



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. 0288173

अभ्यर्थी का नाम/Name of Student: Ruclhi Singh

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

English

तारीख
Date

26/08/2023

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

केंद्र

Centre

Bhai Soga Singh
School, Delhi

Gauri
निरीक्षक के हस्ताक्षर
Invigilator's Signature

महत्वपूर्ण अनुदेश उम्मीदवारों को नीचे उल्लिखित निर्देश सावधानी से पढ़ लेने चाहिए। किसी भी निर्देश का उल्लंघन करने पर उम्मीदवारों को मिलने वाले अंकों में कटौती, उम्मीदवारी रद्द या आयोग के परवर्ती परीक्षाओं के लिए वर्जित करने इत्यादि के रूप में दण्डित किया जा सकता है।	Important Instructions Candidates should read the undermentioned instructions carefully. Violation of any of the following instructions may entail penalty in the form of deduction of marks, cancellation of candidature, debarment from further Examination of the Commission etc.
1 (क) अपना पंजीकरण सं. एवं अन्य विवरण केवल प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) में उम्मीदवार के लिए निर्धारित स्थान पर ही लिखें। (ख) इस पुस्तिका में अन्यत्र कहीं भी अपना नाम, पंजीकरण सं., मोबाइल नं., पता अथवा प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) संख्या न लिखें जिससे आपकी पहचान का खुलासा हो।	(a) Write your Registration Number and other details only in the space provided in the Question-Cum-Answer (QCA) Booklet for candidates. (b) Do not disclose your identity in any manner such as, by writing your Name, Registration number, Mobile number, Address, Question-Cum-Answer (QCA) Booklet No. etc. elsewhere in the Booklet
2 अपनी प्रश्न-सह-उत्तर पुस्तिका में कहीं भी प्रश्नों के वास्तविक उत्तर के अतिरिक्त कुछ न लिखें जैसे कि कोई कविता/दोहा, अभद्र या अपमानजनक अभिव्यक्ति इत्यादि और न ही कोई ऐसा चिन्ह/निशान बनाएं जिसका उत्तर से सम्बन्ध न हो।	Do not write in the QCA Booklet anything other than the actual answer such as couplet, obscene, abusive expression etc., nor put any sign/mark having no relevance to the answer.
3 परीक्षक को प्रत्यक्ष/अप्रत्यक्ष रूप से कोई भी प्रार्थना/धमकी भरी बातें न लिखें।	Do not make any direct/indirect appeal/threat to the examiner.
4 उत्तर अस्पष्ट अथवा गंदी लिखावट में न लिखें। इस प्रकार के उत्तर का मूल्यांकन नहीं भी किया जा सकता है।	Do not write answers in bad/illegible handwriting. Such answers may not be evaluated.
5 उत्तर स्याही में ही लिखें। उत्तर लिखने के लिए पेंसिल का उपयोग न करें, हालांकि आरेख, चित्र इत्यादि बनाने के लिए पेंसिल का उपयोग किया जा सकता है।	Write answers in ink only. Do not use pencil for writing the answers. However, pencil may be used for drawing diagrams, sketches, etc.
6 प्रवेश पत्र में उल्लेख किए गए माध्यम के अलावा अन्य किसी माध्यम में उत्तर न लिखें। अधिकृत और अनधिकृत की मिली जुली भाषा का भी उपयोग न करें।	Do not write answers in medium other than the authorized medium in the Admission Certificate. Do not use mixed language either i.e. authorize and unauthorized media together for writing answers.
7 प्रश्नों के उत्तर ठीक उसके नीचे दिए गए निर्धारित स्थान पर ही लिखें। निर्धारित स्थान के अलावा किसी अन्य स्थान पर लिखे गए उत्तर का मूल्यांकन नहीं किया जाएगा।	Write answer at the specific space (right below the question) only. Answers written elsewhere at unspecified places in the booklet shall not be evaluated.
8 यदि आप अपने किसी उत्तर को रद्द करना चाहते हैं तो उसे पेन से काट दें तथा उस पर "रद्द" लिख दें, अन्यथा उसका मूल्यांकन किया जा सकता है।	If you wish to cancel any work, draw your pen through it and write "Cancelled" across it, otherwise it may be valued.

कार्यालय के प्रयोग हेतु For Official Use	कार्यालय के प्रयोग हेतु For Official Use
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.

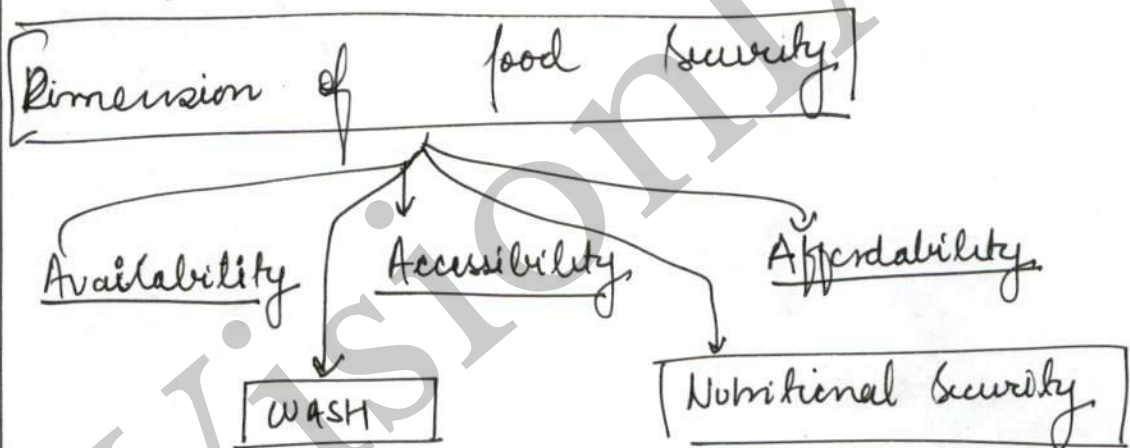
खाद्य सुरक्षा के विभिन्न आयाम क्या हैं? इन आयामों के मद्देनजर खाद्य सुरक्षा सुनिश्चित करने के संदर्भ में भारत की स्थिति का परीक्षण कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

According to UN food security implies availability, accessibility - affordability of food to all at all times to fulfil the bodily requirement of working human being.



Status

(1) Availability: India produces roughly 300 MTs of food grains which is enough to sustain yet we saw wheat, rice shortage owing to climatic vagaries eg early March heat

destroyed wheat in Punjab- Haryana belt.

Accessibility: Today 67% of Indian population covered under NFSA, further vulnerable sections like women & children covered under POSHAN & Saksham Anganwadi

Affordability: Under PDS rice, wheat, sugar pulse are available at price of less ₹ 5/kg costing govt nearly 2% of Indian GDP.

Nutritional security: Provided through scheme of Biofortification, diversification of mid day meal

WASH water sanitation & hygiene promoted in collaboration with world Bank to allow better Nutrition absorption

However → India ranks 107 (GHI)
→ Stunting & Wasting Capital of world
→ 1/4 of Indian women Anaemic
→ hidden hunger quite common

Hence, Need to promote Shree Anna, horticulture at affordable rate & accessible delivery to vulnerable to fulfill SDG-II

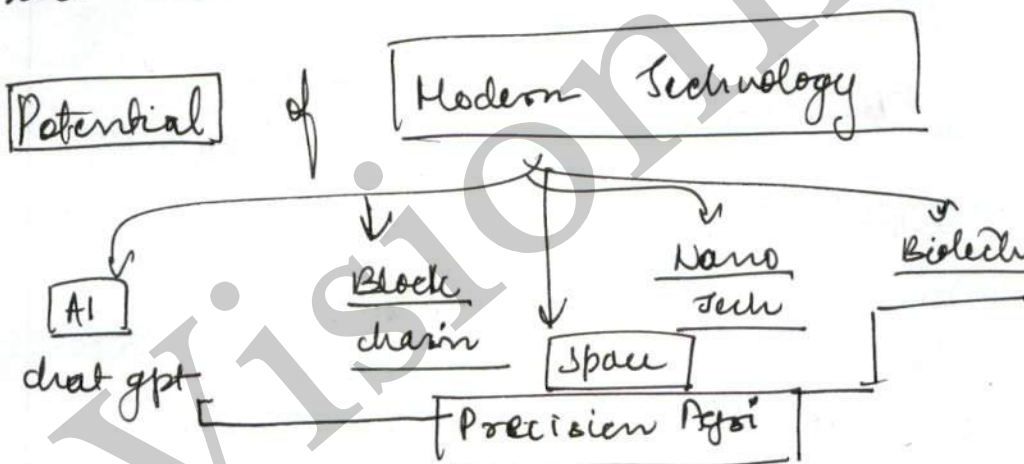
2.

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

10

उम्मीदवारों को
इस शीट पर
नहीं लिखना
चाहिए
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Indian agriculture is ~~substantive~~ ^{subsistence} & rudimentary in Nature, however with modern technological adoptions like chatGPT, blockchain through National F Agri Mission, we can revolutionize the sector



① AI technology can be leverage:

- crop advisory, predict weather Pattern, probable disease & soil
- related data
- automate the irrigation system
(Promote water use efficiency)
- IOT & AI based storage system to reduce waste
- Price prediction

② Blockchain can be used for land
recog modernisation, registering payment/
transaction at Mandi, all of it can
help in attracting Private Sector through
Contract farming [eg] Maharashtra Mahabubnagar

③ Space Technology Satellite, GIS can be used
↳ Crop monitoring, loss assessment in
fire, disaster
↳ weather based advisories

④ Nanotech
↳ Nano bots for pest control
↳ Nano Urea to cut down on fertiliser
wastage & N_2 pollution

⑤ Biotech → genetically modified crops
better gen plasma
[eg] gm mustard → yield boost
→ Disaster resilient

16 promote technology Government is doing

- ① Kishu Vigyan Kendras
- ② Attracting & Retention of Youth in Agri (ARYA)
- ③ National Agri Extension Mission
- ④ Promotion of Precision Farming
- ⑤ CHAMAN Initiative

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 कक्ष में
नहीं लिखना
चाहिए
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World is witnessing the trend of
dedollarization & rising Yuanization
due to changing geopolitics & geoeconomics

Factors leading dedollarization

① Rising power of other hard currency
like Yuan, Yen, Euro.

② Global crisis feared, which will
impact dollar, & those dependent
eg federal banks across globe buying
gold.

③ Sanctioning by USA - CATSA fear.

↳ countries choosing alternative to dollar
to counter dollar led sanction

↳ eg, India - UAE: Dubai Dirham - Rupee

2 VOSTRO - NOSTRO: Russia

④ Rising Multilateralism, regional grouping trade due to weakening of IMF & WTO

[eg] Promoting Trade in local currencies
Gordias National Trade policy calls for mentoring Rupee led settlement

⑤ Stronger & Emerging alternatives [eg]
Brics offering Contingent Reserve Agreement

⑥ Power Rivalries

India
↓
currency swap agreement with Sri Lanka

China promoting Sinicalization through "debt trap diplomacy"

If dollar will lose dominance

Not until a reliable - harder at the same time globally liquid currency emerges, Rupee could be another alternative. However, the local currency settlements could continue to pose big challenge to dollar dominated System

4.

विकसित देशों द्वारा भारत पर खाद्य सस्सिडी 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

उम्मीदवारों को
इस क्राशिए में
नहीं लिखना
चाहिए
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this margin

WTO in its another box problem
~~ask~~ has put limitation of varying
degree on developed & developing countries
to limit the production subsidies
which are trade distorting.

however, India & 977 friends
have been relentlessly opposing.
In fact, India involved peace clause at
WTO exceeding Rice subsidies

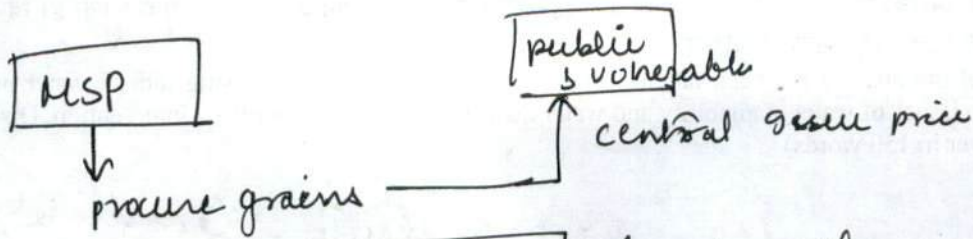
Pressure from
WTO, developed
Nation

- for pressure of retaliatory action
- entrap in WTO litigation
- Policy watch list of US.

Merit in the food subsidy regime

1) linked to food security, 75 mm

Indian population covered.



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

- ② support the vulnerable farmers who
— make 40% of India's work force
— glut in production / supply would lead to lower wage realisation

- ③ Discriminatory As the developing Nations provide Export subsidies which is not being taken up at WTO.

Impact of Export subsidy → Dumping in Indian Market

↳ WTO reluctant in acting on higher Non tariff barriers of sanitary & phytosanitary measures invoked by Nations like US.

Wayout

- ① shift to 'kisan' Scheme
② Shifting from MP led Rice-wheat to horticulture (Blue box subsidy)
③ Promote food processing to double the farmers income than shielding them from Market

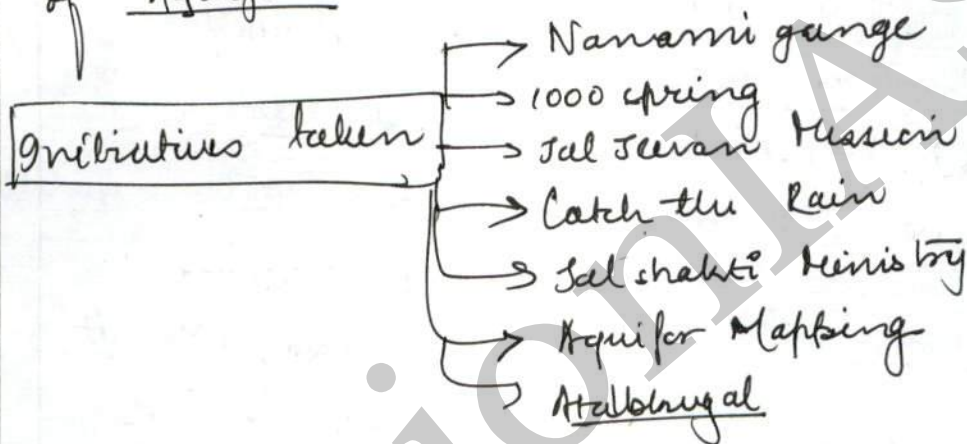
5.

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

Water is the most exploited commodity globally. In India according to Niti Agyog 70% of surface water is polluted - 12% of Aquifers are critical (CWA)



Issues regarding

① Water Availability

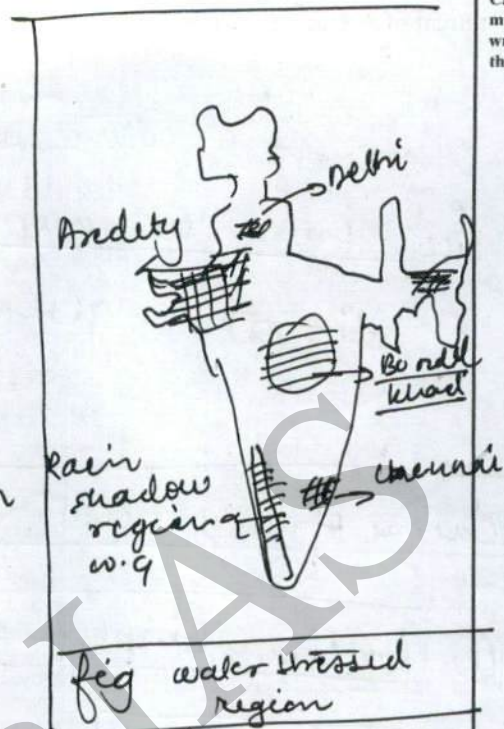
- ↳ several cities facing a water day
- ↳ 12% of aquifer critical, 4% over exploited
- ↳ salinity in Aquifer due to sea water intrusion
- ↳ 80% of Himalayan spring dried (Niti Agyog report)

↳ impacted due to rise in demand
(doubled demand)

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

Quality

- ① fluorine Contamination
[eg] Western Plain
- ② Uranium Contamination
in North west India
- ③ sludge Mixing
- ④ Heavy metal Contamination
due to fly ash dumping
- ⑤ Industry led dumping
[eg] leather belt up.



Way out

- ① need to have Multi pronged approach, have sectoral
- ② follow : one water approach
Basin led Management
- ③ promote water as exhaustible [eg. status of pollution]
- ④ promote good through Delhi, Helsinki rules.
- ⑤ Use of Blue-green infrastructure
[eg] Delhi govt
- ⑥ Pan Bhagidari led solution for water
to attain SDG → 6

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

Arctic is witnessing loss of ice & active
ice free summer due to anthropogenic
& ~~climate~~ global warming

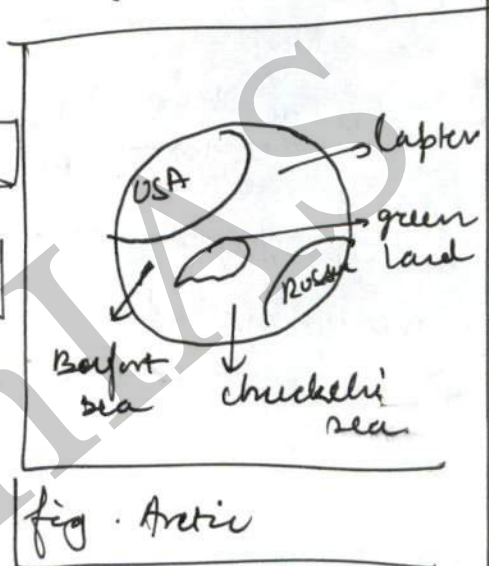
Cause of glacial retreat

① Arctic Amplification

② Melting ice
Higher heat & absorb → albedo

exposing brown ground

→ further melting ice



② Weakening of weather phenomenon

③ → weakening polar vortex
→ weakened circulation, Anti meridional overturning, impact heat redistribution
→ formation of polar stratospheric cloud

③ Climate change led: permafrost thawing

④ Anthropogenic Action: Russia in forecast

initiative using Nuclear technology
to melt ice

- ⑤ geopolitical reason: scramble for
~~of antarctic~~ Arctic by China, India
for sea route discovery leading to climate
change

Potential impact

- ① Binary opposite Atmospheric phenomenon
↓
Heat dome in America Arctic temp in Northern America due to weak polar vortex
- ② Loss of tundra biodiversity [eg] walrus polar bear
- ③ Loss of land biodiversity due to land sinking → owing to permafrost thawing
- ④ Zombie glaciers: which have lost touch with ^{to} feeding glaciers
- ⑤ Emergence of zombie voies, fossilised in glaciers
- ⑥ Sea level rise

Arctic Council should be average 2 to
deal with ^{the} same, bigger time that we
Freat / designate Arctic as global
Common

7.

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

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

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

space tourism is gaining currency with wider development of technology & curiosity of people.

[eg] Many millionaires are taking
→ the ride
→ Virgin galactic, Amazon are all leading, with Tesla leading from front

Challenges associated with space tourism

- ① ~~lack~~ lack of regulatory regime to enforce responsibility & accountability of hazard, disaster, unintended consequence.
- ② No data on possible health impact of space travel

- ③ No certification of safety standard
- ④ created haves & have not → elite
Adventure
- ⑤ lack of global consensus - Agreement
on same.

Measures ^{should} taken to address the challenge

- ① Creation of Umbrella body to
→ regulate - certify (safety) the missions
→ to regulate traffic
→ to enforce responsibility - Accountability
- ② Treaties to consider the impact on
Extra terrestrial life
- ③ Space is global common: Wise use
should be incorporated to curtail negative
Anthropogenic externality
- ④ Measures should be taken to safeguard
the tourist from the "Kessler Syndrome"

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

With the rise & gaining used
Biotechnology, CART cells have emerged
as elixir to Cancer treatment

Cart cell (Chimeric Anti Gen Receptor
Therapy)

→ Use of hybridoma using the
toxic potency of cancer cell & ^{it} ^{laced with Antigen} ^{multiplies}
→ it uses our T cells (WBC) & ^{multiplies}
it using Adeno / Cancer multiplying
cells
→ After incubation the modified T cells
is put back in body, helping
body cells to fight cancer

while Crispr CAS9 is a molecular ^{scissor} gene editing technology, which inserts foreign gene into body through SDN3 technique, to promote the intended reaction.

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

Difference b/w	CRISPR
CART cell	
① Hybridoma	⑩ Gene level exercise
② Nouse of Molecular scissor	⑪ used <u>Cas 9</u> protein CRISPR's molecular scissor.
③ No foreign gene inserted	⑫ Transgenic in Nature
④ No anti immune reaction, No HLA incompatibility	⑬ May trigger incompatibility leading to Anti immune reaction

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

Terrorist outfits & ~~orgs~~ extremists getting benefitted by the emerging technologies [eg] 80% Radicalisation through social media

Technology

→ social media

→ crypto

→ NFTs

→ deep & dark web

→ deep fake

→ space satellite communication

Abuse of Technology

① Increased pace of Radicalisation

② Anonymity in Transaction
→ Drug peddling

using deep web

③ Use of "deregulated currency like crypto"

to finance

- ④ Use of Metaverse to replicate attack
- ⑤ space technology for reconnaissance of Area.
- ⑥ Deep fake to polarise community

Coordinated effort needed

- ① Transborder collaboration of terror groups ~~to~~ requires coordinated countering
- ② UNSC declaration against Terrorism
 - 3rd NO fund for terror conference
 - FATF
 - SCO Ratz
 - Uprant church call for action

Home Minister Amit Shah held
terror outfits are moving from
transborder Metaverse &
need global collaboration to end
them

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

ITBP secures the NE frontier of Indian border siding with China (3300 km)

India Ramping up infra → Daulat beg older Road
→ Solitang tunnel
→ ~~Atat~~ Building outposts
→ setting up 5400

Role of ITBP (

① Guarding border

① keeping away infiltrants

② surveillance against

Chinese acts → salami slicing
→ village extension

③ ~~Protect any the aspects~~
Prevent any violent aggression

② collaborate with locals like
Ladkhi tribes, Arunachalese to
counter crimes malintensions

③ collaborate in Border Village
— Programone
— vibrant village programme.

④ Creating Goodwill through
local football matches etc.

⑤ collaborate with Special forces
force raised by RAW (1962)

[ITBP] played essential role in
safeguarding border, along side
have highlighted the humanitarian
fall of government & Defense to
people.

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)

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

15

India is peaking in land productivity further, the small size of land holding

25% of farmers are small land holders is limiting land productivity along side the increasing demand for water & fall in supply creates the need to shift towards - " Water productivity "

Need to shift
issues with land productivity

- ① small - marginal land holding
- ② saturation attainment of land productivity due to
 - ↳ monocropping
 - ↳ soil organic carbon loss of
 - ↳ skewed NPK ratio (8:3:1) (req: 4:2:1)
- ③ Massive reorientation & intervention needed to lift land productivity

(4) Just focusing on land productivity is silos approach, complementarity with water Needed.

उम्मीदवारों को इस संधिप ने नहीं लिखना चाहिए
Candidates must not write on this margin

Need to shift to irrigation Water Productivity

① Water imbalance hurting land productivity

Food irrigation

↓
leaching of nutrient

dryland farming reduces yield.

② to end Virtual water export [eg] Rice export to Europe

③ to promote water use efficiency (India uses 1/4 of global ground water)
↳ boost production
↳ cut the diesel cost of pumped irrigation

④ Boost productivity as it would mandate the growth of plant suited to Agri- climatic zone.

eg: Kuttanad farming vs Rice grown in Pongals.

Challenges in making the shift

- ① Policy level challenges → H&P
→ political opportunism
→ land centric policies

② Institutional challenges

- lack of thrust from ICAR, National Centre for arid research

③ Resource level

- ↳ Use of fertilizer creates virtuous cycle which further creates the demand of higher fertiliser
- ↳ quality seed (which are water efficient)
- ↳ choice of crop [eg] maize in kharif heightened water demand

④ Awareness in farmers.

- ↳ regarding the idea of water use efficiency (absence of extension-advisory service)

⑤ Infra missing → sprinklers, IoT devices

Way out

Water shed Management, PMKSY
along ~~side~~ side shift from H&P & water
subsidies (Achok Gulari) is the key to
sustainable - profitable Agri

12.

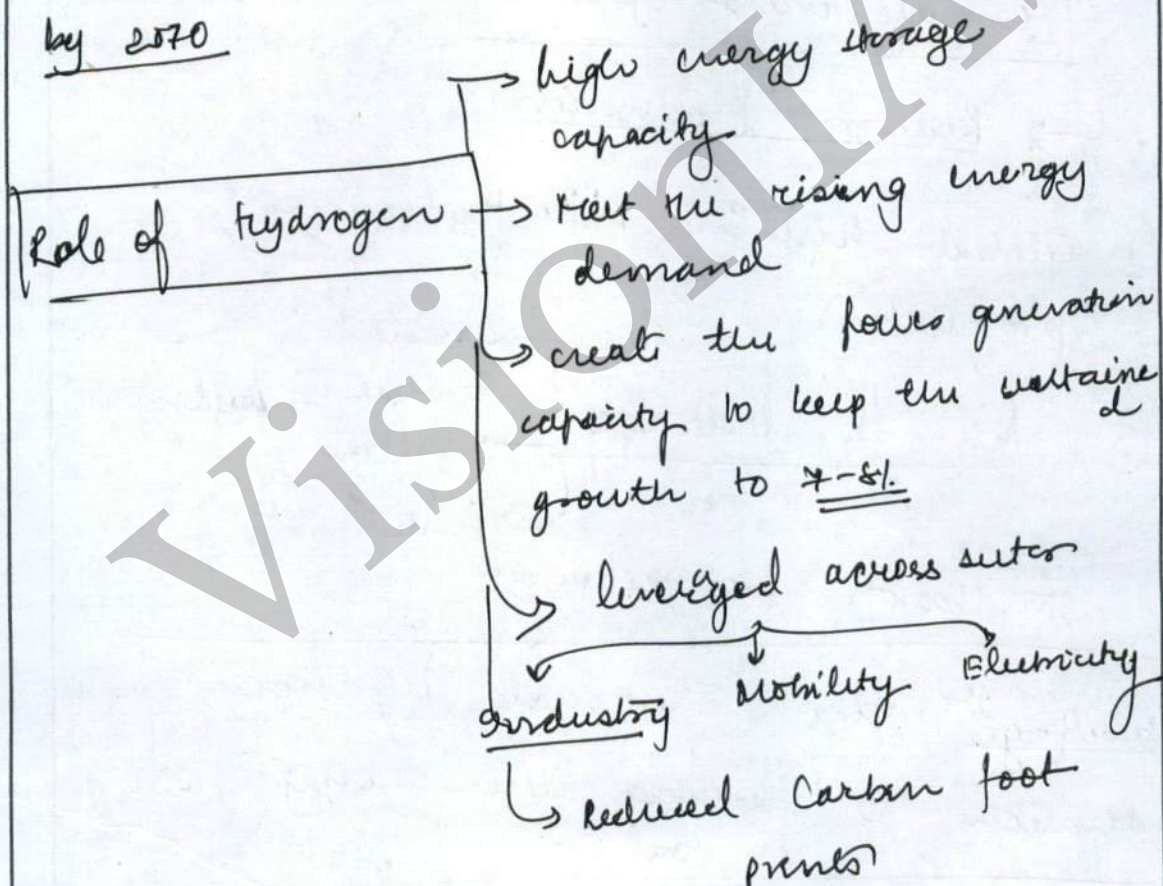
भारत की ऊर्जा सुरक्षा प्राप्त करने में हरित हाइड्रोजन की भूमिका का परीक्षण कीजिए। राष्ट्रीय हरित हाइड्रोजन मिशन, भारत की अपने ऊर्जा लक्ष्यों को प्राप्त करने में किस प्रकार मदद कर सकता है? (उत्तर 250 शब्दों में दीजिए)

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

15

Budget 2022-23 brought forth
National hydrogen Mission to boost
India's commitment to Paris Agreement
strategy to achieve Carbon Neutrality
by 2070



National hydrogen Mission

① Achieve the production capacity of 5MMT of hydrogen

② Achieve renewable energy capacity of 150 GW from hydrogen by 2030.

③ strengthen the domestic ~~hydrogen~~ Manufacturing capacity through

↳ Reactor production

④ Global hub in ~~the~~ hydrogen production

⑤ Aims to leverage → Green
→ Blue
→ Yellow
→ Pink hydrogen
to boost productivity

leverage the National hydrogen ~~usage~~ mission to ~~leverage~~ attain energy goal.

[Energy goal]

500 GW of Renewable installed capacity

2.5-3bn tonnes of sequestered carbon

↓ in Emission intensity by 45% (of GDP)

- ① ^{H₂ is} Energy dense hence improve the energy extraction capacity
- ② Clean fuel: Help in reducing the the energy emission intensity of GDP
- ③ Help in decarbonisation of sectors like Industry - Power - Mobility space
- ④ in quick achievement of 500 GW target as compared to other sources like sun - solar
- ⑤ no intermittency involved: Regular - sustainable source of Energy.

However India would have to address the following challenges.

- (1) Hydrogen is water intensive
- (2) Reactors require expensive metal like Platinum to produce electricity
- (3) limited infra capabilities
- (4) More scientific expertise needed as difficult to attain controlled combustion of 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

With 340 mn people below poverty line (HDI), policy makers contemplating the adoption of living wages to augment the income of those at the bottom of pyramid

[eg] Universal Basic Income (UBI) is one such idea

Benefits of adopting living wage

- 1) Put many (340 mn) outside of Poverty line → Reduce poverty incidence
- 2) Boost expenditure on health - food leading to greater human development
- 3) keep the people inflation insulated

- [eg] 1. Tomato ^{price} soaring high
2. Milk inflation seen in Maharashtra

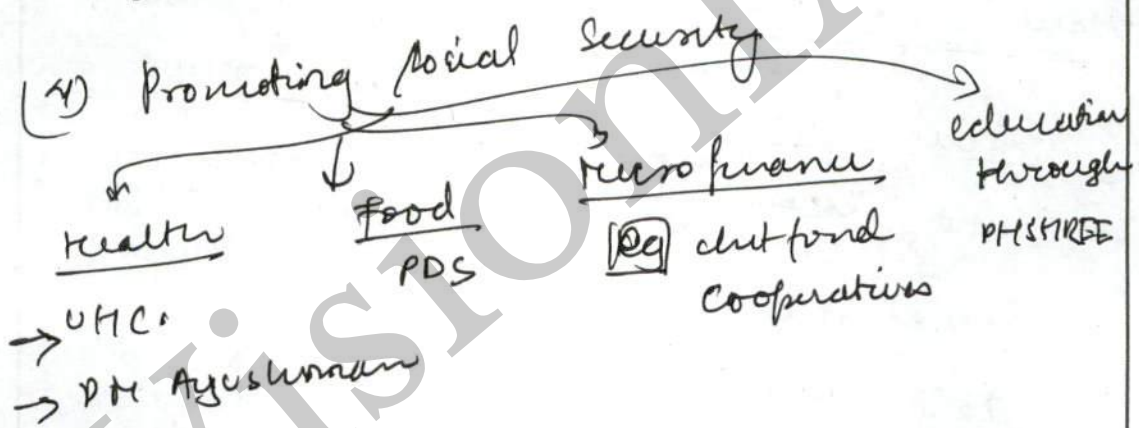
- (4) Promote Ease of living
(5) Reduce the need of creating multiplicity
of schemes like ^{POS} Pranab Anna kalyan.
(6) Agency to the people.
(7) shield people from stochastic event [eg] covid

Issues associated

- (1) Fiscal burden : High debt to GDP
ratio keeps ^{providing} ~~the~~ little fiscal scope
(2) Reluctance from state (labour
state subject)
(3) No survey data to calculate the
^{min} living wage.
(4) Issue of Moral hazard : May
direct the little surplus to
non pragmatic use [eg] liquor

Essential to balance, the 2
ideas & create a middle way.

- ① providing food coupons.
- ② indexing minimum wages
to CPI (D)
- ③ providing inflation indexed
bonds



the idea of living wage should
be promoted for financial
emancipation & inclusive develop
ment

△ Achieve welfareism mandated
in (86-51) PPSP

14.

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

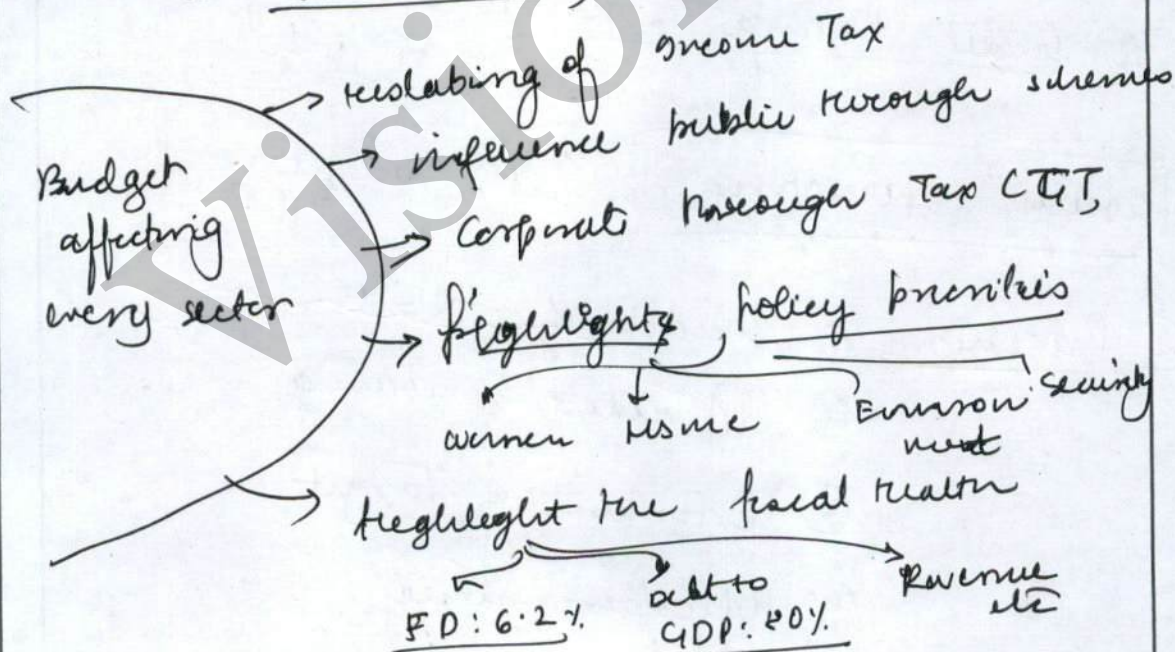
The Union Budget affects almost every sector of the Indian economy, yet neither the budgetary processes nor the budget policies come under substantial public scrutiny. Do you agree? Justify your answer. (Answer in 250 words)

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

15

Budget lays the road map for the income - expenditure side of govt & highlights the vision & priorities of the country for that financial year. [Article 112]

[eg] Budget shows our commitment to Amrit kal, Sapta Rishi Targets



Available methods of budget

Scrutiny

- ① FRBM → fiscal policy strategy
→ medium term framework
- ② outcome based budgeting / zero based budgeting

③ Committees

Public Account Committee

Estimate Committee

④ Cut motions → policy cut motion
→ token cut motions

⑤ Finance Act

⑥ Credit Rating Agency : 1. Moody
2. Fitch

Issues persisting with budget

- ① Process
 - ① Breach of FRBM
 - ② off budget borrowing
 - ③ Extension of target
 - ④ helicopter money

② at policy level

① profligate policy

② MRP

③ Unwarranted, duplicated schemes
↳ PDS ↳ Annamalyana

④ populist schemes

→ subsidies
→ production subsidy
→ product subsidy

Continuous Issues

⑤ Unregulated borrowing

⑥ issues around CESS, surcharge

How to resolve these

① we need to ~~give~~ create special debt

→ Management all

→ promote more scrutiny thorough active - constructive power to ~~PAC~~ & Estimates Committee

→ wider power to CAG to not just check expenditure, but policy of budget

→ FRBM should be viewed as "Non-negotiable"

→ Greater political commitment

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

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

15

India produces $\frac{1}{4}^{\text{th}}$ of the global milk & has the highest per capita milk availability. owing to White Revolution & Amul success story

India largest milk producer

→ owing to the largest no. of cattle

→ before 1950 India was milk deficient

→ Today world's largest milk producer

→ sourced from cow, buffalo, goat, camel

→ cooperative led growth

↳ Varghese Kurian

Reason's for low productivity

External Reason (other than cattle)

① Fooder inflation in Rajasthan, Maharashtra

led to ~~the~~ poor productivity

② Limited cattle holding : [eg] Any cattle holding size is 2.

③ Knowledge gap Most labour force involved are 'women' who lack in the scientific knowledge

④ Maximization gap : limited extension availability, ^{absence of large} Animal farms.

⑤ Motley practiced as part of integrated farming

⑥ Informalisation of dairy sector.

⑦ Lack of Refrigeration technology leading to wastage of dairy products

~~Poor~~ livestock related factors

① Poor genome ^{Quality in} ~~absence~~ of RSD (0.6% of GDP)

② Prevalence of disease [eg] Brucellosis, foot & mouth disease

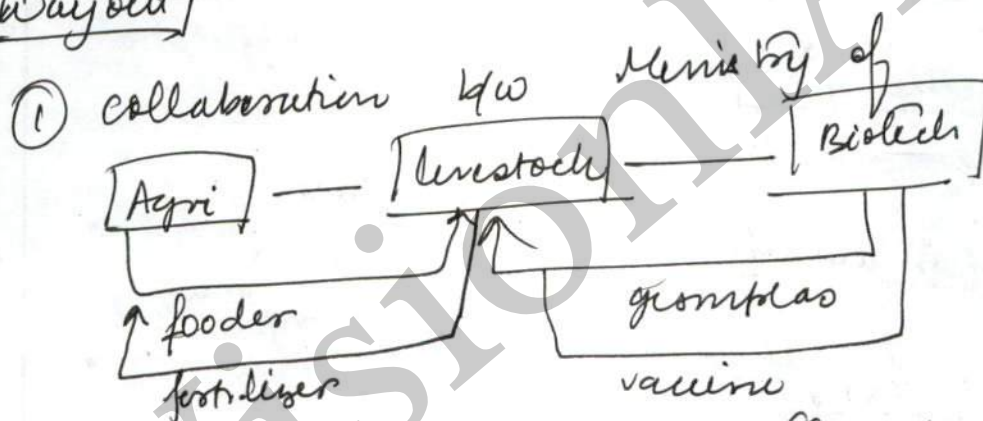
③ poor vaccination coverage

④ limited veterinary facility

⑤ climate change caused heat stress
drought affecting cattle productivity

⑥ one of harmful hormones oxytocin
leads to saturation in productivity.

Wayout



② Missions like Girdi Gaur (Gomplos Availability)
↳ Rashtriya Gokul Mission

③ National dairy development board

④ wide availability of feed / soyafed
etc needed to boost

dairy productivity, Along side
infra development & food processing
(Russian rampade)

16.

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

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

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

Agri productivity declining due to crop failure lead by climate change, while unstable use of urea, the emission is further triggering climate change.

crop impacting climate

- ① fertiliser usage → soil toxification
the emission
loss of soil organic carbon
- ② flood irrigation leads to methane emission
- ③ poor fallow Management causes desertification
- ④ Residual water export & wastewater extraction from aquifer increases acidifying [Tag] Punjab
- ⑤ Agri led deforestation loss of soil due to erosion

Extreme event impacting agri

- ① Productivity loss & low maturity of wheat destroyed in Punjab, Haryana
- ② increased aridity & dust storm
- ③ promote locust attack [eg] Rajasthan
- ④ Untimely season disturbances lead to crop loss in Rabi due to hail, storm.
- ⑤ Increase El-Nino / La Niña cause water / Rain fall variability
- ⑥ climate led disasters like land slide - fire cause yield loss & damage.

Methods adopted by National Agri disaster plan

- 1) Internet - AI led advisories for precautionous approach.
[eg] protecting livestock during heatwaves

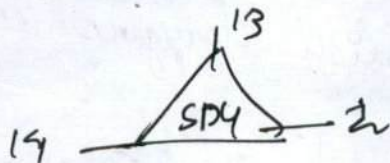
② drought - cold wave related warning
[eq] adoption of colour coded warning

③ infra support like use of geo textile
plastic mulch
idea & knowledge of
better practices

④ Promotion of 'crop insurance'
extension of PMFBY

⑤ Promoting Space - Tech based (Drone)
(Drone survey) for stock take"

Along side this need to adopt the
Principles & provision of Koronivia
Joint work on agri & follow
"one earth Approach" to Retain
food - climate security



17.

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

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

15

Regions like Delhi witnessing frequent waves of horror causing damage to lives & property

Reasons for earth quake emanating from Himalayas

① Presence of fault zones

[eg] Pandukeshwar fault

② Convergent plate boundary

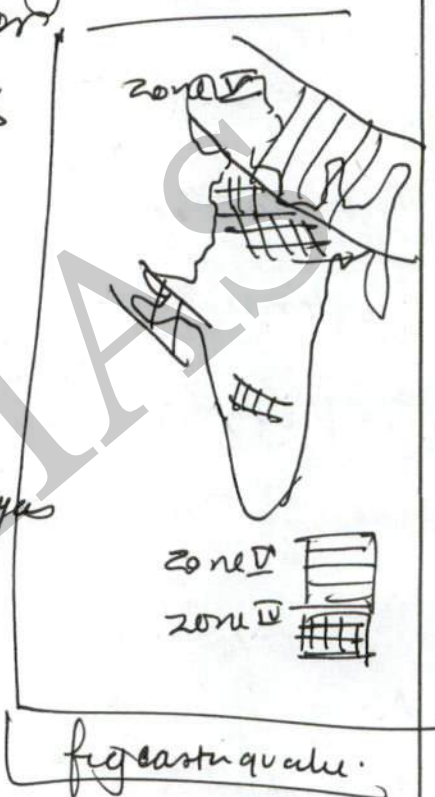
[eg] Indian & Eurasian plate

③ Geostatic adjustment

④ Himalayan landslide triggered earth quake

⑤ Hydrothermal induced seismicity

⑥ Unsustainable Urbanisation



Institutional Measures taken to mitigate

- ① BIS led standard for building
- ② Indian National Remote Sensing Centre to Monitor the susceptible region
- ③ Dam safety act 2021 to control the water pressure led seismicity
- ④ ~~CWC~~ CIWA led Aquifer Mapping
- ⑤ Structural Institution placed by

NDMA

NDMA
 ↓
 SDMA
 ↓
 DDMA

+ NDRE +
 National Executive Council
- ⑥ Smart city & Smart town to revamp urban landscape.

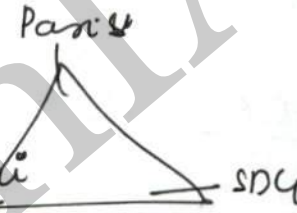
Still gap persist

- ① Unplanned urbanisation
- ② limited adoption of best practices

for structural strength of infra

- ③ on regulated tourism - traffic on mountains
- ④ construction on sensitive Himalayas
[eg] chardham project
- ⑤ limited financial capability of ULBs to make small scale desired changes.

Way out

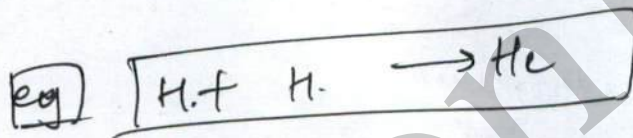
- ① For Synergy of condgi 
- ② Promote adoption of NDMA guidelines on earthquake.
- ③ Best practices of Japan's resilience
- ④ Promote local participation through PMB 10 point programme
- ⑤ Promote local capacity building through frequent drills.

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 हशिग में नही लिखना चाहिए
Candidates must not write on this margin

China recently gained success in nuclear fusion reaction which entails fusion of 2 small mass unstable nuclei into larger stable one.



Advantages of fusion

- ① High amount of ~~the~~ energy
- ② No / limited nuclear wastage
- ③ usage in sectors like space & ocean
 - ↙ Deep ocean fusion
 - ↓ deep space exploration
- ④ doesn't require chain reaction

⑤ No fear of breaching criticality

⑥ Doesn't require long gestation
period ~~to att~~

⑦ Reduce the geopolitical Contention

— around it

— End the scramble for resource
like Ur, Pt

Limitation

① R & D intensive

② Technology intensive

③ Uncontrolled Production of Energy

④ Expensive

→ difficult to
attain
economy of scale

→ require
sophisticated
technology
& expertise

The research in ITER is
no result will shape the way
in which we will adopt
Nuclear fusion technology.

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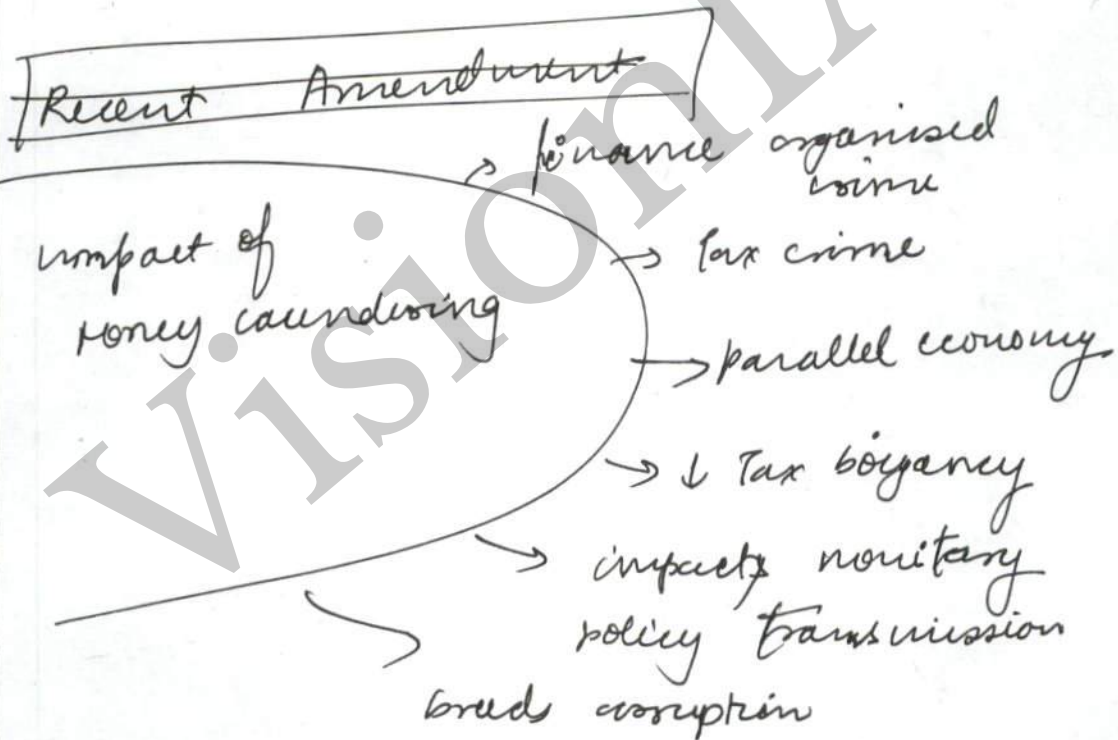
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19.

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)

उम्मीदवारों को इस मार्ग में नहीं लिखना चाहिए
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PMLA was introduced to tackle money laundering & curb the diversion of same for illicit act like terrorism



Amendments

① Power of ^{to} inspector to look into
offences
[attach assets]

② Allows registration of FIR in
case more crimes comes to fore.

③

Issues

- 1) Act remains silent on extradition
- 2) Not much effective measures to deal with fugitive offenders hiding offshore
- 3) limited Bilateral treaties for BBPS
DTAA is impacting the investigation
- 4) Presence of Tax havens & confident-
iality clause

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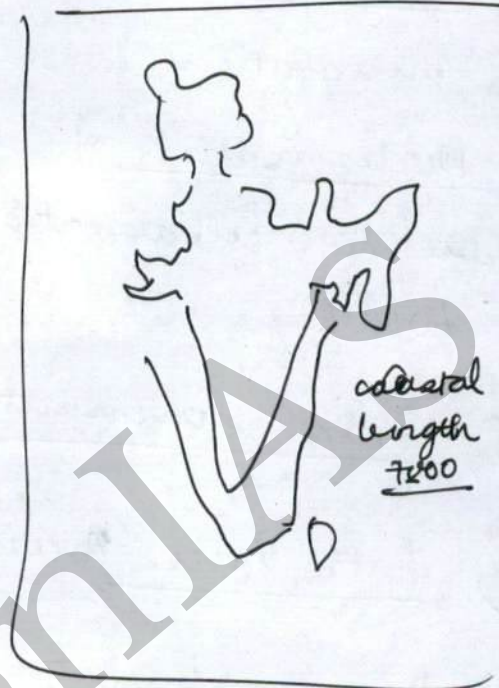
हिंद महासागर क्षेत्र (IOR) में मौजूद उन सुरक्षा खतरों पर चर्चा कीजिए, जिनका भारत के समुद्री सीमा संबंधी हितों पर सीधा असर पड़ता है। इन खतरों से निपटने के लिए एक मजबूत रणनीति सुझाइए। (उत्तर 250 शब्दों में दीजिए)

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

15

उम्मीदवारों को इस इच्छा में नहीं लिखना चाहिए
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India has 7500 km of coastline which is both source of prosperity but zone of threat



Importance of coastal region

- 96% of trade by volume
- location of critical infra ^{structures}
- for safety of local community
- Energy security

Threat present in IOR

- ① String of pearls by china through militarization of ports

② Nano trade: golden
present & golden Δ .

③ Penkey route for

④ migration

⑤ Nuclearisation of zone
due to collaboration like
AUMS.



fig Nano trade

⑥ terror movement [cg] 9/11 terrorist
attack.

⑦ Anti Area Access denied by china

⑧ Piracy threat by non state actors
emanating from Somalia

⑨ Smuggling linking Maldives -
Pakistan

⑩ illegal - unregulated unsustainable
fishing

⑪ state - fisher man conflict [cg]
Katchikoo island b/w india
& Sri Lanka

way out

- ① hargel Review Committee called for National Maritime Policy
- ② Collaborative effort of NIA, Coastguard & Navy.
- ③ Using Nuclear triad to safeguard sea
- ④ thorough Bilateral & Multilateral collaborations
 - IORA
 - IORA IONS
 - 1. Malabar exercise
 - 2. CoS PAT
- ⑤ capacity building of Maritime Neighbours
[eg] India gave Boeing Aircraft to Sri Lanka.
- ⑥ Theaterisation of Command. & integrated Command at ASN
- ⑦ White shipping Agreement with France

Through these approach India can become a blue water navy & Net security Provider

SPACE FOR ROUGH WORK

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