



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. : 1040829

अभ्यर्थी का नाम/Name of Student : Saurebh Sharma

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

English

तारीख
Date

27/Aug/2023

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

केंद्र
Centre

TJSD Senior
Secondary School.

निरीक्षक के हस्ताक्षर
Invigilator's Signature.

Sonia

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

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परीक्षक के हस्ताक्षर Signature of Examiner(s)	

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

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



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

Food Security as defined by FAO refers to access for food for all at affordable price, based on choice at all times

Different dimensions of Food Security	India's (Success Status largely)
① <u>Affordability</u> i.e. food is available at reasonable price based on income levels of citizens.	NFSA 44 67% of population getting 5kg free food grain through PDS.
② <u>Accessibility</u> i.e. ease of getting the required food grain.	- Ration shops in every village - Steps like one Ration Nution One Ration card

Other dimensions where India is lagging:

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

- ① Nutritional Security: i.e. quality of food so as to ensure the necessary nutrients are available for growth.

India's status	Steps taken
- Anemia $\rightarrow$ 57% of (15-50 age) $\Rightarrow$ Indian women - Child Stunting $\sim$ 35% Child wasting $\sim$ 19% - Malnutrition (1/3rd of children in India)	- Anemia Mukt Bharat - Poshan Abhiyan, ICDS, Anganwadi - SABLA SAKSHAM.

- ② Inflationary tendency: Sporadic rise in prices of fresh fruit and vegetable (e.g.: recent surge in tomato prices) due to inefficient supply chain & cold storage (Operation TOP to correct it)

Food security is ~~here~~ necessary for

2.

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

10

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

E-technology can revolutionize primary sector in India which houses > 40% of population.

Utility of Block Chain

① Soil Health monitoring

↳ By capturing granular details of soil nutrients (through sensors) captured in block chain.

② Robust Subsidy management using diversion of fertilizer subsidy

currently amounts to ₹1.75 lakh crore.

↳ Blockchain can be used to establish incorruptible records of transfers

③ Exchange of Best Practices

as they get stored in central repository.

- ④ Fair prices to farmer through
real time price discovery
- direct connect between buyer
and farmer $\rightarrow$ reducing intermediary

Utility of ChatGPT (Generative and other AI)

- ① Agri extension services
[in vernacular language based
on customised Question-Answer
format can ease life of farmer]
- ② Enhanced knowledge of different
cropping patterns across the world
- ③ Predictive modelling: risk
assessment of crop loss and
subsequent need for crop insurance.
Thus such disruptive technology
can truly modernise
Indian agriculture.

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

Dollar comprises/takes part in 83% of global transaction.

Dedollarisation is an effort to undo this monopoly.

Factors that led to dedollarization

① Rise of Chinese "Yen" "Yuan"

as they are giving developmental grants to other ~~at~~ countries in Yuan.

② ~~Quantitative~~ Fed Tapering and consequent capital outflight has exposed vulnerabilities of ~~for~~ depending on \$. eg currency depreciation in India.

③ Call for reformed multilateralism (eg) IMF, SDR basket

④ Anti-US groupings inflicted by
CAATSA sanctions in search for
new mechanism

⑤ Russia banned from SWIFT

India pursued Rupee - Rial agreement
with Iran

⑥ Currency swap agreements

⑦ VOSTRO - NOSTRO accounts

⑧ thrust to reduce transaction
cost in exchanging money.

Dominance of Dollar

mayn't end very soon as .

① Dominance of USA in capital
(largest GDP), investment appetite

② stake in multilateral bodies

③ Growing hostilities towards Keenay
China.

In this context, exploring the
internationalization of Rupee¹¹

can be way forward for India

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

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

Recent stall in WTO regarding fisheries subsidy reflect the stand of developing world against subsidy regime in India.

Food Subsidy in India hovers

around 1.97 lakh crore

+ Fertilizer subsidy = 1.75 lakh crore

+ Other subsidy = total subsidy of
(like PMKISAN, Ground ₹5 lakh crore
electrification)
(around 10% of GDP)

Rationale for such ^{large} food subsidy.

① For ensuring food security

② PM-Kisan during
COVID-19 prevented starvation
in absence of ~~un~~ employment

② Poverty As per NITI Aayog
Multidimensional Poverty Report (2023),
14.96% population still remains
poor
requiring state support

③ Supporting farmers: As per Situation
Assessment Survey, average income of
farming household = ₹ 10,000 / month.
requiring the need for direct transfer

④ Flaws in WTO regime: Agri subsidy is
capped at % of GDP. Thus developed
countries get larger window in terms
of monetary support they can provide to
farmer.

⑤ Dependence on agriculture > 40%
population in primary sector (ILO, 2023)
(in India)

Way Forward → Curbing wasteful subsidy
(e.g. diesel)

5.

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

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

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

10

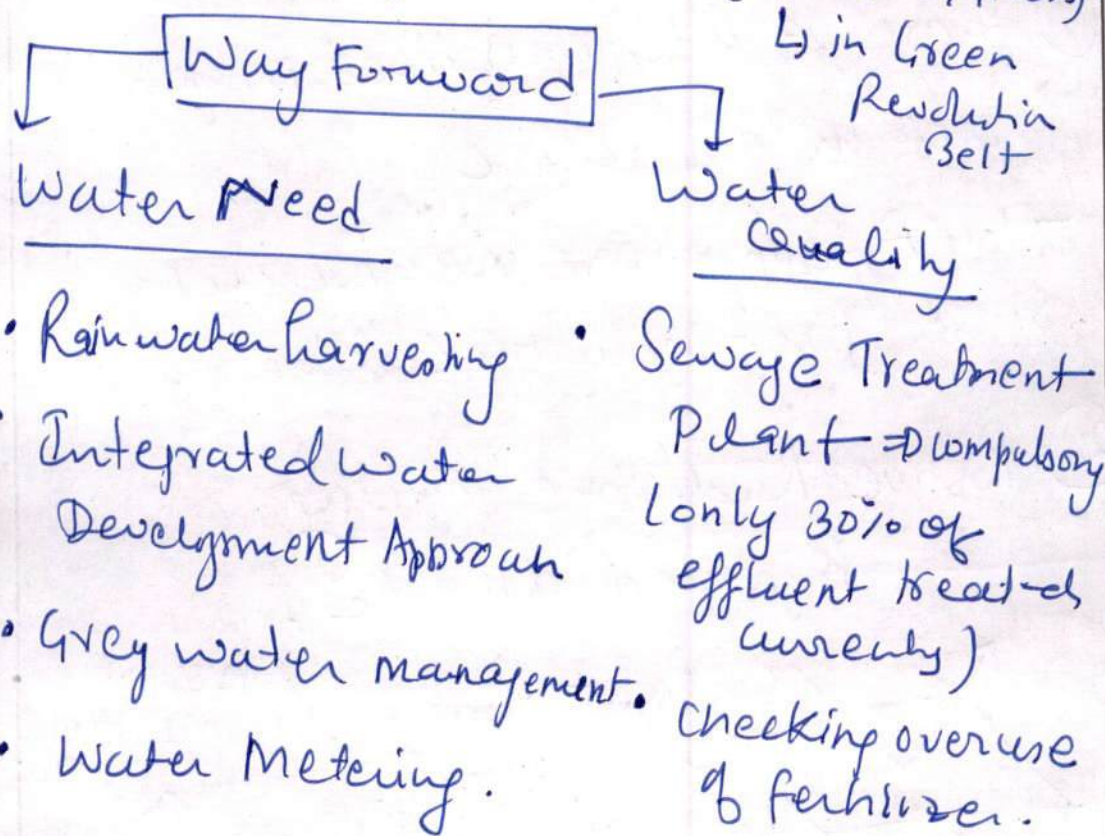
Indian cities are on brink of water scarcity as per NITI Aayog
50% of population is living water stressed environment.



Need for Prioritised intervention :

- ① Declining ground water tables
- ② Instances of drought & flood (dual sword)

- ③ Declining quality of water
(70% of water is contaminated
as per NITI Aayog)
- ④ Water as a state subject is
hindering uniformity in policies
- ⑤ Instances of lithium, Uranium pollution
- ⑥ Bleaching of fertilizers (Lancet Express)



Thus, ensuring water quality and need is essential for ensuring ease of living and preventing conflicts.

6.

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

10

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

Arctic ice is melting at around 13% per annum raising alarm regards to consequences of climate change.

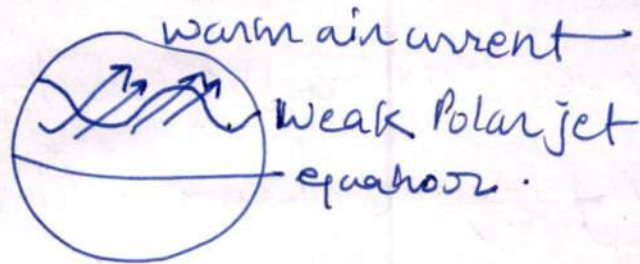
Drivers of Glacial retreat

- ① Increase GHG emissions primarily rise in temperature
 ↳ 1-4°F temperature rise observed since pre-industrial levels.
- ② Positive Radiative forcing
 Reduced albedo.



③ weakening of Polar jet dragging
hot air mass into Arctic region

④
Zombie
ice



Potential Impact of retreat of Arctic

- ① Thawing of perma frost releasing
trapped CO_2 etc, thus further aggravating
global warming.
- ② Rise in sea levels leading to
drowning of islands and coastal cities
↳ 50% of world population lives within
50 km of coast thus vulnerable to
impact
- ③ Loss of ecosystem services: extinction
of species
- ④ New sea route and chances of
mineral exploration.

Arctic melting needs to be reversed
by building unseas on climate
targets.

7.

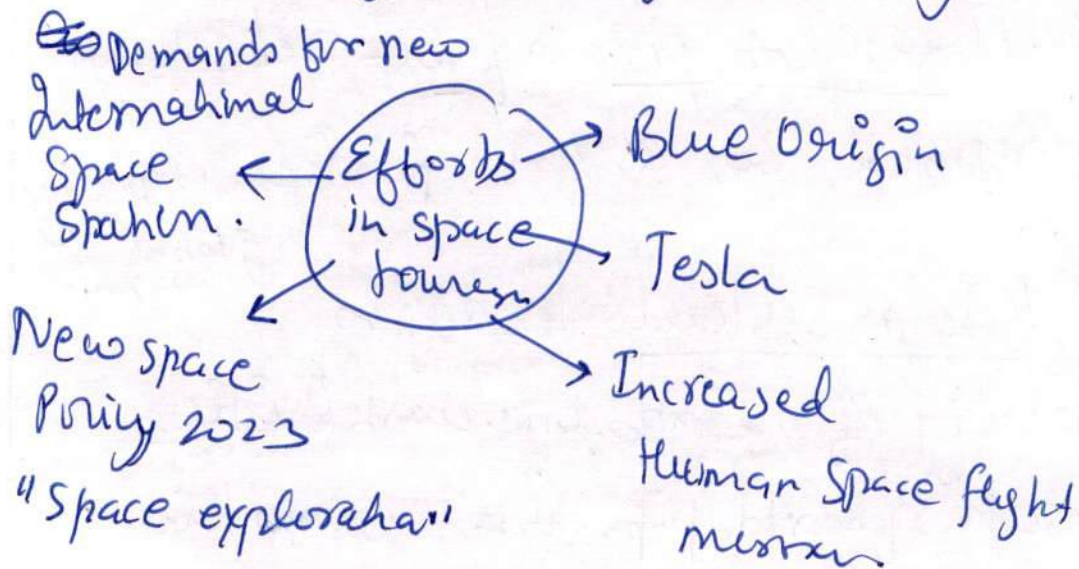
अंतरिक्ष पर्यटन, जिसे सीधे तौर पर एक साइंस फिक्शन फिल्म के रूप में देखा जाता था, अब बिना किसी बाधा के वास्तविकता बन रहा है। अंतरिक्ष पर्यटन से संबंधित चुनौतियां क्या हैं? इन चुनौतियों से निपटने के लिए क्या उपाय किए जा सकते हैं? (उत्तर 150 शब्दों में दीजिए)

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 हार्डिंग में नहीं लिखना चाहिए
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Space tourism refers to humans travelling beyond Kaymen line (ie. around 160km above land mass).

Its increasingly becoming a reality.



Challenges associated

- ① Elitist and exclusionary in nature
 - ↳ few countries have human space flight capabilities thus promoting inequalities outside Earth as well.

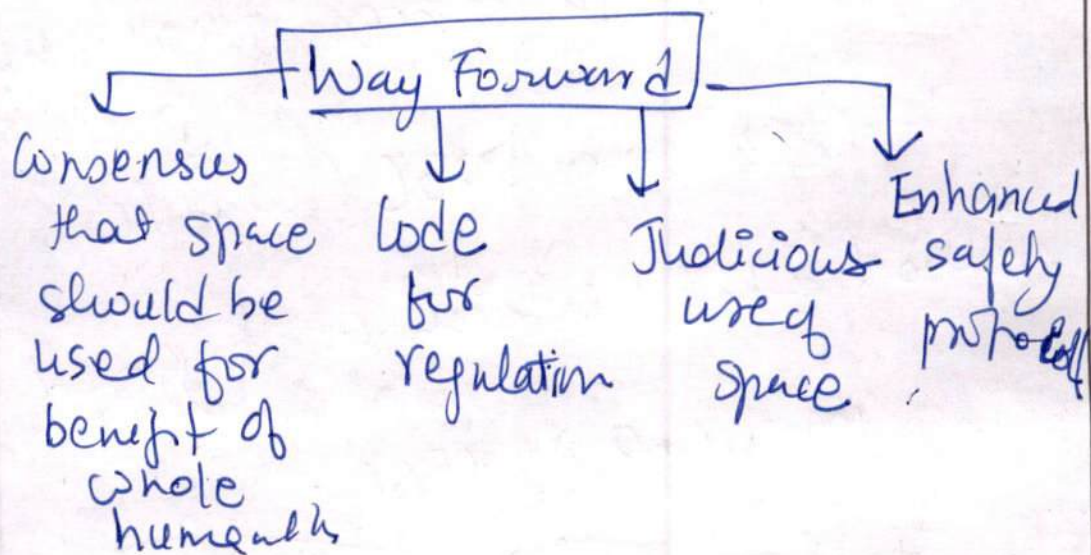
② Absence of robust global
space governance regime

↳ ~~Left~~ Moon Treaty, Outer Space Treaty
have been rendered ineffective

③ Rising Space pollution (Keysler's
syndrome)

④ Militarization of Space
and space weaponisation increases
(4th domain of warfare)

⑤ Triggers a new race among
countries.



Recent drowning of TITAN submarine,
has posed question on viability of
such exotic tourism activities. Thus

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)

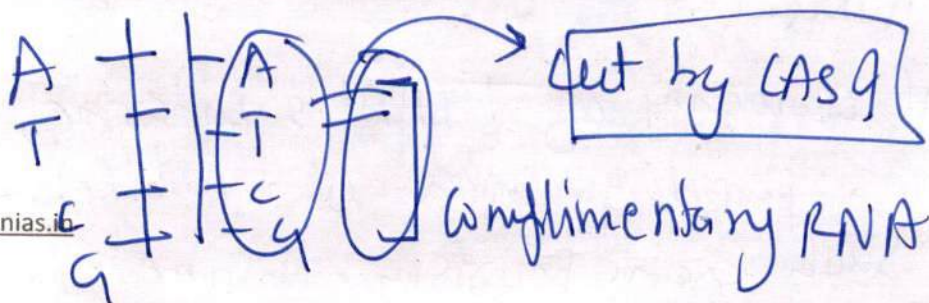
उम्मीदवारों को इस स्थिति में नहीं लिखना चाहिए
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10

CRISPR-CAS9 is known as
'~~the~~ 'gene scissor' is used
in genome editing like
other technologies ~~of~~ TALIN.

CAR-T cell therapy is a
revolution in cancer treatment

T-cell are WBC (white
Blood cell) which are triggered
in immune response.



CAR-T cell therapy
ensures that T-cell
selectively target the
Cancer cell .

Limitation of CRISPR-Cas9
like ~~the~~ targeting and
editing specific part of
genes is thus corrected
by this revolutionary technology.

9.

चर्चा कीजिए कि प्रमुख हिंसक चरमपंथी संगठनों द्वारा नई और उभरती प्रौद्योगिकियों के बढ़ते इस्तेमाल के विरुद्ध संगठित एवं ठोस वैश्विक प्रयासों की आवश्यकता क्यों है। (उत्तर 150 शब्दों में दीजिए)
Discuss why the rising deployment of new and emerging technologies by prominent violent extremist organizations demand concerted global efforts. (Answer in 150 words)

10

उम्मीदवारों को इस दृष्टिकोण में नहीं लिखना चाहिए
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Violent extremist organisations are deploying technologies for destructive purposes.

Deployments such as

→ ~~A~~ Drones / UAV
(unmanned)

Can be ^{II} remotely controlled without causing damage to operator

→ Biological weapons,
(Increased genome surveillance post COVID 19)

→ Proliferation of nuclear weapons to non state actors.

→ Anti missile System
for self protection

→ State of the art weaponry
present with ISIS, Taliban

Need for global efforts

↓
• Terrorism has changed forms
and is no longer restricted
to one geography

• Role of UNSC, RATS become
more crucial

• Inter-country, transnational
Crime require intelligence
Sharing

• Capability Development of
Weak countries in Africa.

10.

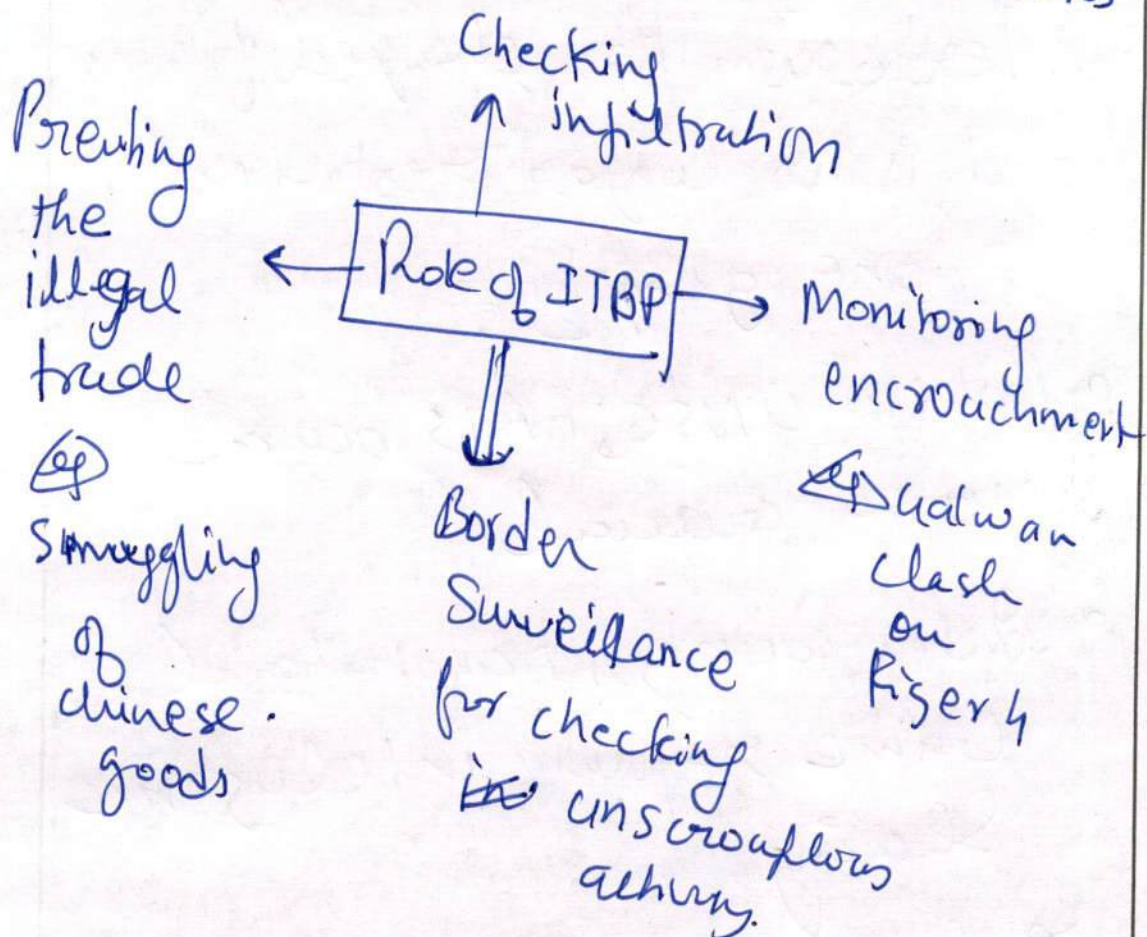
गलवान और यांगस्ते की घटनाओं के बाद वास्तविक नियंत्रण रेखा (LAC) पर तनाव बना हुआ है तथा भारत एवं चीन दोनों सीमावर्ती क्षेत्रों में अपने बुनियादी ढांचों को सुदृढ़ कर रहे हैं। इस क्षेत्र में ITBP द्वारा निभाई जाने वाली भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

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 स्थिति में नहीं लिखना चाहिए
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ITBP has mandate of guarding India - China border ~~from~~ which ~~Ladakh (Aksaichin region)~~ ~~to~~ comprises of North Eastern (Arunchal) difficult terrains



In addition to it,

ITBP plays a role in

- Intelligence gathering
(Role of local community in
border security)
- Infrastructure construction
for smooth and quick deployment
of forces
- Upholding national integrity
and sovereignty.

With rising China's expansionism,
role of ITBP has become
important than ever before.

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 खण्ड में
नहीं लिखना
चाहिए
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15

India houses ~18% of global population but is gifted with merely 2.6% global landmass and 4% of freshwater resources.

Land Productivity 'Utilisation' :

- 86% of farmers in India have less than 2 hectare of landholding. In this context, making utilisation/ reaping maximum benefits from land becomes essential.

- 29% of land is degraded in India and around 30% is on threat of degradation. Thus, utilisation of productive land becomes essential in addition to restoring the degraded land.

Shortcomings in land productivity approach

Over utilisation of land through excessive use of fertilizers, groundwaters, herbicide etc
↓
decline in fertility

Rising demographic pressure on land
↓

fragmentation of landholding

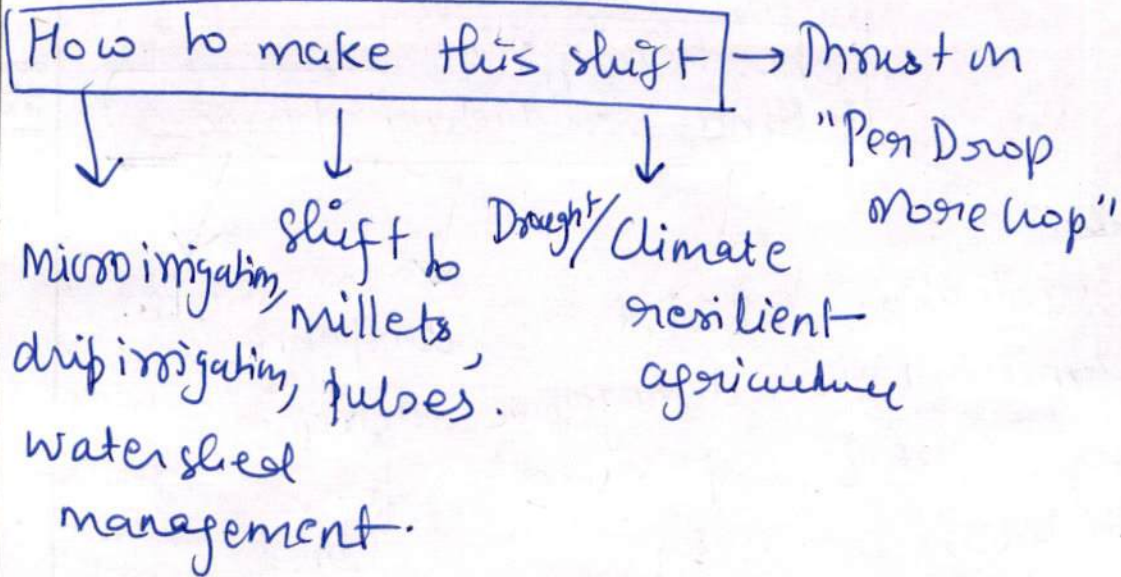
Competing demands for land

acquisition for urban power

Per hectare yield remains the only metric to evaluate

Need for irrigation water productivity approach.

- India extracts 25% of groundwater available globally.
- Water intensive crops such as rice sugarcane are produced in greater proportion due to MSP regime
↳ 1kg of rice export = Export of 3000L of water (Economic Survey 2017)
- Rising water scarcity and contamination
↳ As per NITI Aayog, 70% of water is contaminated while 50% of population living in 'water stress'.



Challenges in making this shift

- ① Inertia for change among farmers
— work on 'referent effect' i.e. only if they see other shifting, they will try to change their traditional mode
- ② Around 50% of land still dependent on rain for irrigation.
- ③ Higher cost for microirrigation in deployment and maintenance
(eg) trampling of sprinklers by wild animals
- ④ Electricity subsidy needs to be removed
- ⑤ Smart water metering required.

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 हिसाब से नहीं लिखना चाहिए
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National Green Hydrogen Mission (NGHM) launched in 2022 is a step towards achieving Panchamrit and NDC targets.

What is Green H₂? Hydrogen produced by electrolysis of water, the energy of which is produced from renewable sources like solar, wind.

Features of National Green Hydrogen Mission

- ① 5 million tonne of Green H₂ production (by 2030)
- ② ₹1 lakh crore investment
- ③ 8 lakh job creation (green jobs)
- ④ Reduction of import bill by ₹ 6 lakh crore
- ⑤ Steps towards decarbonizing, hard to abate sectors

Role of Green H₂ in energy security

उम्मीदवारों को इस कॉलम में नहीं लिखना चाहिए
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- ① Reduce dependance on oil imports and consequent price fluctuations
↳ Its estimated that increase in ^(\$1) oil barrel price results in ₹10,000 cr increase in import bill
- ② Diversification of energy mix (basket)
↳ supplementing solar, wind energy which are considered unreliable
- ③ Boost 'fertilizer' sector ^{and} self reliance (H₂ required for urea)
↳ Vulnerabilities got exposed due to current war of Ukraine-Russia
- ④ Will boost the auxiliary industries and promote new forms of energy production (e.g.) Biofuel

National Green Hydrogen Mission's role

उम्मीदवारों को इस हॉलिप में नहीं लिखना चाहिए
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- ① Dedicated corpus, incentivization through tax subsidies and benefit transfer (for end user of Green H_2)
- ② Will help fulfill Panchamnt target of 500 GW of renewable energy by 2030
- ③ Will reduce the current proportion of

Black H_2
Grey H_2
Pink H_2

}

produced from non-renewable sources of energy
- ④ Will Enhance India's stature as technology superpower and promote transfer of technology to dependent countries in exchange of carbon credit.

Thus, this mission is a revolutionary step in consonance with Mission Life (Lifestyle for Environment)

13.

हाल के दिनों में, सरकार न्यूनतम पारिश्रमिक की जगह जीवन निर्वाह पारिश्रमिक को अपनाने पर विचार कर रही है। भारत में जीवन निर्वाह पारिश्रमिक को अपनाने के लाभ और इसमें विद्यमान बाधाएं कौन-सी हैं? (उत्तर 250 शब्दों में दीजिए)

The government has been weighing a transition from minimum wage to living wage in recent times. What are the benefits and constraints in the adoption of living wage in India? (Answer in 250 words)

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

15

Article 43 prescribes for provision of living wages and ensuring minimum working condition standards for fulfilment of basic needs.

Transition from minimum wages to living wages

Challenges in minimum wage regime:

- ① Focussed on low cost of production (thus pro business)
- ② Can't accommodate inflation thus most deprived face the brunt of rising prices
- ③ Reduces bargaining power of labour
- ④ Hinders consumption potential due to reduced purchasing power thus indirectly stifling growth.

Moreover, enforcement of minimum wages itself has remained a challenge as evident from delayed implementation of New Labour Codes.

Need for living wages

- ① Promotes dignity of work and labour thus focusing on (Capability development approach)
- ② Boosts domestic demand, hence has positive spillover effect on GDP growth.

Benefits of living wage :

-
- ① Policy shift from right based approach to demand based approach
 - ② Improvement in human development indices rather than more increase in growth statistics
 - ③ Helping in tackling problem of jobless growth
 - ④ Promotes inclusion and even distribution of resources

Challenges / constraints in adoption of living wage

उम्मीदवारों को इस हार्डिंग में नहीं लिखना चाहिए
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- ① Would increase ~~in~~ cost of production
- thus may lead to capital / investment outflow from India
- ② World economies are pursuing 'race to bottom' i.e. lowest cost of to corporates for attracting them
- ③ Vague definition as standard of living can have ambiguous / different interpretation
- ④ May increase money supply thus leading to inflationary effects

Thus, living wage as ^{an} idea has some inherent challenges. However addressing them and shifting from minimum wage to living wage approach would help India achieve SDG-10 (Reduced inequality)

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)

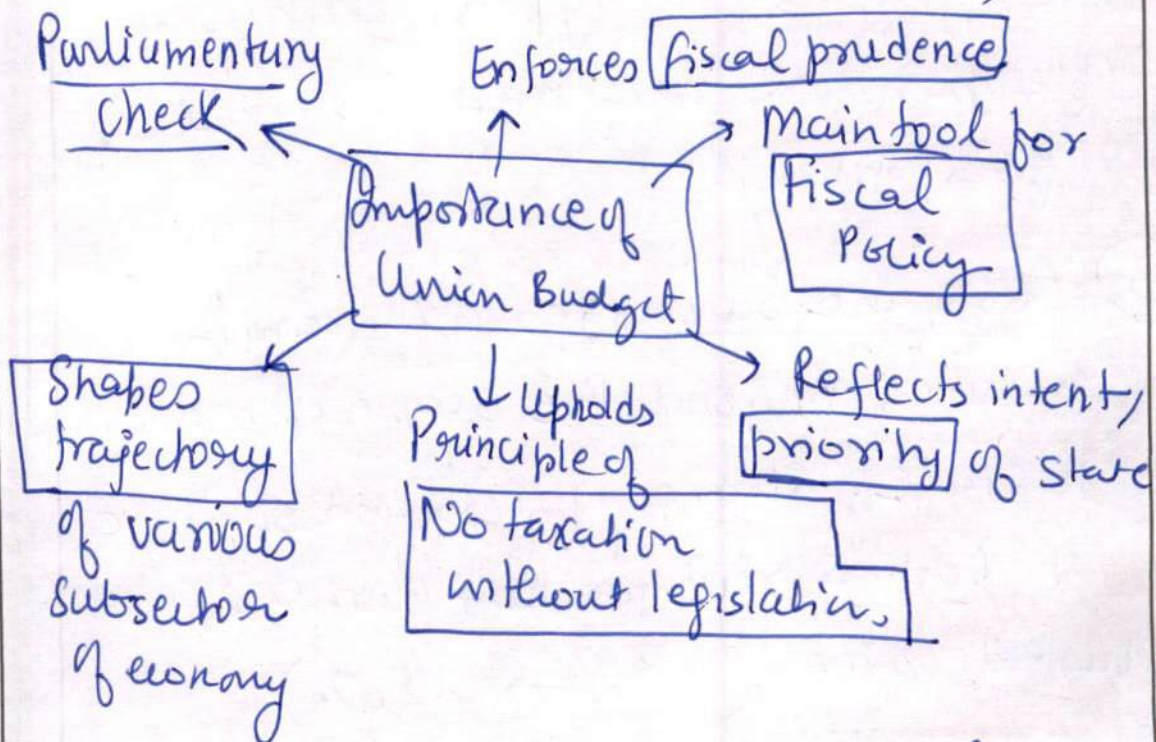
The Union Budget affects almost every sector of the Indian economy, yet neither the budgetary processes nor the budget policies come under substantial public scrutiny. Do you agree? Justify your answer. (Answer in 250 words)

उम्मीदवारों को इस हशिप में नहीं लिखना चाहिए
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15

Article 112 provides for laying down of (of constitution) Annual financial

Statement (i.e. Budget) having an account of expenditure and revenue sources (estimated and past year)



Measures of public scrutiny of Budget

- Periodic approval (i.e. 1 year time frame)
- Telecast of Budget Speech and documents
- Needs approval of Lok Sabha (reflects mandate)

Insufficient Scrutiny of Budgetary Processes

उम्मीदवारों को इस कॉलम में नहीं लिखना चाहिए
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① FRBM provisions are not implemented in spirit putting burden on exchequer.

↳ Fiscal deficit for 2023-24 is projected to be 5.9%, way above the target of 3%.

② Extra-budgetary borrowing are mechanisms to bypass criticism of opposition and media of bad fiscal health.

③ Tax and Surcharges: arbitrary in nature, beyond the scope of devolution to state. Share of tax and surcharge in Centre's revenue has doubled in past decade (10% → ~20%)

④ Limited role of Rajya Sabha

⑤ Out of the scope of Public Account Committee, Estimate Committee

⑥ Guillotining of clauses.

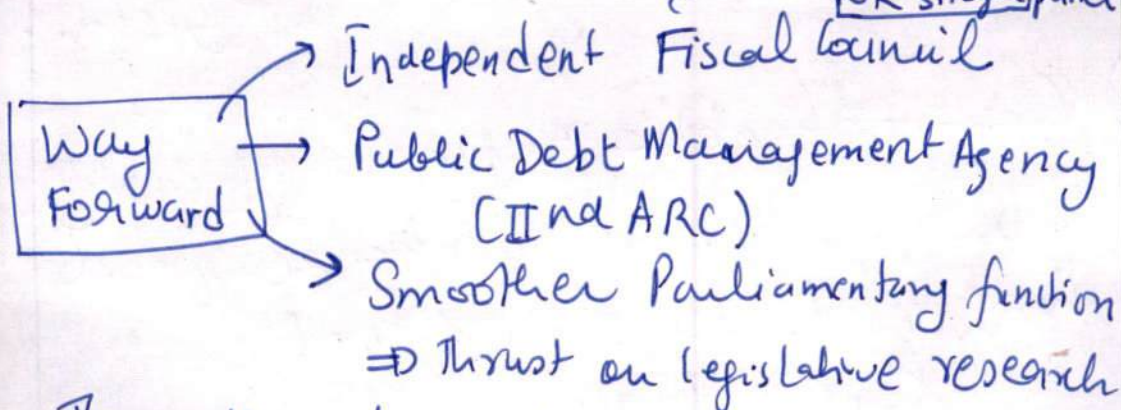
~~Def~~ Insufficient scrutiny of budget policies

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
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Pre-

- ① Budgetary consultations often happen in closed chambers with limited access to few
- ② CAG indulged only in post mortem work after damage is done
- ③ Public consultation like other policies (eg: Draft EIA/NEP) not present

- ④ Outlay based approach rather than outcome based allocation
↳ Many schemes don't have sunset clause, thus can't be stopped due to populism.



Thus, the above challenges of budgeting

need to be addressed for promoting inclusive growth.

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 छवि में नहीं लिखना चाहिए
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White Revolution enabled India to become largest producer of milk in the world.

Factors behind transformation

- ① "AMUL" model → reflecting the growth story of cooperatives thus promoting farmers to resort to daily farming.
- ② Introduction of foreign breeds (eg: Jersey) which had higher yield.
- ③ ~~Genetic~~ Genetic engineering enabling hybrids, better nutritional food for milching animal, better longevity etc.

Challenges present in terms of

Productivity of dairy animals:

उम्मीदवारों को
इस हाशिए में
नहीं लिखना
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- ① Indigenous breed aren't able to produce greater amount of milk
- ② Foreign breeds require greater care and nutrition
- ③ Lumpy Skin Disease : and similar such outbreaks affecting the yield
- ④ Shortage of veterinary doctors for treatment in case of diseases
- ⑤ High GHG emissions from dairy sector (Ruminant animals produce CH_4 (methane))
- ⑥ Economics of animal rearing not favourable in current social atmosphere
- ⑦ Ban on cow slaughter laws preventing farmers to sell off unproductive breeds

Other challenges → lack of processing industry
(e.g.) only 30-35% of milk product get processed.

→ Lack of innovation in dairy farmers
→ Distress sale and distorted supply chain leading to increase in price for end consumers without benefitting farmer.

Way Forward → Promoting agri-extension services
→ Greater thrust on Biotechnology Research
(e.g.) "Cloning", gene editing
→ Economic Survey 2019 suggested rearing of small size ruminants (e.g. goats, sheep) to make economics viable for small farmer.

Thus ~~next~~ 2nd milk revolution should address the above challenges.

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 हशिप में नहीं लिखना चाहिए
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Economic Survey estimates that climate change can reduce agricultural productivity by 20% in unirrigated areas.

Climate change responsible for crop failures:

- ① Erratic monsoon pattern
 - ⊕ Triple Dip La Nina.
- ② Uneven distribution of rainfall
 - ↳ Spread of monsoon has declined from earlier (45 days) → earlier
- ③ Extreme weather events
 - ⊕ drought, heat wave (U.P.)
 - ↳ foods
 - ↳ impacting milch animals
 - cyclones.

④ Changing timings of monsoon

↳ Delayed Southwest monsoon affects Kharif crops.

* Responsibility of agricultural sector in promoting climate change:

① Unregulated water extraction
↳ "water stress" in Green Revolution Belt (water table decline)

② Water Pollution due to excessive use of fertilizer
↳ NITI Aayog (2018) report says
For. of water is contaminated in India

③ GHG emissions in paddy
↳ NH_3, CH_4 emission.
Agricultural sector is second largest contributor in case of India.

Strategy under

National Agricultural Disaster Management Plan

Predisaster ① curbing the growth/
onset of slow disasters like
drought ② capacity building
in case of floods, cyclones.

Puring Disaster ① Rescue-Relief
② hook-listen-link Reliability.
③ Safe Evacuations

Post Disaster ① Build Back Better
② Promoting Insurance for crops.

With more than 40% of Indian
population deployed in agriculture,
necessary steps should be taken
to ~~sub~~ mitigate and adapt
to agricultural disasters.

17.

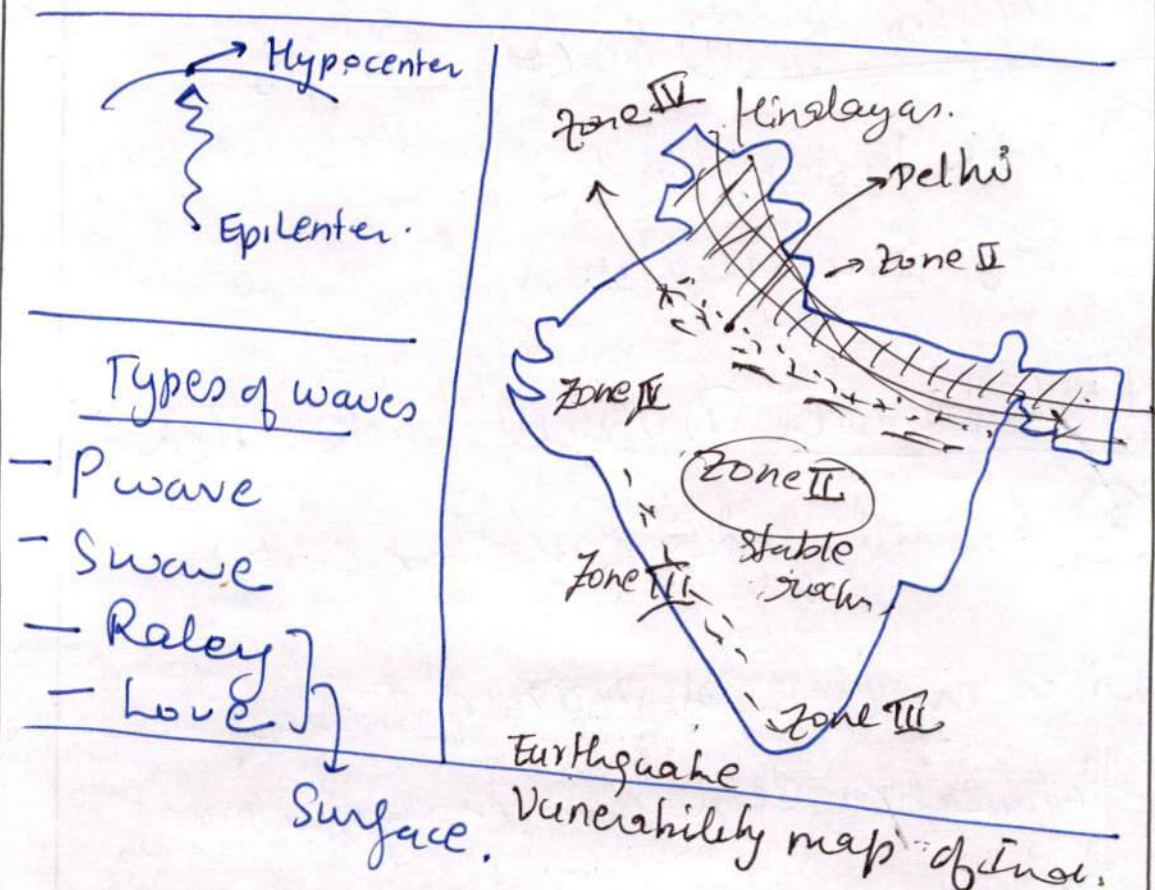
दिल्ली सहित भारत के कुछ क्षेत्र हिमालय में आने वाले भूकंपों के प्रभाव के प्रति अत्यधिक संवेदनशील हैं। विवेचना कीजिए। भारत में भूकंप से होने वाली हानि को कम करने के लिए कौन-से संस्थागत उपाय किए गए हैं? क्या आपको लगता है कि कुछ उल्लेखनीय कमियां अभी भी मौजूद हैं? (उत्तर 250 शब्दों में दीजिए)

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

उम्मीदवारों को इस कॉपी में नहीं लिखना चाहिए।
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Earthquakes refers to sudden shaking of landmass due to seismic wave generated from epicentre. Around 60% of Indian landmass is earthquake prone



Reasons for high vulnerability
to impact of earthquake around Delhi

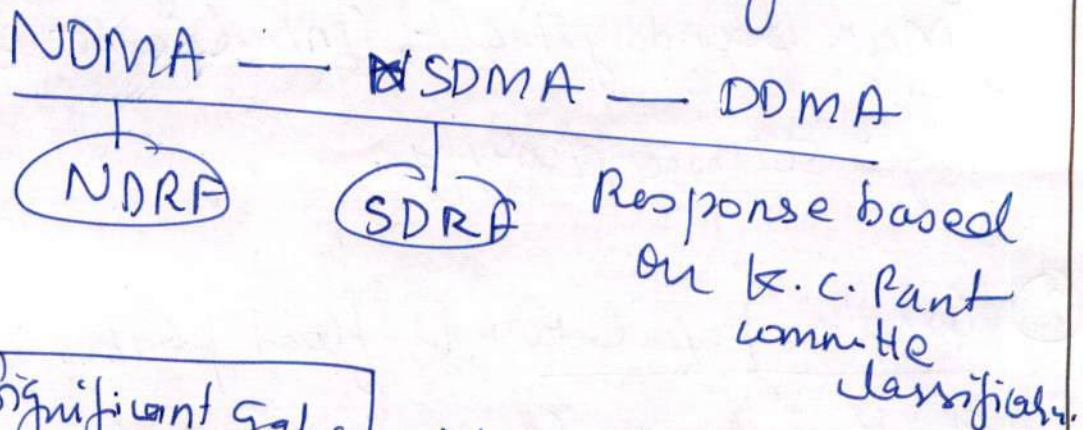
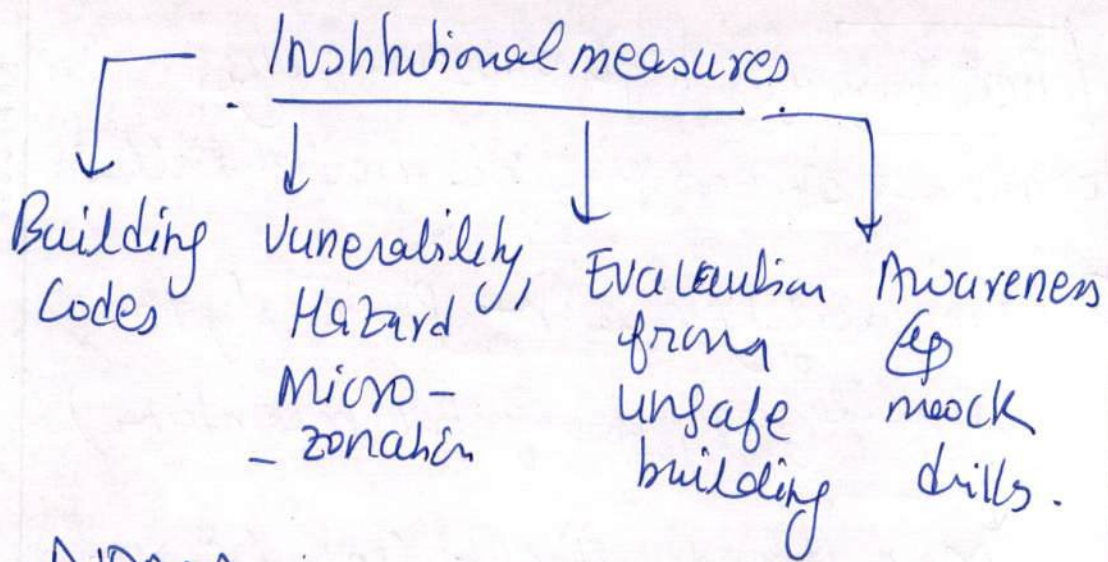
① Vulnerability due to Proximity to
Himalayas (young fold mountains)
↓
Main Boundary fault, Central fault etc
high seismic activity.

② Greater population in flood plains
of Himalayas (Indus, Ganga, Brahmaputra
basin) ⇒ greater vulnerability

③ Poor capacity : absence of drills,
flouting of building codes,
unsustainable tourism, illegal
construction.

Institutional Measures

Since earthquake is difficult
to predict, greater thrust has
been given to preparedness.



Significant gaps exist due to .

- ① Disaster management not included concurrent list (as recommended by 7th ARC)
- ② Corruption-collusion-nexus between officials - politicians - construction industry
- ③ Outdated laws and codes
- ④ Complexity to comprehend.

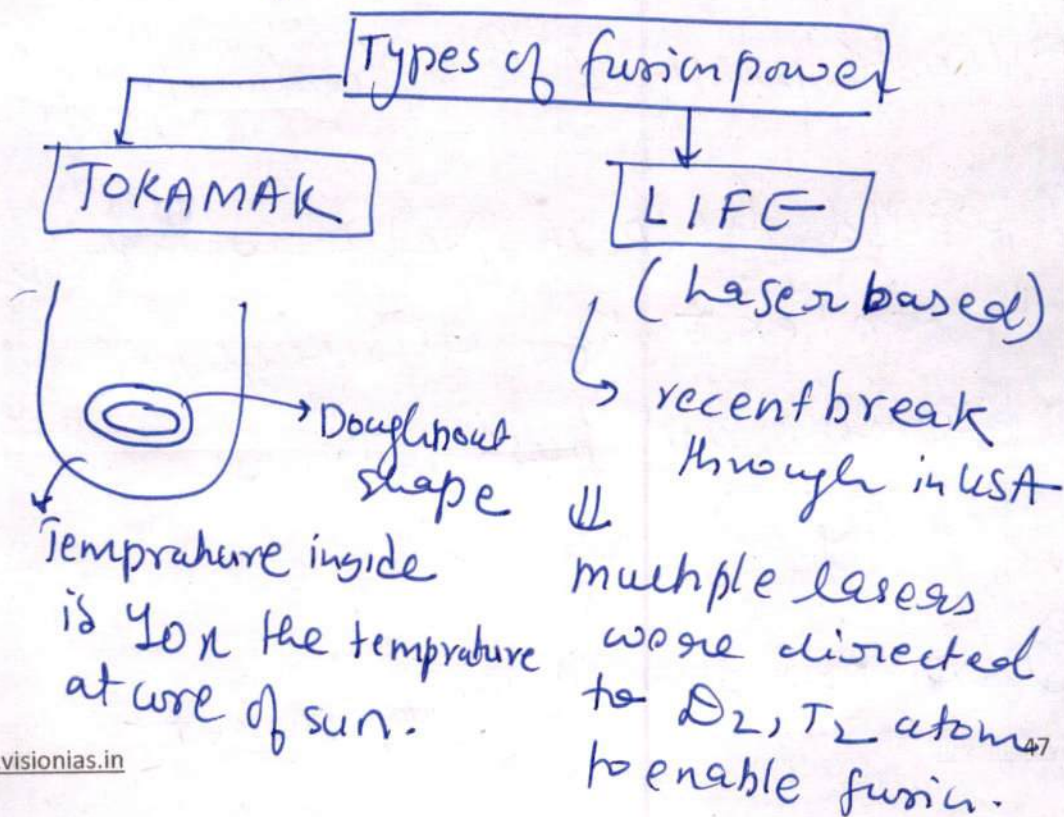
In this context, a revamped approach towards ~~the~~ earthquake disaster management is required in lines of Sendai Framework

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)

Nuclear fusion power offers prospects for revolutionising energy security paradigm and helping decarbonisation.

In 1985, ITER (International Thermonuclear Reactor) was formed as an alliance for promoting research on fusion power.



Advantages of fusion power

① Creation of energy due to destruction of mass ($E=mc^2$)

⇒ Thus energy output $\gg$ energy input
↓

Can help in energy security

② Cleaner source of energy

③ Unlike nuclear fission, there is no harmful radioactive waste
↳ waste produced has short half life.

④ would help in Net zero targets in context of curbing global warming and push towards peaking of emissions

⑤ Diversification of energy basket

Limitation of fusion power

उम्मीदवारों को
इस खण्ड में
नहीं लिखना
चाहिए
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- ① Technology is restricted to few countries (< 10 countries) thus its "elitist" in nature
- ② Commercial application would take time (estimated to be after 2050) thus won't add much to decarbonization efforts.
- ③ High cost of production/setup/upfront investment
- ④ Unintended effects/safety concerns need to be further scrutinized.

The recent breakthrough is a positive news for scientific fraternity. Fusion power needs to be democratized with due diligence but at a faster pace -

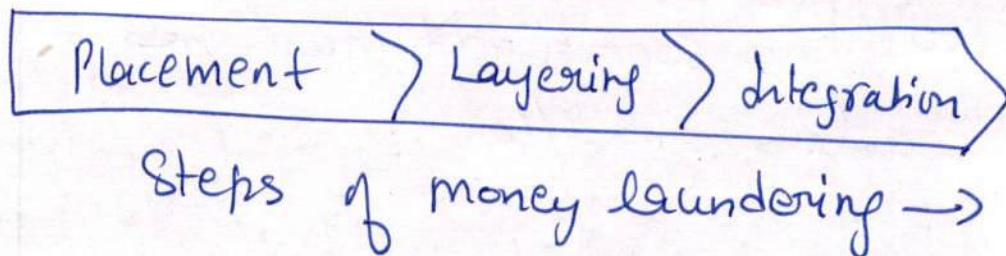
19.

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

15

उम्मीदवारों को इस दृष्टिकोण में नहीं लिखना चाहिए
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Money laundering as described by OECD refers to disguising illegal / black money's true source and giving ~~an~~ an appearance of it coming from legitimized sources.



For tackling this menace Prevention of money laundering Act, (PMLA) 2002 was enacted along with other statutes like FEMA, FCRA, Benami Transaction Act etc.

Efficacy of PMLA (2002) Positives :

- ① Steps to curb terrorist financing, organized crime through Hawala transfers.

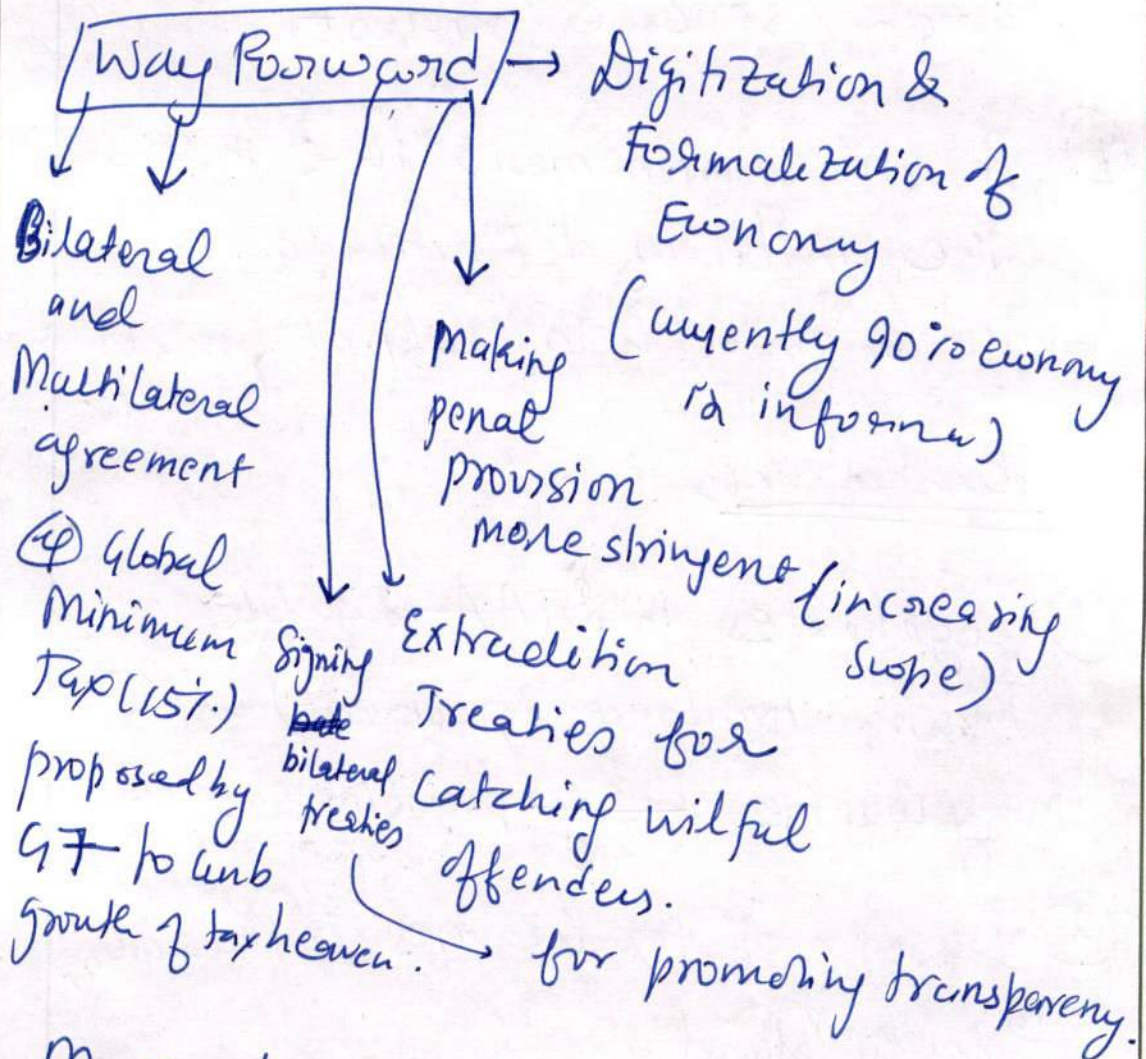
- ② Strict penal provisions for indulging in laundering
- ③ Wider scope / ambit / powers to Enforcement Directorate for search / seizure / arrest
- ④ Recent amendments have increased the ambit of definition as to who ~~is~~ can be held culprit under the act.

Shortcomings :

- ① Lookholes in DTAA (Double Taxation Avoidance Agreement) with many countries ~~facing~~ providing safe places
- ② Presence of tax heavens (e.g. Mauritius, Cayman Island)
- ③ Round tripping, Tax avoidance, Tax evasion outside ambit of PCA
(e.g. Panama Paper leaks).

④ Ineffective provisions against curbing the spurt of shell companies.

↳ Economic Survey 23 : highlighted the 'flipping' problem of startups.



Money Laundering is a menace for which recent amendments in PMLA Act are a positive step, which needs to be backed by more steps.

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 हिसाब से नहीं लिखना चाहिए
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India has around 7500 km of maritime borders with diverse set of challenges of localized nature.

Security threats present in (IOR)

IOR has become theatre of attention for great powers over last decade.



Figure: Security threats in IOR.

Threats of militarization are rising in the backdrop of ^{rising} security threats in IOR.

Bearing on India's maritime border interest

उम्मीदवारों को
इस क्राशिंग में
नहीं लिखना
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- ① 90% of trade by volume, 75% of trade by value happens through Sea route for India
- ② Strategic locational advantage
 - ↳ ^{need for} developing military base in Andaman & Nicobar can damage its ecological diversity
- ③ ^{vital} Sea lanes of communication
- ④ Fishermen disputes / killing
 - ↳ ~~ke~~ Capturing of fishermen in Sri Lanka
Pakistan
- ⑤ Unsettled maritime borders.
 - ↳ Katchatheevu dispute, Sir Creek
- ⑥ Routes for organised crime and terrorist activity [↳] 26/11 attack terrorist came from sea route
- ⑦ India's Deep Sea Mining initiatives in IOR [↳] polymetallic nodules

Robust strategy to deal with these threats

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इस हशिग में
नहीं लिखना
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- ① Theaterization of marine command
↳ Western command for Arabian Sea,
Eastern for Bay of Bengal
- ② Pursuing Blue Water Navy policy
↳ Steps like indigenous air craft carrier
making INS Vikrant are positive steps.
- ③ Developing / Inducting Nuclear Powered
Submarines (SSN / SSBN)
- ④ Better ~~surveillance~~ Surveillance through
technology (↳ Earth Observation Satellite
Drones.
- ⑤ Capacity building of Coast Guards.
- ⑥ Speedy mutual resolution of disputes
- ⑦ Utilization of Exclusive Economic Zones.

Dealing with maritime security threats
is necessary for ensuring Security and
Growth for all in the Region (SAGAR)

SPACE FOR ROUGH WORK