nuclear fusion technology and is considered a Eureka moment for science.

Nuclear fusion



Advantages of Nuclear fusion

- (1) Better cost efficiency
- (2) stability in delivery of energy
- (3) Non-polluting source of energy
- (4) Ensure "good energy" and "green energy" generation
- (5) Brings enormous source of livelihood and employment generation
- (6) has ripple effect in field of technology
- (7) Reduce import dependence on coal and oil.
- (8) Better of fiscal variables of Indian economy.

Limitations

- 1) Integration with grid will become a challenge.
- 2) Storage and transportation cost will be a challenge
- 3) Reliability might become a point of contention
- 4) Import dependence on raw material
- 5) Poor performance due to lack of effective waste disposal
- 6) High cost of setup
- 7) requires funds and technology

Despite the challenges, it has huge scope in bringing "Energy revolution" and in tune with SDG7.

19.

हालिया संशोधन को ध्यान में रखते हुए, भारत में धन शोधन (मनी लॉन्ड्रिंग) के खतरे से निपटने में धन शोधन रोकथाम अधिनियम, 2002 की प्रभावकारिता का परीक्षण कीजिए। (उत्तर 250 शब्दों में दीजिए)

Keeping in view the recent amendment, examine the efficacy of the Prevention of Money Laundering Act, 2002, in tackling the menace of money laundering in India. (Answer in 250 words)

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Recently PMLA, 2002 was amended considering India's poor performance in Money Laundering Index.

Money Laundering : converting illegal money into white through

1. Placing
2. Layering
3. Integrating

It often forms the basis of organised crimes.

Recent PMLA(A)

- (1) Beneficiary owner - requirement of ownership reduced from 25% to 10%.
- (2) Chartered accounts etc are also included in its ambit.

(3) Enhanced power of Enforcement Directorate to seize assets.

(4) Ensure global collaboration by being in tandem with FATF principles

PMLA tackling with Money Laundering

1) Prevented a parallel economy by seizing assets.

2) ED and SFIO being used to catchhold of foren related crimes.

3) Ensure stringent penalties on those using these methods

4) Ensure cross border collaboration

5) In line with FATF rules and G-20 negotiations

6) high profile fugitives also caught

Other steps

- (1) Ensure effective KYC norms
- (2) Banks to keep a strict vigil on repetitive activities.
- (3) Proper implementation of FATF recommendation.
- (4) Guidelines on seizure of PMLA assets.

Thus money laundering leads to wastage of government's revenue and is also a source of organized crime and so it requires effective laws against it.

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)

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Indian Ocean region have been replete with security challenges and presence of choke points (Malacca) makes it important to effectively secure it.

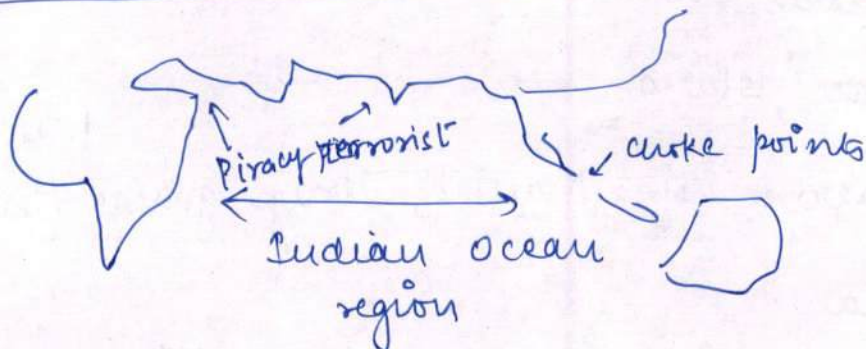


Fig: Threats in IOR

Security threats in IOR

- 1) Maritime terrorism - 26/11 Mumbai attack, terrorists entered from there
- 2) China's string of Pearls - to cover India's borders effectively
- 3) Piracy remains a threat to white shipping.

(4) Source of raw material and minerals like poly metallic nodules raise its significance.

(5) Refugee crisis - with migrants crossing over the sea and entering mainlands.

(6) Threat to A&N Islands - our strategic Islands

(7) Spillover of Marine drug gangs to India.

Strategy to deal with threats

1) International collaboration on lines with SAGAR (Security and Growth of A&N in Region)

2) Institutional measures like IMAC, IAC in place

(3) Early warning systems telling us
about any impending dangers

(4) Enhanced security by NAVY and
Indian coast Guards

(5) Effective funding and technology
transfer from developed nations

(6) Ensure strict vigilance.

Thus, IOR has become a significant
open border for India and it is
imperative upon us to secure
them effectively.

SPACE FOR ROUGH WORK