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सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2424)

निर्धारित समय: तीन घंटे
Time Allowed: **Three Hours**

अधिकतम अंक: 250
Maximum Marks: 250

सामान्य अनुदेश

इस प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका में 55+1 पृष्ठ हैं। प्रश्न-पत्र, क्यू.सी.ए. पुस्तिका के अंत में संलग्न है, जो अलग (वियोज्य) किया जा सकता है और उम्मीदवार परीक्षा के उपरांत अपने साथ ले जा सकते हैं।

रफ कार्य के लिए, इस पुस्तिका के अंत में खाली पृष्ठ दिया गया है।

पुस्तिका प्राप्त होने पर, कृपया यह जांच कर लें कि इस क्यू.सी.ए. पुस्तिका में कोई कमी न हो, फटा हुआ पृष्ठ न हो अथवा कोई पृष्ठ गायब न हो इत्यादि। यदि ऐसा हो, तो इसके बदले नई क्यू.सी.ए. पुस्तिका प्राप्त कर लें।

General Instructions

This Question-Cum-Answer (QCA) Booklet contains 55+1 pages. Question Paper in detachable form is available at the end of the QCA Booklet which can be taken away by the candidate after examination.

For rough work, blank page has been provided at the end of this Booklet.

On receipt of the Booklet, please check that this QCA Booklet does not have any shortcomings, torn or missing pages etc. If, so, get it replaced with a fresh QCA Booklet.

(उम्मीदवार द्वारा भरा जाएगा/To be filled by the Candidate)

पंजीकरण सं./Registration No. : 12.48985

अभ्यर्थी का नाम/Name of Student : Ashi Sharma

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

English

तारीख
Date

27.08.23

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

केंद्र
Centre
Jaipuria Institute
of Management, Noida,
Centre - 114

निरीक्षक के हस्ताक्षर
Invigilator's Signature

	<p style="text-align: center;">महत्वपूर्ण अनुदेश</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;">Important Instructions</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 गंदी 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>

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For Official Use

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परीक्षक के हस्ताक्षर
Signature of Examiner(s)

प्राप्तांक के विवरण (परीक्षक द्वारा भरा जाए)/ Marks Details (To be filled by the Examiner(s))

प्रश्न सं. Q. No.	अंक Marks		प्रश्न सं. Q. No.	अंक Marks	
1			11		
2			12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		
उप-योग (A) Subtotal (A)			उप-योग (B) Subtotal (B)		
सकल योग (A+B) / GRAND TOTAL (A+B)					



सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2424)

निर्धारित समय: तीन घंटे
Time Allowed: **Three Hours**

अधिकतम अंक: 250
Maximum Marks: **250**

प्रश्न-पत्र संबंधी विशेष अनुदेश

कृपया प्रश्नों के उत्तर देने से पूर्व निम्नलिखित प्रत्येक अनुदेश को ध्यानपूर्वक पढ़ें:

कुल बीस प्रश्न दिए गए हैं जो हिंदी और अंग्रेजी दोनों में छपे हैं।

सभी प्रश्न अनिवार्य हैं।

प्रत्येक प्रश्न/भाग के लिए नियत अंक उसके सामने दिए गए हैं।

प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए, जिसका उल्लेख आपके 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

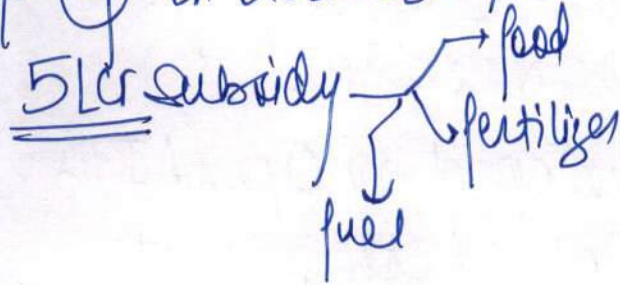
Food security is concerned with ensuring affordable, accessible and quality of food for all sans bias.

Dimensions of food security	India's status
<u>Geopolitical</u> Covid pandemic and Russia Ukraine crisis have increased food scarcity and insecurity especially in <u>developing</u> and <u>underdeveloping</u> countries.	India has ensured access to food for countries in need via its <u>GRAIN DIPLOMACY</u>
<u>Social</u> As per <u>NFHS-5</u> <u>1/3rd kids</u> in India are <u>malnourished</u> and <u>1 in 2 women</u> suffers from <u>anaemia</u> highlighting <u>social inequalities</u>	India has ensured access to food grains for all via → <u>NFS-A 2013</u> → <u>Mid day meal</u> → <u>Weekly iron & folic acid supplementation scheme</u> → <u>One nation one ration card</u>

Economic

The low central issue price and large beneficiaries have inflated subsidy bill for GOI

for @ in 2022-23 FY



India has ensured access to affordable food grains via its MSP policy

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

Food security is going to be major concern due to threats of climate change.

Thus, in order to ensure achievement of SDG-2 and improving India's

GHG index rank (107) there is a need to climate proof our food security policy.

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

Blockchain Technology (BCT) is based on a decentralised public ledger wherein each user is in control of data generated which is secure.

Chat GPT developed by OpenAI is a generative AI tool which generates text responses and is powered by GPT 3.5 language model.

Blockchain & Chat GPT can transform agriculture

1) Increasing efficiency

→ Chat GPT can be used to design robust supply chain and minimise post harvest losses

② 35% postharvest losses in perishables currently

→ Blockchain can be used for managing land records, and

enabling decentralised financial solutions for farmers

⊗ short term credit insurance policies

II) Increasing Sustainability

→ ChatGPT can help in research to discover HYV seeds which are less input intensive

→ BCT can be used to manage precision farming systems

⊗ drip irrigation.

→ ChatGPT can be used by farmers to enquire about environment friendly farming practices in real time.

ChatGPT and BCT are thus promising tools, the GoI however must ensure to cover the digital divide before its roll out. Bharatnet & PMWAN are significant in this regard.

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)

De-dollarization is a phenomenon wherein world over nation states transition away from the usage of dollars for international transactions. Presently 60% of global transactions are done via dollars

Factors which have led to trend towards de-dollarization

- Russia-Ukraine Crisis and the economic sanctions on Russia by G7
- removal of Russia from SWIFT system
- Rise of China as the 2nd largest economy with a share of 16% in global trade
- decreasing efficiency of WTO and decline in global trade
- rise in regional trade groupings
(e) RCEP (e) CPTPT

→ increasing interest rate by US Fed leading to depreciation of currencies

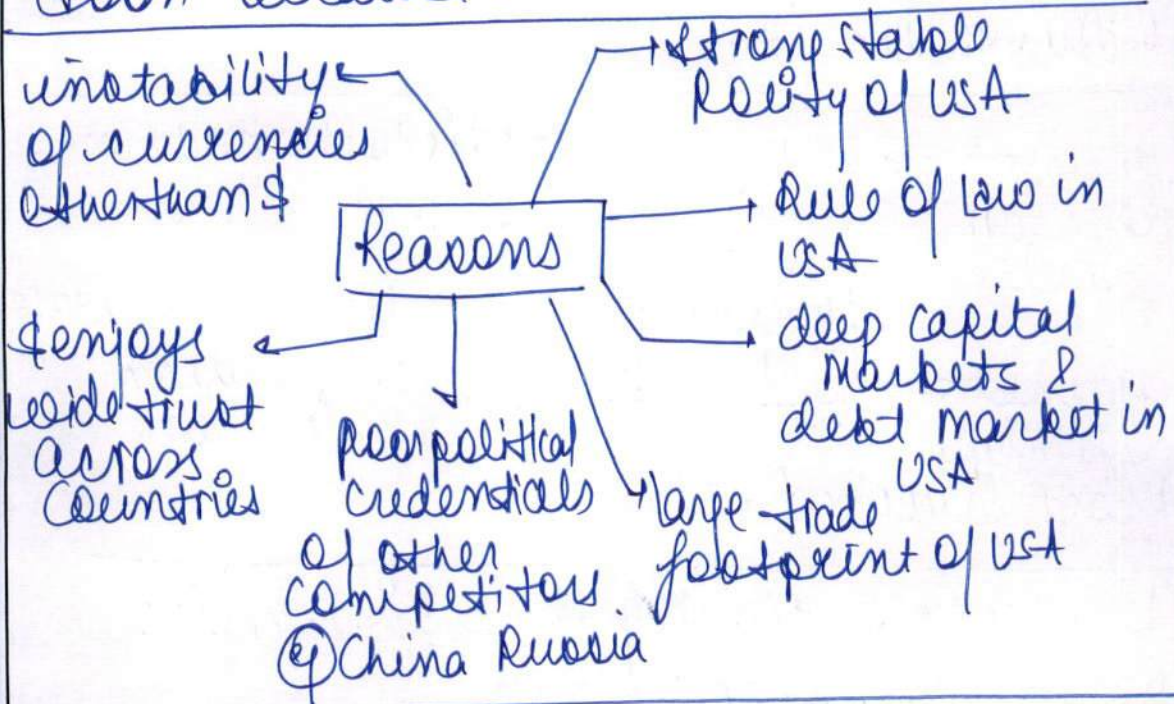
→ increased trend of bilateral settlement system

⊙ Rupee-Ruble

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

Dollar: Will it lose its dominance anytime soon?

No it is unlikely that dollar will lose its dominant position soon because →



Complete de-dollarisation is unlikely soon, however given geopolitical uncertainties by promoting internationalisation of Rupee, Govt has done well to diversify currency risks.

4.

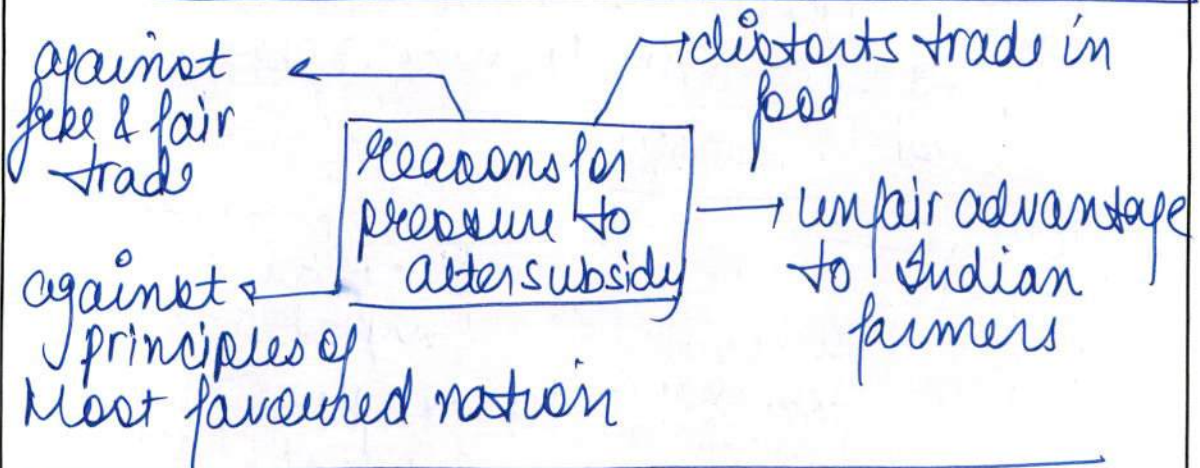
विकसित देशों द्वारा भारत पर खाद्य सब्सिडी व्यवस्था में बदलाव करने के अत्यधिक दबाव के बावजूद, भारत के लिए निर्धन व्यक्तियों हेतु अपना नीतिगत समर्थन बनाए रखना एक उचित कदम होगा। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

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

Under the Agreement of Agriculture of WTO of which India is a signatory food subsidies should exceed the de minimis level in the Amber Box.

India's subsidies breach this threshold and often attract criticism from developed countries like USA, Australia etc.



Merit in India trying to retain its policy support for poor

- ensures income security for small & marginal farmers (86% of Indian farmers)
- ensures access to affordable food grains for poor via the

NFSA 2013 provisions

→ ensures nutritional security for the population

⊙ India ranks 107th → in GHG Index

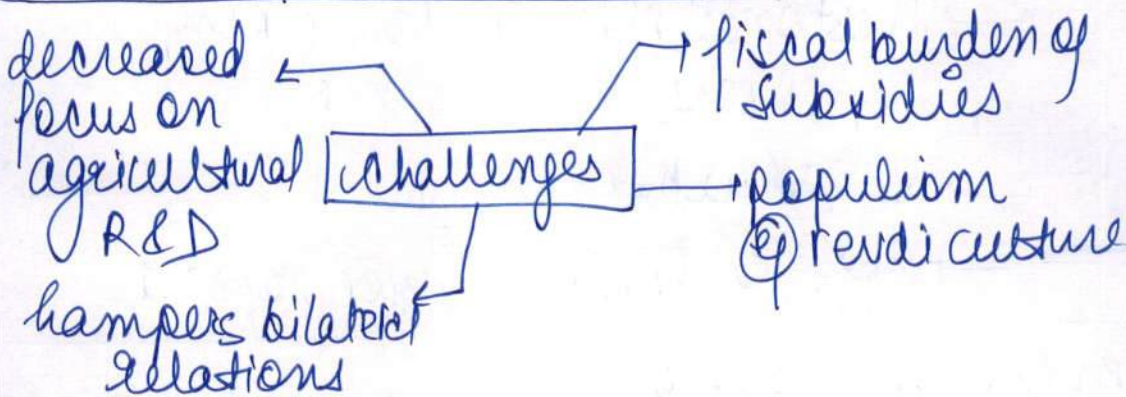
→ the methodology to calculate Subsidy in WTO is dated

⊙ Base year used is 1986-87

→ per capita subsidies provided by India <<< per capita subsidies provided by developed countries

→ subsidies ensure access for funds to modernise agriculture

⊙ PM-KSY



There is an urgent need to reform the framework of AoA, meanwhile India can make use of Bali Peace Clause to escape action against its subsidies

5.

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

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

10

India has 4% of the world's water resources but ~~only~~ houses 18% of the world population creating conditions for water stress.

Steps taken by government to address water needs

- Jal Jivan Mission
- Atal Bhujal Yojana
- Har ghar ganga jal (Bihar)
- National river interlinking of rivers programme.
- Jal Shakti Abhiyan.
- PM-Krishi Sinchayee Yojana.

Persistent Issues

I) Water availability

- NITI Aayog estimates 25 of major cities will face water scarcity by 2050.

→ $\frac{1}{6}^{\text{th}}$ of the ground water resources are over exploited

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

III Water quality

- issue of lead poisoning, nitrate poisoning etc
- eutrophication of surface water bodies
- excess of fluoride ion concentration
- discharge of factory effluents in water bodies

Need for prioritised intervention

- reuse grey water
- precision farming to decrease demand of water in agriculture
- cultivation less input intensive crops
- rain water harvesting
- penalties for discharge of untreated waste into rivers
- cleaning water bodies
- ④ using phytoroid technology

It is important to ensure water security to achieve SDG-6, adopting a ONE WATER APPROACH will be helpful.

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

Due to the onslaught of climate change and the consequent arctic amplifications glaciers in the arctic are retreating at an alarming ~~fast~~ pace.

Major Drivers of glacial retreat

- GHG emissions increasing global temperatures
- decreased albedo
- marine heat waves
- anthropogenic activities in the arctic @ shipping
- climate change

Potential impact on ecosystem

- destruction of habitat for tundra biodiversity
@ polar bear population has decreased by 50%.
- rise in sea level
@ 2.7cm rise in sea level since 1980s

→ negative impact on breeding season for tundra animals

→ slowing down of Atlantic Meridional Ocean Current

which will have drastic impact on global climate

→ thawing of permafrost which

lead to → exposure of latent & dormant germs

↳ methane emissions

↳ land subsidence in polar areas

⊙ Svalbard

→ water scarcity

Positive impact

→ open up new shipping routes

↳ facilitate resource & extraction in the arctic

Retreating of glaciers is a serious issue the Arctic Council must take a lead to ensure environment protection & conservation in this regard.

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 is an emerging hobby and dream wherein common people are aspiring to visit space on excursion trips.

Space Tourism is becoming a reality

→ Virgin Galactic, Blue Origin etc have demonstrated space flight to outer space

→ human space flight missions are being pursued by different nation states

⊕ Artemis Mission
Gaganayan Mission

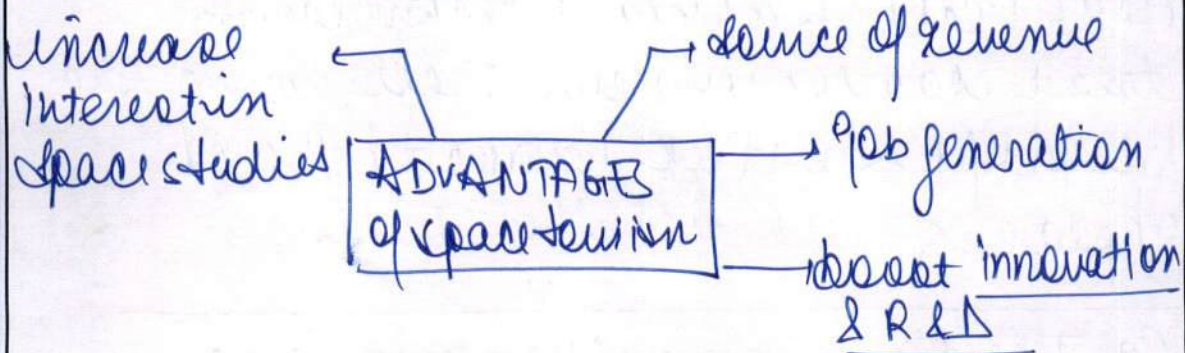
Challenges associated with space tourism

→ creates a new class of haves & have nots

→ lack of affordability for most people

→ lack of global & national regulations

- issue of space debris
- concerns regarding space colonisation



Measures to be taken to address these challenges

- frame robust regulatory regime at the global & national level
- establish grievance redressal mechanisms
- craft a treaty on lines of outer space treaty

Space tourism is going to be common reality really soon, need of the hour is to ensure it creates net positive externalities for humanity.

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 व्यास कमियों को कैसे दूर कर सकती है? (उत्तर 150 शब्दों में दीजिए)

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

10

CAR-T Cell is a novel technology to treat cancer wherein T cells from the blood of patient are extracted and replaced with healthy T cells.

CAR T cell as a game changer in Cancer Treatment

- timely treatment
- non invasive
- no issues of radiation exposure
- relatively affordable.

How CAR T-cell will overcome limitations of CRISPR Cas9

CRISPR Cas9 is a technology based on the ability of prokaryotes to defend against bacteriophages and is used to make changes in the genes.

LIMITATIONS

→ requires genetic editing of patient's DNA

- more expensive technology than CARTcell
- requires highly sophisticated & trained personnel
- changes made are permanent and cannot be changed.
- changes are made to patient DNA which are not reversible. CARTcell makes no such changes
- CRISPR Cas9 can be misused
⊗ Designer Babies
possibility of misuse is much lower in CAR-Tcell-treatment.

Cancer is the second leading cause for death, steps must be taken to ensure that the scientific developments like CARTcell & CRISPR Cas9 are made affordable so that people can afford cancer treatment and India can achieve SDG3.

9.

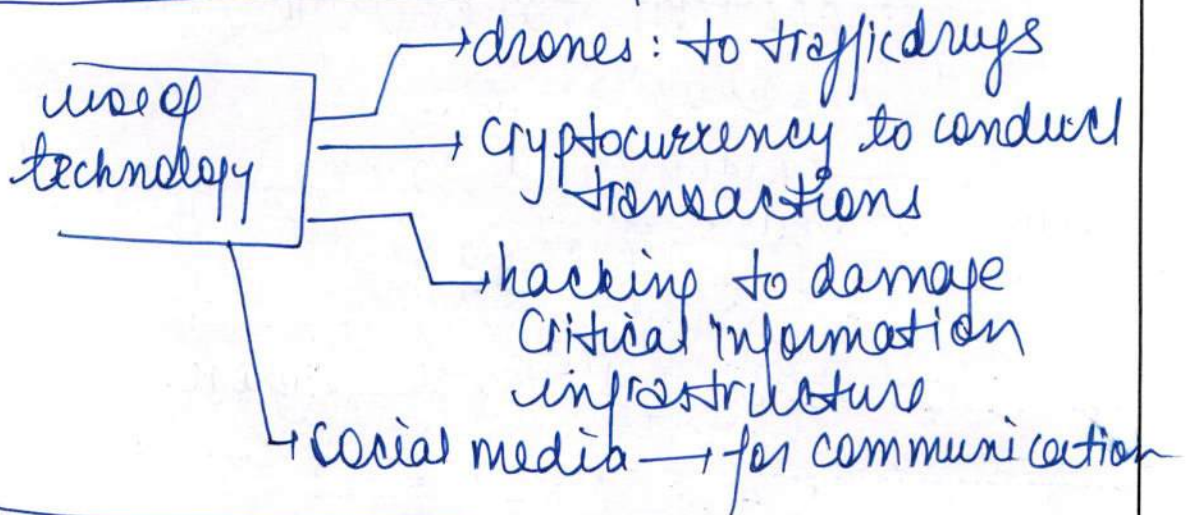
चर्चा कीजिए कि प्रमुख हिंसक चरमपंथी संगठनों द्वारा नई और उभरती प्रौद्योगिकियों के बढ़ते इस्तेमाल के विरुद्ध संगठित एवं ठोस वैश्विक प्रयासों की आवश्यकता क्यों है। (उत्तर 150 शब्दों में दीजिए)

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 हार्फ में नहीं लिखना चाहिए
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Recently the external affairs minister under the Deli Declaration has raised concerns regarding deployment of new & emerging technologies by violent extremist organizations.



Reasons why this demands concerted global efforts

→ there are no borders in the digital & virtual world

→ ensure action against such outfits

→ increase vigilance against such organisations

→ to ensure global peace & security

→ national policies alone cannot
deter such organisations

→ to encourage global participation
and cooperation against such
organisations

→ to prevent neo-terrorism

→ to mobilise funds & expertise
to counter the attacks of
such organisations

New & emerging technologies are both a
boon & a bane, steps must be taken
to limit their access for violent
organisations, the UNSC should
lead this pursuit.

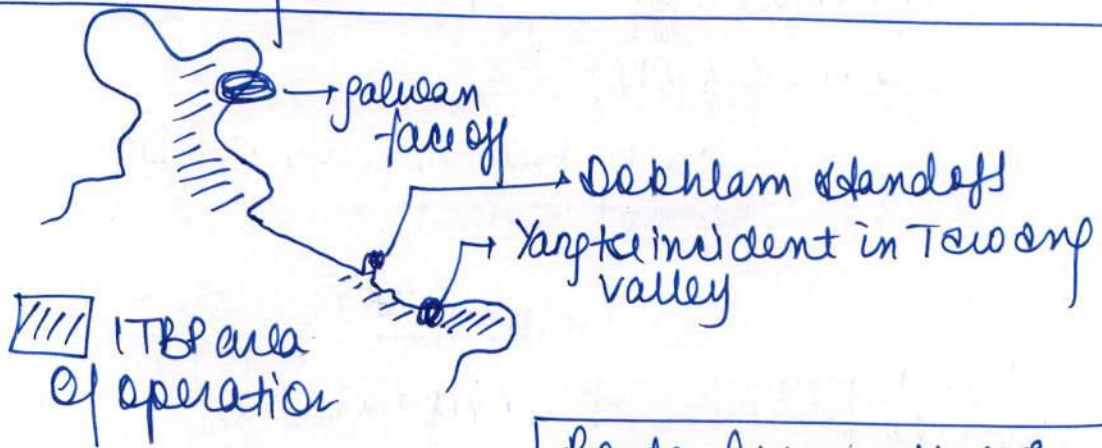
10.

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

India & China share a long border from Ladakh in the west to Arunachal in the east. However, of late due to Chinese incursions several border issues have emerged.



Ramping up of Infrastructure

India → Vibrant village programme
→ PM-DeVINE
→ Act East Policy

China → construction of bridges across Pangong Lake

Role of ITBP in the region

ITBP is a central armed police force operating in the hill states of J & K, Ladakh, UK, HP, Sikkim

and NE states to ensure border security

→ ITBP are responsible for patrolling borders

→ preventing infiltration

→ assisting army in border management

→ assisting police during riots
and to ensure preservation of law & order.

→ first line of offence in cases of an attack.

issues with ITBP

→ overworked

→ undercompensated

→ lack proper infrastructure

→ issues of human rights violence

@ AFSPA powers

→ cases of fratricide

Nevertheless ITBP serves a fundamental role in preserving our territorial integrity, steps must be taken for its reform to boost morale of jawans.

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

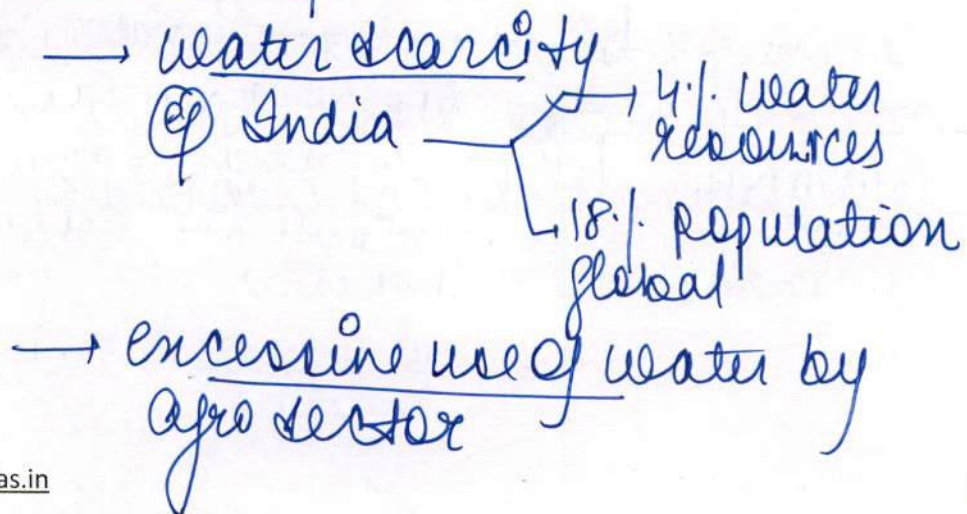
उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
Candidates must not write on this margin

Since the days of the green revolution public policy has focused on increasing land productivity to ensure food security for the people, however due to emerging concerns of climate change some are arguing for a shift to irrigation water productivity.

Need for shift

<u>land productivity</u>	v/s	<u>irrigation water productivity</u>
<u>OBJECTIVE</u> max output of food from a given land		best optimum utilisation of irrigation water in a given land

Need to shift



⊙ 86% of fresh water used by agri & allied sectors

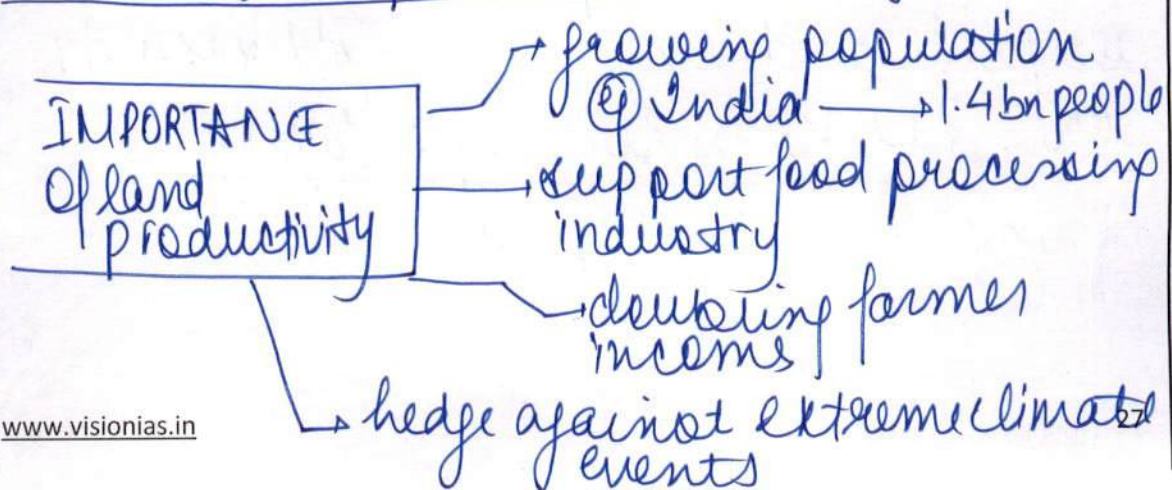
→ depletion of ground water resources

⊙ 1/6th ground water is over exploited — C&WA

→ wastage of river water leading to eutrophication, soil erosion and land degradation etc.

→ India has gone from a food dependent to a food surplus country thus ensuring land productivity is already taken care of.

→ climate change is leading to spatial & temporal changes in monsoon, ensuring proper irrigation is thus important
⊙ 70% farmland is rain fed.



Challenges in making this shift

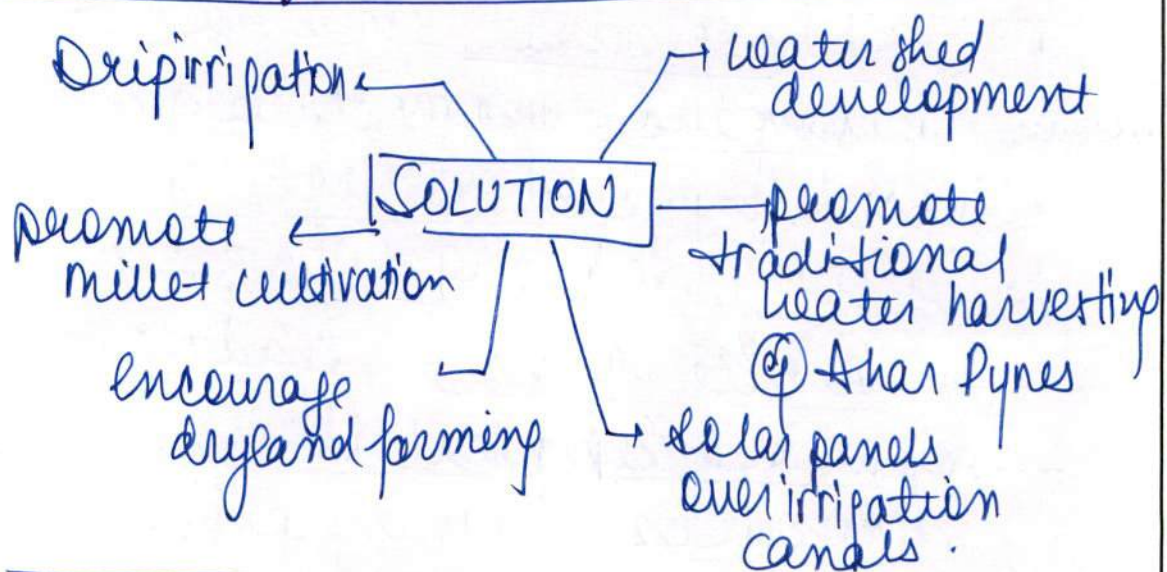
→ lack of irrigation facilities in all areas

⊙ 70% farmlands → rainfed

→ lack of affordability for small farmers

→ lack of awareness regarding sustainable water usage in farmers

→ regional disparities



Efficient water productivity will be instrumental in protecting farmer welfare and ensuring food security, the PM Kisan Sinchayee Yojana is significant in this regard.

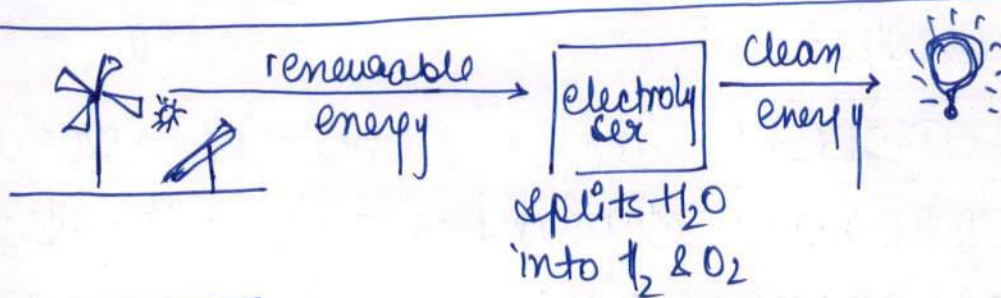
12.

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

Green Hydrogen is a renewable energy clean source which promises zero emissions.

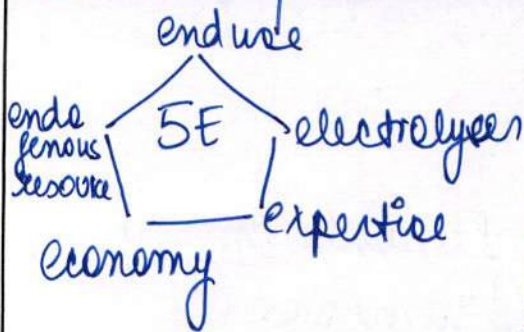


working

Green Hydrogen's role in unlocking energy security of India

- ensure access to a 24*7 energy source
- decrease dependence on import of fossil fuels
⊕ coal, petroleum
- help power the emerging energy needs of the economy
- ensure access to electricity for industries
- help decrease energy inequality

Challenges



Economy

high cost of production
⊙ 1kg green hydrogen
→ ₹ \$5-9

EXPERTISE

lack of technical expertise in green hydrogen

ELECTROLYSER

lack of domestic capacity to produce sophisticated electrolysers increasing import dependence

END USE

54% of India's energy is sourced from coal based thermal power plants and only 22% is from new & renewable energy resources.

ENDOGENOUS RESOURCES

production of green hydrogen will be water intensive creating issues of water security

⊙ 1kg H_2 → 9L of water

National Green Hydrogen Mission (NGHM) will help in achieving energy goals

→ promote production of green

hydrogen in India and help India emerge as a global leader in green hydrogen

- ensure capacity building via SLIHT programme
- provide a policy boost for green hydrogen
- generate green jobs
- increase green hydrogen exports
- decrease fuel imports of India.

Green hydrogen will not only serve our energy needs (SDG 7) but also help India achieve its panchamrit goals and SDG 13.

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

Article 40 under Part IV Directive Principles of State Policy urge the state to take steps to ensure access to a living wage for all people, in this regard the GoI is weighing a transition from minimum wage to living wage

Minimum wage	v/s	Living wage
prevents one to not enter poverty		accelerates one growth beyond sustenance

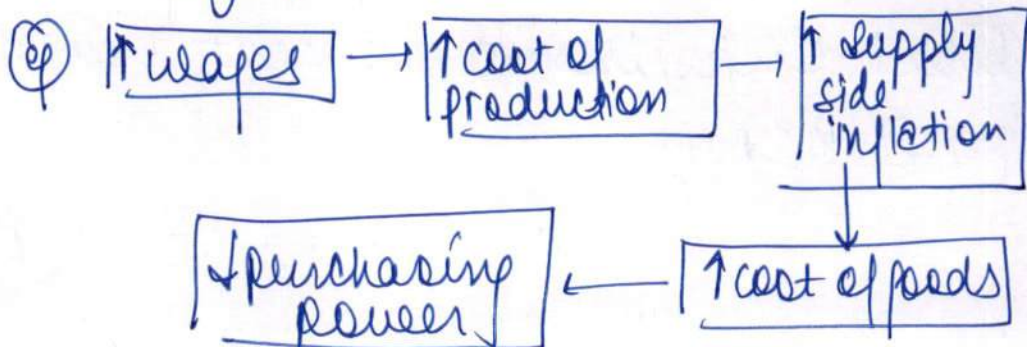
Benefits of Living Wage

- improve living standards of people
- ① India's HDI rank → 132/190
- ensure access to quality education and increase enrollment ratio
- provide access to quality healthcare for people
- decrease prevalence of malnutrition, hunger, anaemia etc

- ④ India ranks 107/135 in GHG Index
- provide opportunities for self employment & entrepreneurship for people
 - ensure gender justice, women will be able to access benefits of welfare schemes.

Constraints

- huge fiscal burden on state exchequer
- for ④ as per economic survey a universal basic income will cost 5% of GDP
- increase inflation
- wage price spiral



- moral hazard
- lack of quantifiable data & metrics to calculate a living wage

→ hamper ease of doing business
and decrease industrial output

→ may decrease competitiveness
of Indian goods & services in
global markets

Solution → inflation indexing
of wages

- ensure minimum wages are at
par with market rates
- regular updation.

Living wages is an aspirational goal.
however several structural bottlenecks
need to be resolved first, meanwhile
the Govt can leverage targeted
direct subsidies to augment wages
(eg PM KISAN)

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)

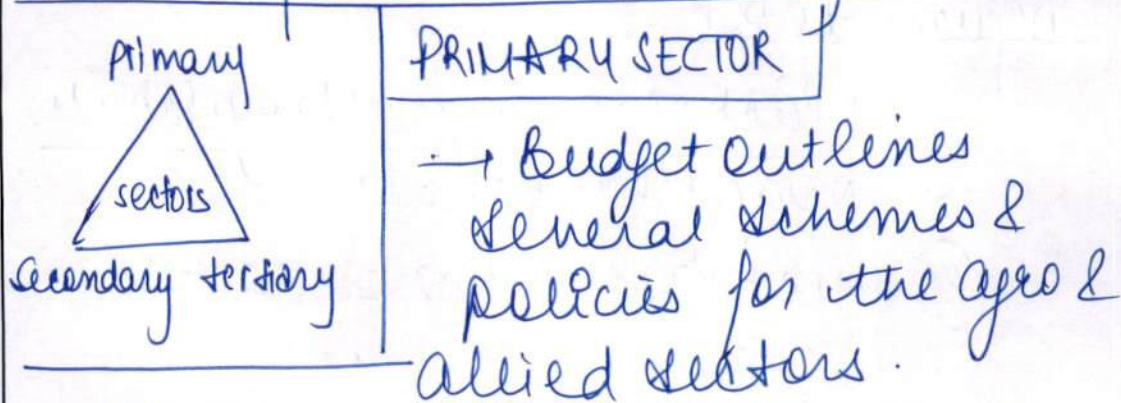
The Union Budget affects almost every sector of the Indian economy, yet neither the budgetary processes nor the budget policies come under substantial public scrutiny. Do you agree? Justify your answer. (Answer in 250 words)

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
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15

Article 112 of the Constitution mandates the president to lay before the house the annual financial statement or Budget. The Budget is a politico-economic document which outlines the government's revenue & expenditure policies

Union Budget affects almost every sector of Indian economy



(e.g.) PM KSY, PM KISAN, PM-Fasal Beema Yojana, National livestock mission etc

SECONDARY SECTOR

→ The Budget outlines general measures taken by government to boost

industrial output and promote
Ease of Doing Business

⊕ Make in India, Production linked
incentives, Startup India etc

TERTIARY SECTOR

→ the Budget outlines measures to
promote service sector

⊕ rationalisation of income tax
slabs, reduction of corporate
tax etc.

Neither budgetary processes nor Budget
policies come under substantial
scrutiny

Arguments for

→ lack of parliamentary debates
on budget proposals

⊕ union budget 2022-23 passed in
12 mins

→ increased use of fillotone

→ top down elitist approach
in policy formulation

→ lack of public feedback
incorporated to ensure need
based policies

⊕ gender budgeting dormant

Issue

- bureaucratic approach to budgetary processes limiting scope for participation of non state actors

Arguments Against

- pre budget consultations with industry leaders is conducted
- parliamentary committees invite key stakeholders
- social audits evaluate public policies on grassroot level
- people communicate their interests via their elected representatives in parliament

Nevertheless there is an urgent need to institutionalise public scrutiny of budget proposals and promote a bottom up & participative approach.

The gram panchayat development plans are a welcome initiative.

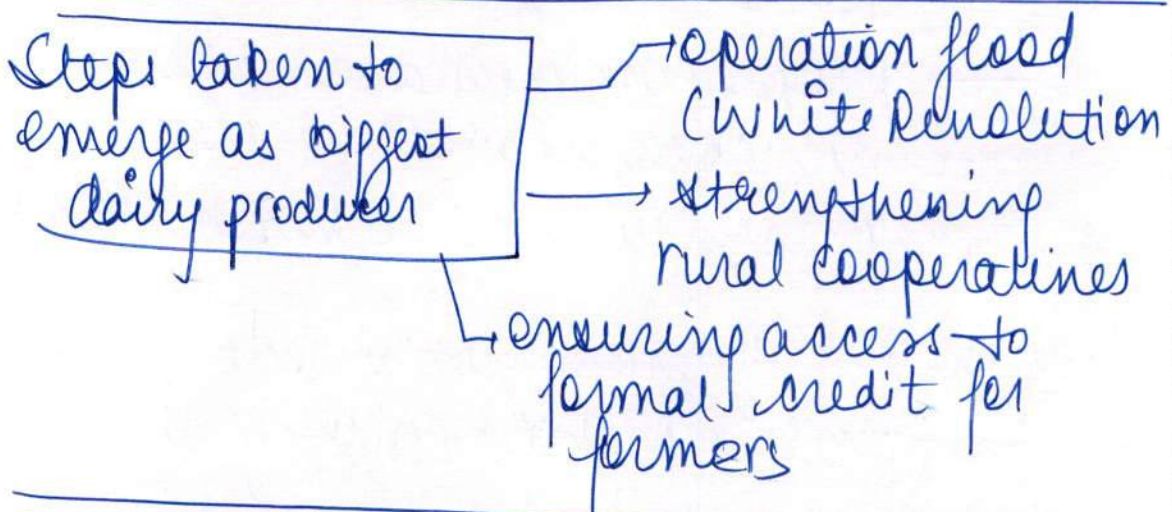
15.

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 has the world's largest bovine population and is the world's largest milk producing country. However the productivity of Indian livestock at 1700 kg per animal per year is far lower than global average of 2699 kg per animal per year.



Reasons for low Dairy productivity

- decrease in acreage of fodder cultivation in resulting in poor quality & yield of bovine feed
- susceptibility of livestock

to disease outbreaks
④ lumpy skin disease,
brucellosis, foot & mouth
disease etc.

→ low yielding capacity of domestic
breeds

→ lack of awareness amongst
farmers regarding proper
nutrition & health requirements

→ deficit of veterinary doctors
in rural areas

→ low intake of vaccines for
bovines

→ lack of adequate funds with
farmers to ensure proper
care for livestock.

Solutions

→ increase awareness
regarding health of livestock

④ pashusakhis

→ promote access to vaccines

④ National Animal Disease
Control Programme

→ increase access to formal finance

⊙ Kisan Credit Card

→ promote use of healthy & sustainable feed

⊙ Hait Dhara

→ encourage development of forward & backward linkages

⊙ ~~Ag~~ Animal Husbandry Infrastructure Development fund. (AHIDF)

Animal husbandry is a high growth sector as per Dalwai Committee. need of the hour is to ensure its success, IIM-A's GAU MODEL provides an insightful reference point.

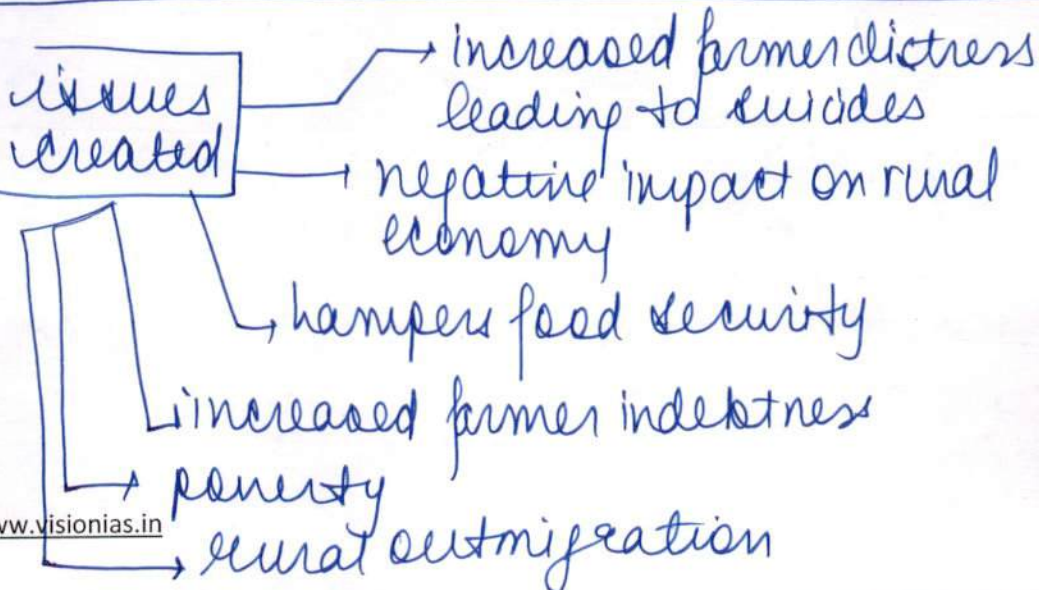
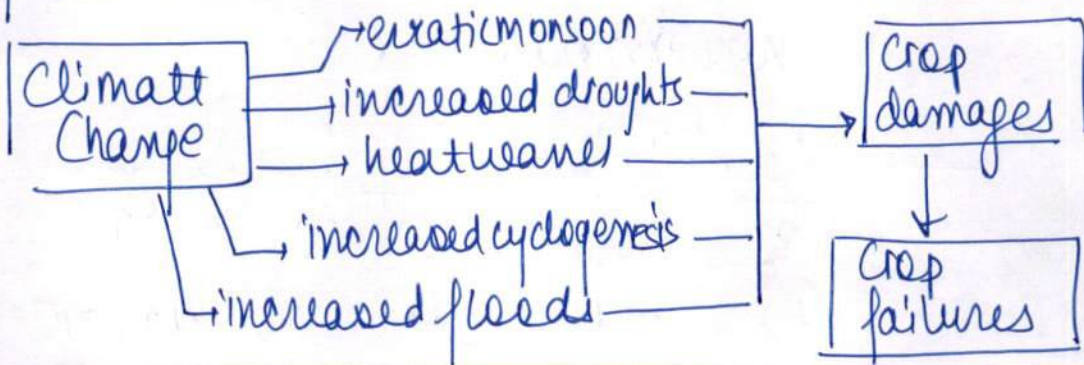
जहाँ एक तरफ जलवायु परिवर्तन, फसल की विफलता के लिए जिम्मेदार है, वहीं दूसरी तरफ चरम मौसमी घटनाओं के लिए कृषि क्षेत्रक स्वयं आंशिक रूप से जिम्मेदार है। विवेचना कीजिए। भारत में कृषक समुदाय की प्रत्यास्थता को सुदृढ़ करने के लिए राष्ट्रीय कृषि आपदा प्रबंधन योजना के तहत क्या रणनीति अपनाई गई है? (उत्तर 250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

The 6th Assessment Report of IPCC has highlighted code red regarding climate change especially for countries like India facing extreme weather events which have a negative impact on agriculture.

Climate Change is responsible for crop failures



Agriculture itself is partly responsible for extreme weather events

→ agriculture is a major emitter of GHG which in turn leads to global warming.

② rice cultivation, use of fertilizers, rearing of livestock etc

→ slash & burn agriculture is responsible for landslides forest fires etc.

→ irrigated & flooded paddy fields have a strong influence on monsoon patterns

→ stubble burning leads to emissions of CO_2 , CO , SO_2 , NO_2 , $PM_{2.5}$, PM_{10} etc and lead to air pollution.

National Agriculture Disaster Management Plan

→ seeks to promote sustainable agricultural practices

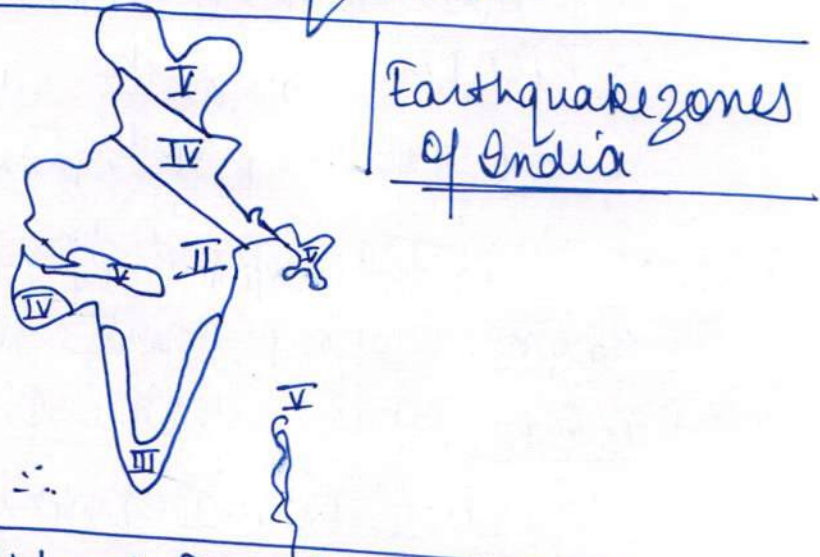
- develop early warning systems
- invest in disaster risk reduction in agriculture due to extreme events
- ensure access to compensation to farmers in cases of crop damages
- adopting a disaster resilient and climate resilient cropping pattern
 - ⊕ growing millets
- encourage participation of farmers to promote a community led approach in disaster management.

Agriculture is the backbone of our country. Steps must be taken to ensure its protection against climate related extreme events, the PM-Fasal Bima Yojana is a step in the right direction.

17. दिल्ली सहित भारत के कुछ क्षेत्र हिमालय में आने वाले भूकंपों के प्रभाव के प्रति अत्यधिक संवेदनशील हैं। विवेचना कीजिए। भारत में भूकंप से होने वाली हानि को कम करने के लिए कौन-से संस्थागत उपाय किए गए हैं? क्या आपको लगता है कि कुछ उल्लेखनीय कमियां अभी भी मौजूद हैं? (उत्तर 250 शब्दों में दीजिए)
- Some regions in India, including Delhi, are highly vulnerable to the impact of earthquakes originating in the Himalayas. Discuss. What institutional measures have been taken to mitigate earthquake losses in India? Do you think there are significant gaps that still exist? (Answer in 250 words)

15

Earthquakes are the sudden release energy from the interior of the earth which results in shaking of the ground. 58% of the Indian landmass is prone to earthquakes.



Vulnerability of Delhi to earthquakes

- lies in zone IV
- high population density
- haphazard construction
- encroachments & illegal construction
- flouting of building codes.

Recently earthquakes originating in Himalayas have shaken parts of Delhi NCR

Institutional Measures taken to mitigate Earthquake losses

- preparation of hazard zonation map as per international standards
- development of warning systems @ India Quake app
- National earthquake risk mitigation project for ensuring structural measures in zone IV & zone V areas.
- awareness campaigns
- Creation of a cadre of first responders @ Nepda Mitras.

Gaps that still exist

- reactionary approach to earthquake management
- lack of structural technologies in building construction to prevent collapse
- non adherence to building codes

→ lack of awareness in general public

→ earthquakes have not been mainstreamed into infrastructural development projects

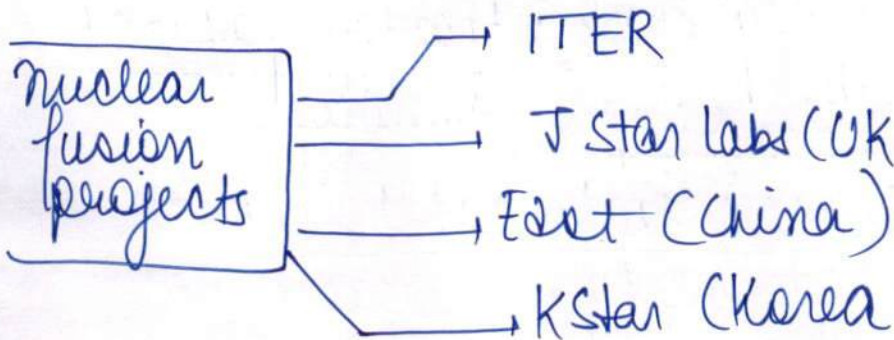
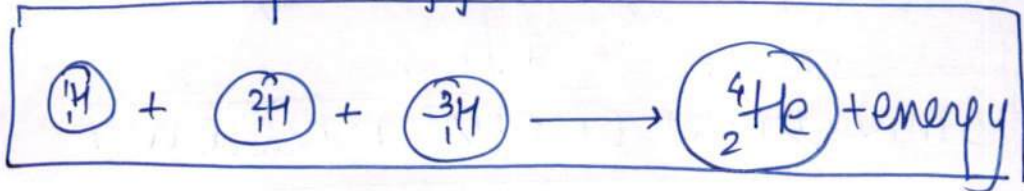
The recent earthquake in Turkey has showed how a natural disaster can cause havoc, need of the hour is to ensure India develops a proactive approach to earthquake management. The Chile Model can be a helpful case study

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) 15

Nuclear fusion is a physical process wherein two small atoms combine to form a large atom and release huge amounts of energy.



Advantages of nuclear fusion based power generation

- clean energy resource with zero emissions
- abundance of raw material as hydrogen is easily accessible
- decreases the possibility of

uranium enrichment to develop weapons of mass destruction as in the case of nuclear fission

→ no hassle of nuclear waste management

→ 24x7 availability of electricity

→ 4000 times more efficient than coal energy

Limitations of nuclear fusion

→ highly sophisticated, capital intensive technology

→ Commercial scalability for net energy generation is difficult

→ availability of highly skilled scientists & engineers is required

→ demands huge expenditure on R&D in initial stage

→ lack of supply chains at present

Nuclear fusion based energy will not only secure energy security but also help achieve net zero targets, India has joined ITER in order to leverage this opportunity

19. हालिया संशोधन को ध्यान में रखते हुए, भारत में धन शोधन (मनी लॉन्ड्रिंग) के खतरे से निपटने में धन शोधन रोकथाम अधिनियम, 2002 की प्रभावकारिता का परीक्षण कीजिए। (उत्तर 250 शब्दों में दीजिए)
Keeping in view the recent amendment, examine the efficacy of the Prevention of Money Laundering Act, 2002, in tackling the menace of money laundering in India. (Answer in 250 words)

15

Money laundering is a complex process comprising of layering, placement & integration to evade taxes and turn black money into white money.

Amendments to PMLA

- greater power to ED to prosecute
- upheld twin test of bail
- included virtual digital assets under its mandate

Efficacy of PMLA

Success

- ↳ efforts for extradition of fugitive economic offenders
- ↳ deterrent against money laundering
- ↳ prompt action by ED

→ deter money laundering via
use of crypto currency.

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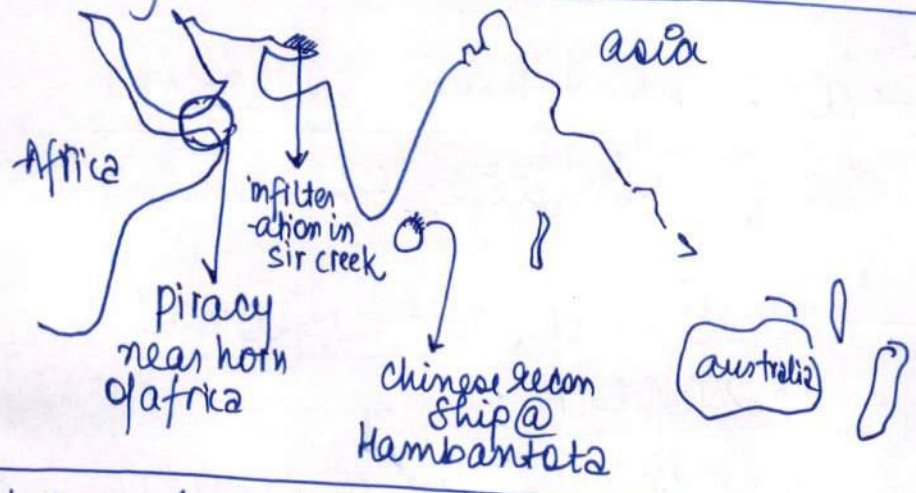
20.

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 long coastline of 7516 km and is a major player in the Indian Ocean. However there are various security threats present.

Security threats in IOR



Major Security Threats

- piracy
- infiltration of terrorists
⊕ 26/11 attacks
- violation of UNCLOS by China by creating string of pearls around India
- roadblocks in free & fair navigation in open seas.

Robust Strategy to Deal with this issue

→ Develop Capacity of maritime states

⊕ Coast guard
maritime police

→ leverage partnership of like minded countries

⊕ QUAD

→ conduct defence exercises

⊕ Malabar exercise

→ ensure institutional support

⊕ postmaritime security coordinator
and chief of defence staff

→ holistic approach to security

⊕ integrated defence group
at Andaman

→ ensure infrastructure development overseas

⊕ Dugm Port
Chabahar Port

More than 70% of trade by volume and 90% trade by value is moved via sea routes, thus maritime security is not only important for territorial integrity but also for economic stability.

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