



TEST CODE 7 1 3 3 1 4

FIAS | MGP 2024 | Open Test – GS Paper #3

Time Allowed : Three Hours

समय : तीन घंटे

ForumIAS

Maximum Marks : 250

अधिकतम अंक : 250

GENERAL STUDIES / सामान्य अध्ययन

Name Of Candidate परीक्षार्थी का नाम	MADHAVI. R		
Roll No./अनुक्रमांक	1910128111	Medium/माध्यम	English ☒ हिंदी ☐
Center Code/परीक्षा केंद्र	1901	Date/दिनांक	06/01/24

*Center Code : For Online - 1900 / Delhi : Karol bagh - 1901, ORN - 1902, Mukharji Nagar - 1903 / Patna : Boring Rd. - 2001 / Hyderabad : Jawahar Nagar - 2101

INDEX TABLE / अनुक्रमिका			INSTRUCTION / अनुदेश	
Q. No. प्र.सं.	Max. Marks अधिकतम अंक	Marks Obtained प्राप्तांक	1. Please do furnish Name, Email, Roll No and Mobile in the answer sheet. कृपया उत्तर-पुस्तिका में नाम, ईमेल, रोल नंबर और मोबाइल नंबर करें। 2. There are TWENTY questions printed in ENGLISH & HINDI, all questions are compulsory. उत्तर पुस्तिका में अंग्रेजी/हिंदी में बीस प्रश्न दिए गए हैं, सभी प्रश्न अनिवार्य हैं। 3. The number of marks carried by a question/part is indicated against it. प्रत्येक प्रश्न/भाग के लिए निर्धारित अंक उसके सामने अंकित किए गए हैं। 4. 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. उत्तर प्रवेश पत्र में अधिकृत माध्यम में लिखे जाने चाहिए, जो कि दिए गए स्थान में इस प्रश्न-सह-उत्तर (व्यूरीए) पुस्तिका के कवर पर स्पष्ट रूप से लिखा जाना चाहिए। 5. Word limit in questions, if specified, should be adhered to. Any page or portion of the page left blank in the Question-Cum Answer Booklet must be clearly Struck off. प्रश्नों में शब्द सीमा, यदि निर्दिष्ट हो, का पालन किया जाए। प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गये किसी भी पृष्ठ या पृष्ठ के भाग को स्पष्ट रूप से काट दें।	
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Examiner's Discretion/मूल्यांकन कर्ता का विवेक :			Start Time/प्रारंभ करने का समय :	End Time/समाप्त करने का समय :
Total Marks/कुल अंक :			Mode Of Examination/ परीक्षा की विधि :	Online/ऑनलाइन ☐ Offline/ऑफलाइन ☒
*Examiner's Discretion is the marks awarded at the discretion of the examiner based on your overall impression, on the basis of (but not limited to) your handwriting, presentation, use of diagrams, flowcharts, facts and figures or absolutely anything that he/she liked in your copy. मूल्यांकन कर्ता का विवेक अंक, आपकी लिखावर, प्रस्तुति, आरेखों के उपयोग, फ्लोचार्ट, तथ्यों और आंकड़ों या समग्र रूप किसी अन्य विषय वस्तु, जो मूल्यांकन कर्ता को आपकी कॉपी में पसंद आयी के आधार पर (लेकिन इन्हीं तक सीमित नहीं) पर दिए गए अंक हैं।			For Office Use Only / केवल कार्यालय प्रयोग हेतु	
			ECN CODE/ ईसीएन कोड :	Evaluation Date/ मूल्यांकन तिथि :
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Note: Students are expected to incorporate suggestions from the feedback provided in the answers. Discussion classes for the tests are also available online in your portal to aid in your preparation. Further, students are requested to see the good copies of the tests and learn from them. You can also discuss your copy with a Mentor and discover ways and means to improve your answers, or if you have any issues with this test / copy. Ask specific questions, to get specific answers.

EXAMINER'S REMARKS

CRITERIA FOR THE FEEDBACK SECTION AT THE END OF EACH QUESTION

1. **AWIS = Answered What is Asked.** This means whether you have addressed the core demand of the question or not. Addressing the core demand of the question gets you an objectively fair score. It is examiner's perception if you have understood the question and if you know the answer in the first place. Creative answer writing, sometimes missing the core demand, may fetch very high or very low scores, and exposes your answer to the subjectivity of the examiner.
2. **CD & VA = Content Density & Value Addition.** Examiner will evaluate the quality and quantity of your content in the answer. In the same word limit and space limit have you (a) written what is asked (b) gone beyond what is asked (c) enriched answers through combination of (but not all!) suggestions, ideas, quotes, flowcharts, diagrams, facts and figures, data etc. This affects objective components of assessment.
3. **S & F = Structure & Flow** = Whether you have structured your answer properly or not. Whether the answer has been broken into parts and sub-parts and each part has been addressed appropriately or not. Whether the flow of the answer is maintained. Affects both subjective and objective components of assessment.
4. **P & R** = How your answer performs on the criteria of **presentation, ease of read, clarity and apparent effort** in writing the answer. This affects the subjective components of assessment.

Q.1) What do you understand by 'green growth'? Enumerate the measures taken by the government to promote green growth in the country. (10 marks, 150 words)

'हरित विकास' से आप क्या समझते हैं? देश में हरित विकास को बढ़ावा देने के लिए सरकार द्वारा उठाए गए कदमों का उल्लेख करें। (10 अंक, 150 शब्द)

'The trajectory of growth with sustainable measures of reduction in carbon emissions through the transition towards clean energy is green growth.' — UNEP

Measures taken by the government to promote green growth in the country:

- ① promotion of 'sustainable transportation methods'
(eg) FAME policy for e-vehicles.
- ② Encouraging the 'green corridors' and urban afforestation programs
(eg) Green city
- ③ Awareness and nudging the citizens towards clean energy
(eg) Life campaign.

④ Implementation of waste segregation and management with 'Extended Producer Responsibility'

⑨ plastic waste management Rules.

⑤ Regenerating the urban water bodies and encouraging the growth of Mangroves

⑨ Wetland Rules and MISTI program.

⑥ gradual transition towards clean energies

⑨ National hydrogen policy

"Green growth with Inclusive development is the motto of a Nation"
— PM Modi.

Feedback

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AWIS			
CD & VA			
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Please put tick marks in the above table.

Here G is Good, A is Average and P is Poor.

TOTAL MARKS

Q.2) DPI (Digital Public Infrastructure) is a critical enabler of digital transformation for both businesses and citizens; however, it comes with its own set of challenges. Examine. (10 marks, 150 words)

डीपीआई (डिजिटल पब्लिक इन्फ्रास्ट्रक्चर) व्यवसायों और नागरिकों दोनों के लिए डिजिटल परिवर्तन का एक महत्वपूर्ण प्रवर्तक है; हालाँकि, इसके साथ अपनी चुनौतियाँ भी जुड़ी हैं। जाँच करें। (10 अंक, 150 शब्द)

Digital public infrastructure

is a digital public good which is available to all, without exclusion of citizens.

Digital public infrastructure (DPI)

critical enabler of digital transformation

Business

- ease of business #MCA21
- transparency in procurement
- Reduction of menace of middle men (eg) e-NAM

Citizens

- Financial inclusion (eg) JAN Dhan
- Transparency and citizen participation (eg) e-RTI billing
- Fast delivery of services thus enhancing trust on govt (eg) Vivad se Vishwas

However it has its own challenges :-

- ① Lack of critical Data Infrastructure which is leading to increase in cybercrimes
 - eg) COVID Data leak
- ② Lack of efficiency and knowledge among human resource
 - eg) 60% of people in gov offices doesn't know system usage.
- ③ 'Digital illiteracy' among general public leading to rampant financial frauds.
- ④ 'Digital divide' perpetuating inequality only 30% in rural and 65% urban have Digital knowledge.

Comprehensive Data, Digital Infrastructure and Digital security are the need of the hour.

Feedback

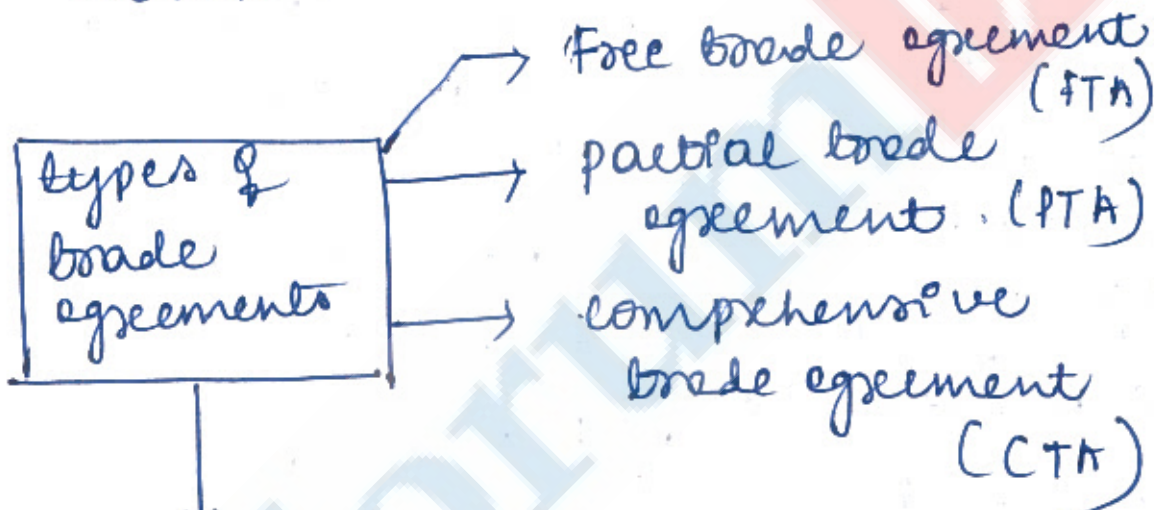
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Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.3) Explain the different types of trade agreements? How is a Comprehensive Economic Partnership Agreement (CEPA) different from a Free Trade Agreement (FTA)? (10 marks, 150 words)

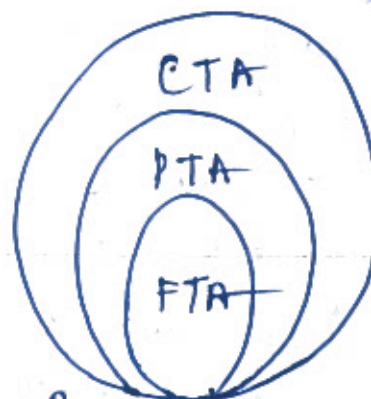
विभिन्न प्रकार के व्यापार समझौतों की व्याख्या करें? व्यापक आर्थिक भागीदारी समझौता (CEPA) मुक्त व्यापार समझौते (FTA) से किस प्रकार भिन्न है? (10 अंक, 150 शब्द)

Trade agreements are mutual, voluntary participation, in the easing of rules for the transportation of goods and services across borders.



Based on number of countries in agreement

- ① Bilateral trade agreement
(e.g) India UAE
- ② Multilateral trade agreement
(e.g) India Africa FTA.



Comprehensive economic partnership agreement (CEPA)

Free trade agreement (FTA)

① Broad range of goods and services are traded. It includes the list what cannot be traded, rest everything is allowed.

② Negative list

③ Sharing of technological methods and Intellectual property rights

④ India - Australia CEPA

① Narrow which includes only the 'goods which has to be traded' with concessions

② POSITIVE LIST

③ NO sharing of Intellectual property rights

Overall 'trade agreements'

according to WTO norms helps in the empowerment of less developed nations and becomes a WIN-WIN solution

Feedback

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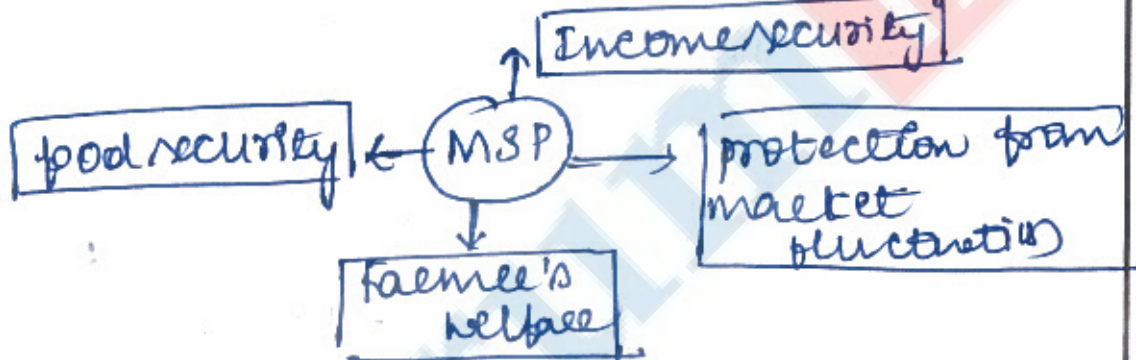
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TOTAL MARKS			

Q.4) The rationale behind the MSP system is well acknowledged, but it requires comprehensive reforms to mitigate the unintended consequences on the market and environment. Analyse.

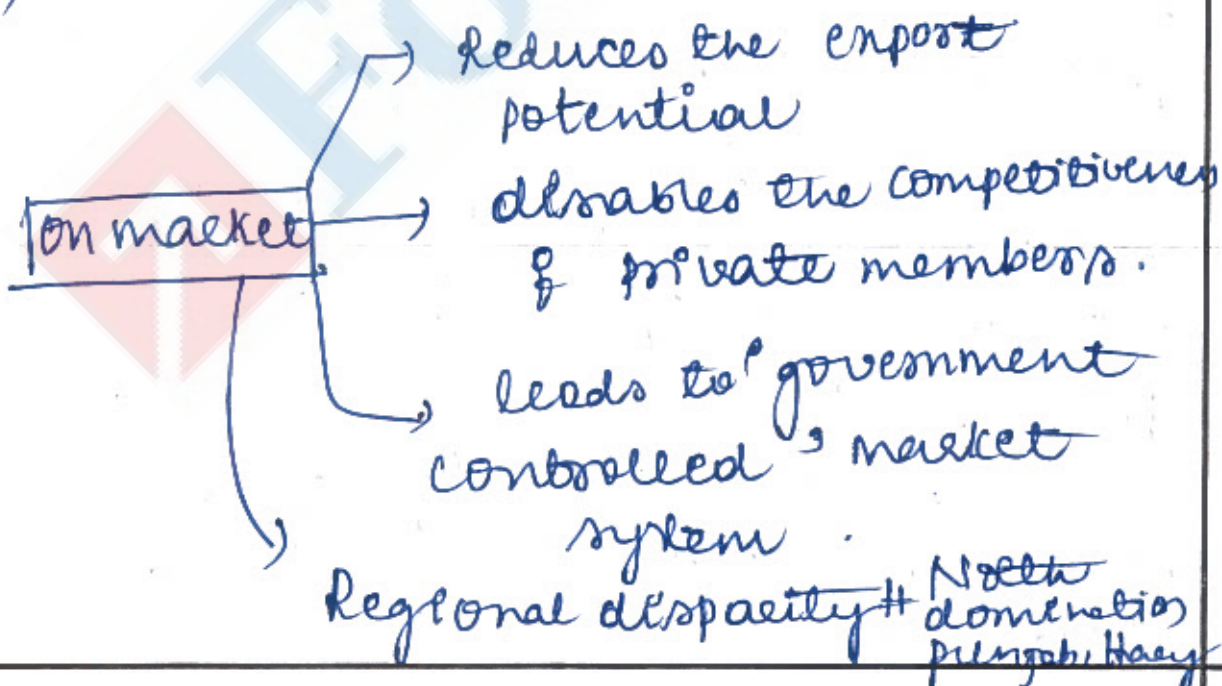
(10 marks, 150 words)

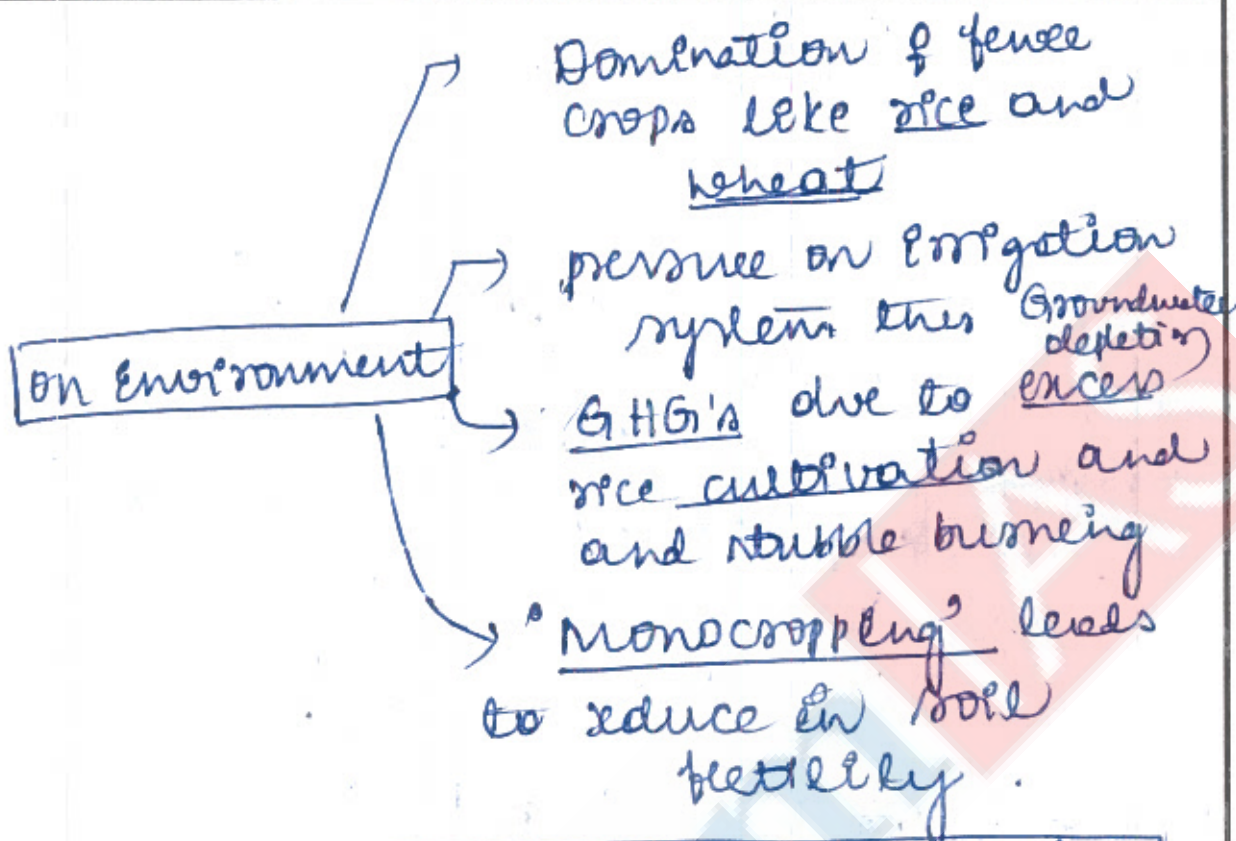
एमएसपी प्रणाली के पीछे का तर्क सर्वविदित है, लेकिन बाजार और पर्यावरण पर पड़ने वाले अनपेक्षित परिणामों को कम करने के लिए इसमें व्यापक सुधारों की आवश्यकता है। विश्लेषण करें (10 अंक, 150 शब्द)

Minimum support price (MSP) is a fixed amount given by the government for the direct procurement of selected crops (23), which is usually announced prior to the sowing season.



* However it has unintended consequences





Hence comprehensive reforms needed

- ① 'Diversifying' the crops produced
eg millets, climate resilient crops
- ② Decentralised procurement can lead to regional equality
- ③ Relaxation of essential commodities act to give an equal ground to private players.

What we need is
'meticulous and sustainable' pricing
(New MSP)

Feedback

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TOTAL MARKS			

Q.5) How can quantum technologies optimize production processes and improve efficiency in the manufacturing sector? (10 marks, 150 words)

कान्टम प्रौद्योगिकियां उत्पादन प्रक्रियाओं को कैसे अनुकूलित कर सकती हैं और विनिर्माण क्षेत्र में दक्षता में सुधार कर सकती हैं? (10 अंक, 150 शब्द)

'Quantum technology'

works on the principles of particle entanglement and superposition

Quantum Technology (QT) in the manufacturing sector :

optimizing production process

→ with the accurate data and clearecut analysis, estimates the quantity for production hence reduces the losses.

→ Eases the process of production with the cleare algorithm framework

⑨ manufacturing parts & automobiles

Improving efficiency

↳ with the secured data reduces the data, and trade secrets leakage.

↳ Increased speed. (Quantum computer works 100x more than traditional computer) thus enhanced rate of production

⑨ Japan Industries using Quantum technology.

However India has a still long way to go, but the introduction of National Quantum mission is a futuristic measure in this.

Feedback

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TOTAL MARKS			

Q.6) Biofuels can play a role in energy security by reducing India's reliance on imported fossil fuels and diversifying its energy mix. Examine. (10 marks, 150 words)

जैव ईंधन भारत की आयातित जीवाश्म ईंधन पर निर्भरता को कम करके और इसके ऊर्जा मिश्रण में विविधता लाकर ऊर्जा सुरक्षा में भूमिका निभा सकता है। परीक्षण करें। (10 अंक, 150 शब्द)

'Biofuels' are the fuels extracted from the food and fodder crops. (or) with the usage of living organisms like algae.

Biofuels in energy security:

- ① self sufficiency in biofuels reduces the imports of fossil fuels; thus reducing the financial deficit.
- ② biofuels production from the utilisation of biomass, molasses leads to effective usage of waste.
 - ⑨ Sugarcane factories
- ③ leads to alternative fuel usage and gives farmers an extra income security.

eg use of oilseeds and pulses crops.

④ helps in the India's mission of transition towards clean and energy

eg ethanol blending program

However there are challenges such as

- Food Insecurity
- Domination of big sugarcane farmers
- lack of enough infrastructure in ethanol production.

Addressing these challenges, no doubt 'Biofuels' has a big role to play in future. 'Global Biofuel Alliance' under India's G20 leadership is the acknowledgment for this.

Feedback

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TOTAL MARKS

Q.7) Alongside the alarming depletion, rising pollution levels of groundwater resources are exacerbating the water crisis in India. In light of the statement, bring out the reasons for groundwater pollution in the country. Suggest remedial measures and mention the initiatives taken by the government in this regard. (10 marks, 150 words)

भूजल संसाधनों में अत्यधिक कमी के साथ-साथ प्रदूषण का बढ़ता स्तर भारत में जल संकट को और बढ़ा रहा है। इस कथन के आलोक में, देश में भूजल प्रदूषण के कारणों को उजागर करें। उपचारात्मक उपाय सुझाएँ और इस संबंध में सरकार द्वारा की गई पहलों का उल्लेख करें। (10 अंक, 150 शब्द)

According to 'central ground water authority' ~35% of groundwater tables are severely depleted in India. This water crisis is adding to the GW pollution.

Reasons for the groundwater pollution

- ① Human activities such as 'mining' and 'deep tube drillings' (eg Arsenium, Uranium).
- ② Excessive use of 'fertilizers' and unsustainable irrigation practices. (eg 'NP bottles')
- ③ 'Industrial waste' without any treatments
- ④ 'Nuclear power plants' (Radioactive waste Uranium, Plutonium).

measures taken by the government → 'Atal Bhujal' yojana
'Rainwater harvesting'
 treatment of industrial wastes before clearing to any waterbodies.
'polluter pays principle'

Remedial measures :-

- ① Awareness & purification techniques like [Nalgonda] technique for fluorosis
- ② Recharge of [groundwater table] with integrated water management practices.
- ③ Mapping of groundwater and the substances present, treatment & purifications can save many lives

'Quality' and 'Quantity' of groundwater need to be preserved.

Feedback

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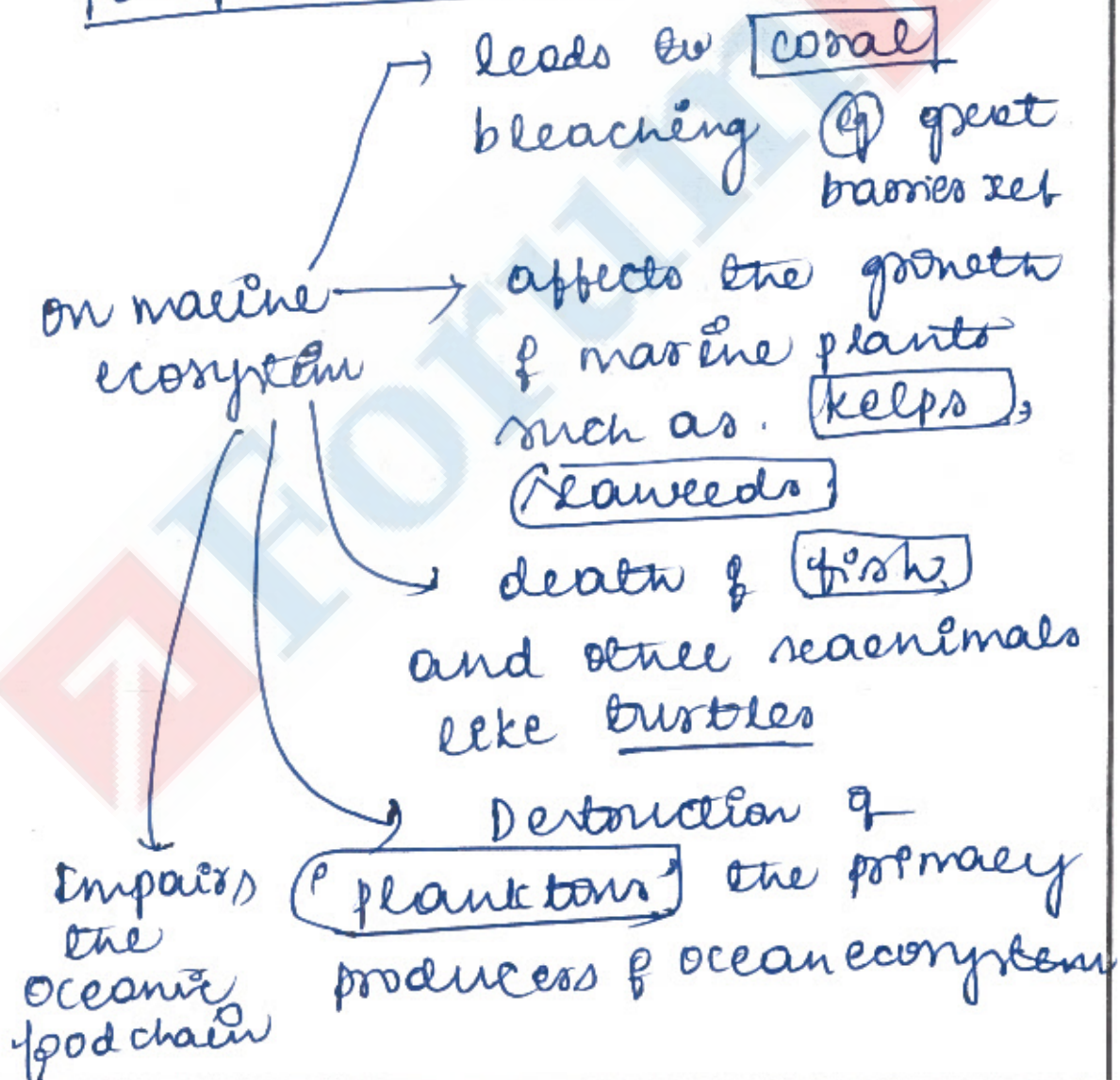
Q.8) What are marine heat waves? Throw light on its impact on marine ecosystem and coastal communities. (10 marks, 150 words)

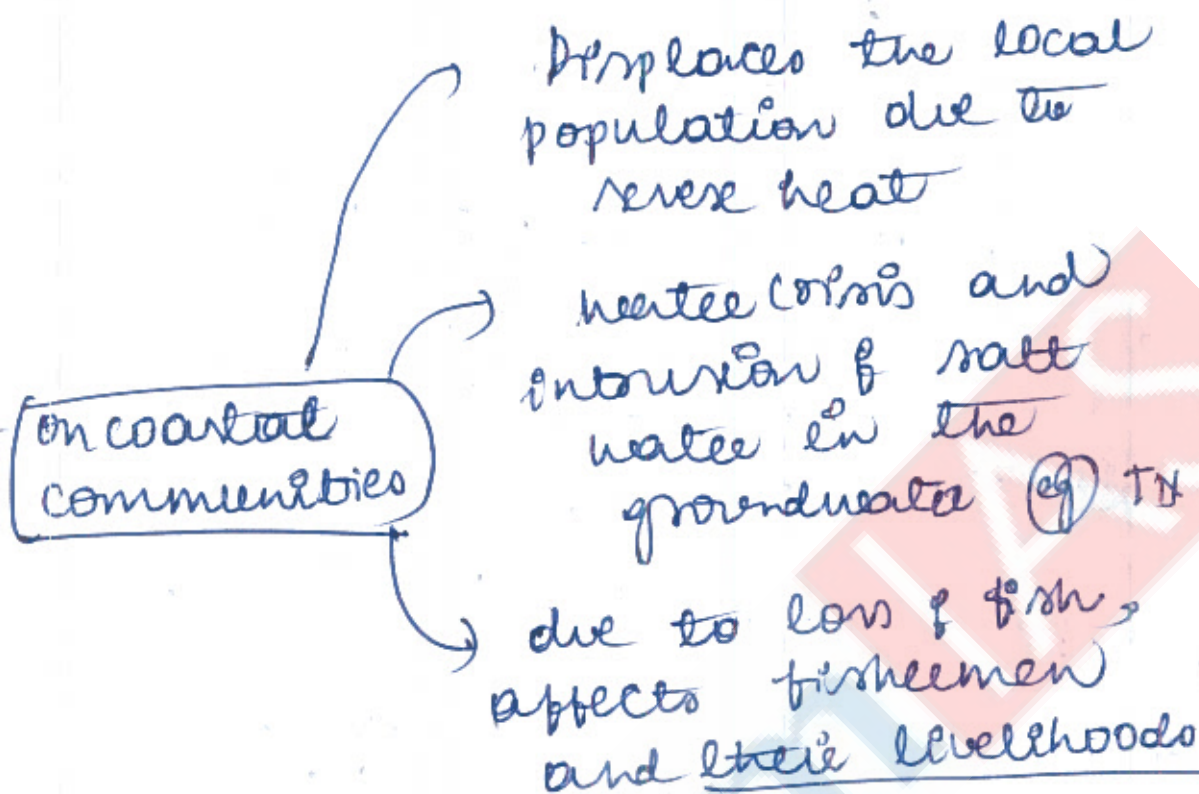
समुद्री उष्ण तरंगें क्या हैं? समुद्री पारिस्थितिकी तंत्र और तटीय समुदायों पर इसके प्रभाव पर प्रकाश डालें।

(10 अंक, 150 शब्द)

'Marine heat waves' are the phenomenon of increased oceanic temperature of $1-2^{\circ}\text{C}$ for more than ten days.

Impact of marine heat waves.





As marine heatwaves are due to 'climate change' and the ongoing global warming, It needs sustained measures from all to mitigate the effects

Feedback

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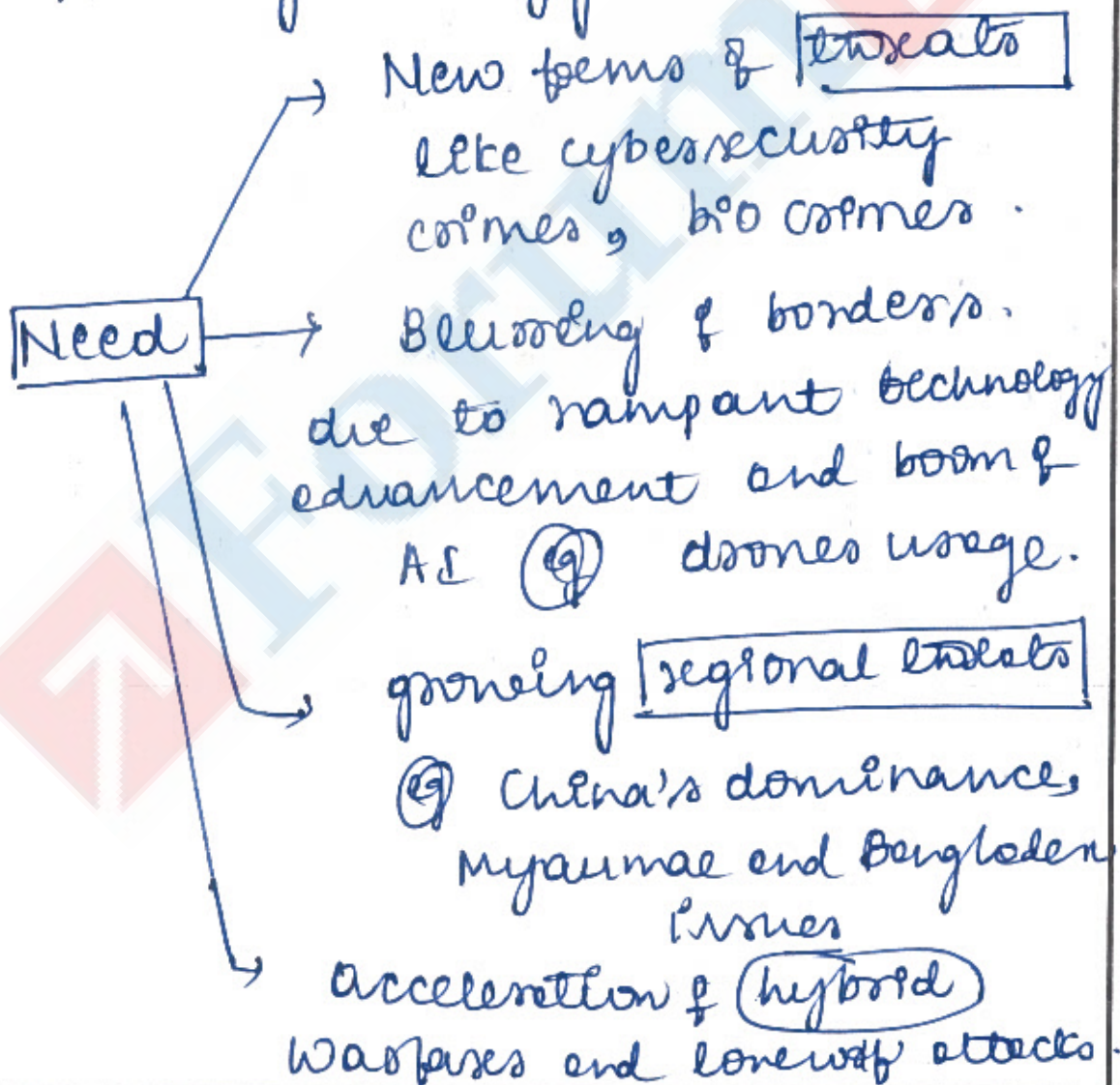
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TOTAL MARKS

Q.9) Elaborate on the need for a clearly articulated National Security Strategy for systematic, consistent and coherent approach towards national security. (10 marks, 150 words)

राष्ट्रीय सुरक्षा के प्रति व्यवस्थित, सुसंगत और अनुकूल दृष्टिकोण के लिए स्पष्ट रूप से व्यक्त राष्ट्रीय सुरक्षा रणनीति की आवश्यकता पर विस्तार से प्रकाश डालिए। (10 अंक, 150 शब्द)

Due to changing nature of 'security' in terms of political, economic and digital, there is a sheer need for a clear National security strategy.



hence there is a need for clearly articulated 'National security strategy' as proposed by National security advisor.

- ① comprehensive framework in dealing with borders, areas of conflicts and threats.
- ② inclusion of cybercrimes, financial crimes, digital crimes.
- ③ Usage of technology like AI, Blockchain in strengthening the security of the Nation

'Broad', 'leakproof', 'dynamic' and clear, consistent security framework in this period is a great need.

Feedback

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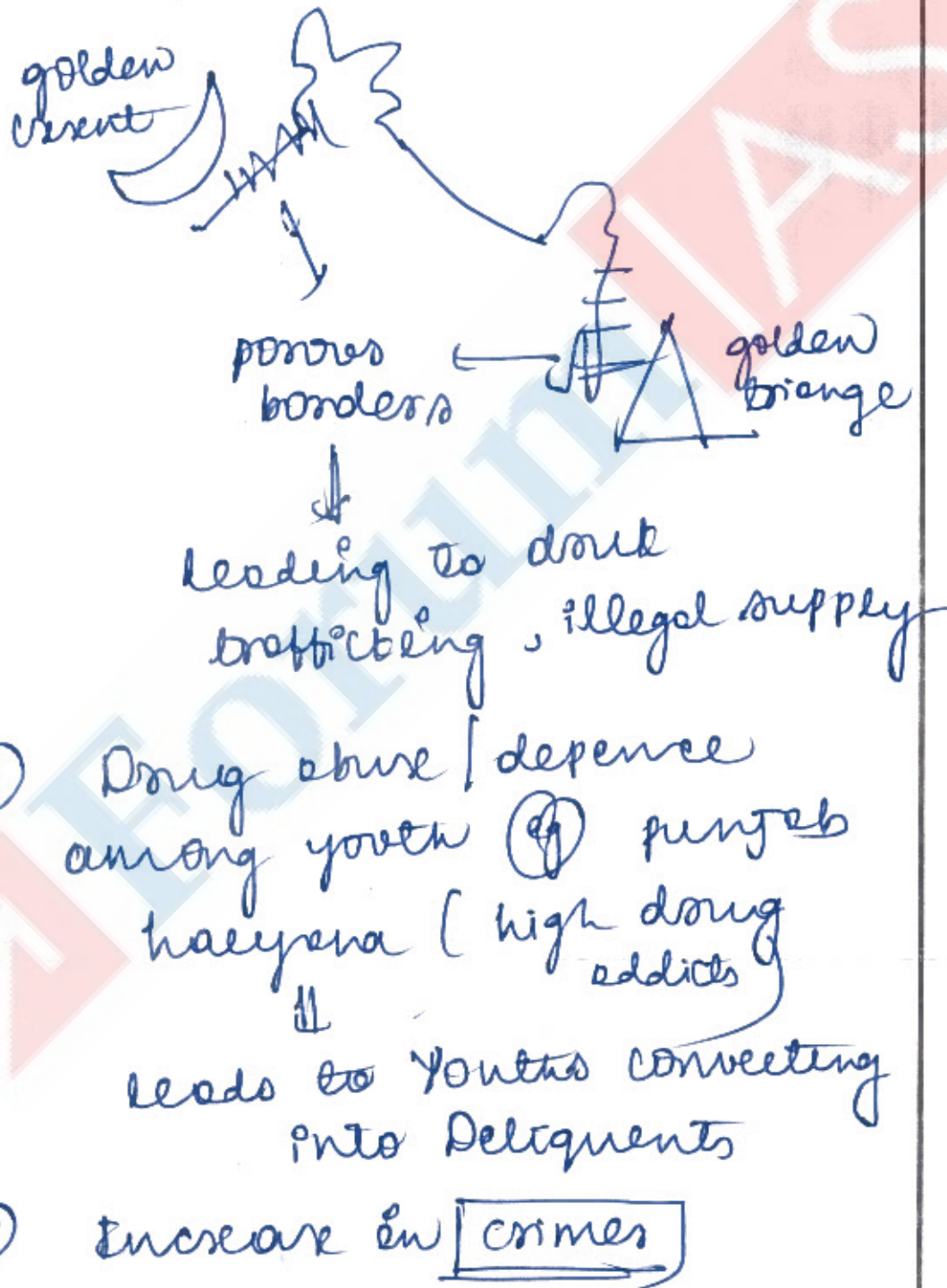
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TOTAL MARKS	
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Q.10) India's precarious location on the drug map makes it extremely vulnerable to drug trafficking. Illustrate. How does drug trafficking affect India's internal security? (10 marks, 150 words)

नशीले पदार्थों के मानचित्र पर भारत की अनिश्चित स्थिति इसे नशीले पदार्थों की तस्करी के लिए अत्यंत संवेदनशील बनाती है। उदाहरण देकर समझाइए। नशीले पदार्थों की तस्करी भारत की आंतरिक सुरक्षा को कैसे प्रभावित करती है? (10 अंक, 150 शब्द)



Feedback

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Q.11) The much-cherished demographic dividend of India can be leveraged only if the twin challenges of unemployment and unemployability are addressed holistically. Analyse. (15 marks, 250 words)

भारत के बहु-प्रशंसित जनसांख्यिकीय लाभांश का लाभ तभी उठाया जा सकता है जब बेरोजगारी और अनियोज्यता की दोहरी चुनौतियों का समग्र रूप से समाधान किया जाए। विश्लेषण करें। (15 अंक, 250 शब्द)

'Demographic dividend'
of India is to be the highest
by 2030 where $> 50\%$ of the
population will be in working age
(15-59)

but it can be utilised only
if we can solve the issues of

① Unemployment :-

• 'Internal unemployment'

(eg) $> 80\%$ of workforce.

• vacuum in the capability
of industries due to lack of
adequate skills among the
workforce.

(eg) only 14% of graduates
are skilled enough to
be employment.

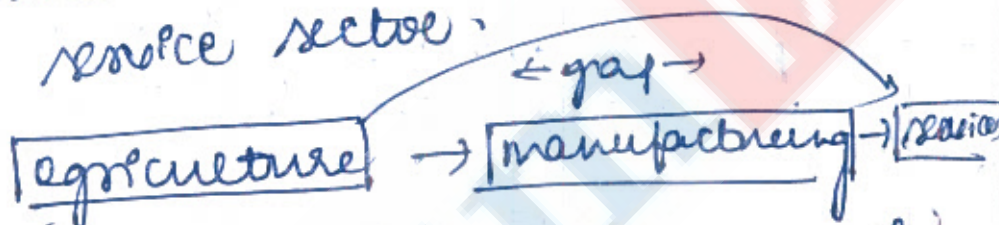
• Issue of female labor force

participation:

① only 37% of FLEP (2022-23) and 85% women are in unpaid care economy.

② Unemployability:

• Due to direct shift of India from agriculture to service sector.



• Rampant technology and introduction of 'AI' leading to loss of jobs

• poor direct growth of 'MSME's with inadequate infrastructure and technology.

• Due to 'brain drain' and lack of adequate safety and opportunities

③ Doctors moving to other countries

Hence the following measures needed in:

- ① creation of the opportunities and industries should utilise the vibrant energy & youth
(eg) 'Internship opportunities' in top 100 companies (economic survey).
- ② Skilling → Reskilling → Upskilling according to the changing nature of industries.
(eg) in technology
- ③ Employment Incentive scheme (economic survey- 2024)
- ④ Revamping and Strengthening of MSMEs
- ⑤ Formalisation of economy.

Demography for Development
instead of Demographic disaster is the goal.

Feedback

(For OFFICE use only)

#	G	A	P
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Please put tick marks in the above table.

Here G is Good, A is Average and P is Poor.

TOTAL MARKS	
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Q.12] Despite government efforts at 'Make in India', what are the key impediments in making in India? Suggest measures to encourage domestic manufacturing. (15 marks, 250 words)

मेक इन इंडिया के सरकारी प्रयासों के बावजूद, मेक इन इंडिया में मुख्य बाधाएँ क्या हैं? घरेलू विनिर्माण को प्रोत्साहित करने के उपाय सुझाएँ। (15 अंक, 250 शब्द)

'Make in India' is a flagship program launched for self sufficiency i.e. Atmanirbharata.

Government efforts in Make in India

- ① Indigenisation of production
(eg) defence products.
- ② support in exporting Indian goods (eg) PLI scheme.
- ③ Identification and popularising the unique goods
(eg) GI tagging
- ④ promotion of Indian goods and products at the global market
(eg) Indian spices in European markets
- ⑤ Recognition of local goods
(eg) 'One station one product' scheme.

Key impediments in making in India:

- ① From the production side
 - lack of effective infrastructure (MSME)
 - lack of expertise
 - problem of funds.
 - lack of interest and awareness.
- ② From the demand side
 - Need for better quality goods.
 - lack of consumption and demand.
 - financial constraints
 - strict measures like phytosanitary impeding the exports.
- ③ Government side
 - lack of timely transfer of incentives.
 - lack of compliance especially for poor, rural folks.

Measures to encourage domestic manufacturing:

- ① Firstly, to have the necessary infrastructure and human resources for the production
- ② create the demand by spreading awareness
- ③ 'Decentralisation' of manufacturing as most MSMEs are concentrated in urban areas and linking them with panchayats.
- ④ creating a 'robust' path for the easy distribution of products.
 - ⑤ gov procurement on online / connecting citizens directly with MSMEs.

Demand, Demography and Diversity should be utilised properly to achieve VISIT BHARAT

Feedback

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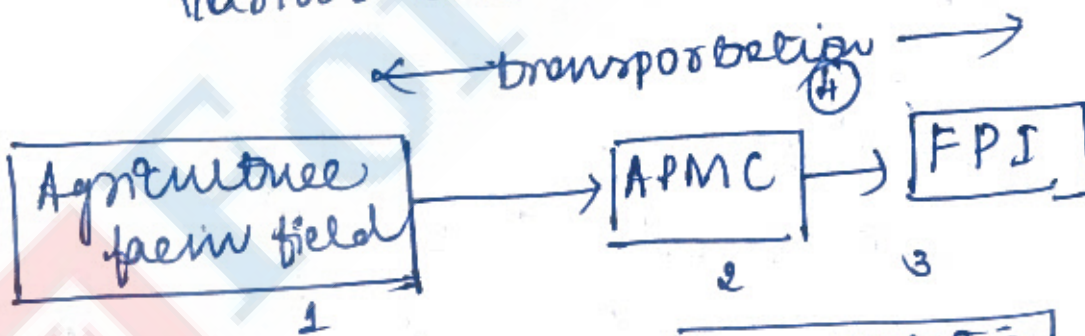
Q.13) India is one of the largest producers of food, yet Food Processing Industry (FPI) is not well developed in the country. Examine the inhibiting factors and recommend some remedial actions to promote FPIs. (15 marks, 250 words)

भारत खाद्यान्नों के सबसे बड़े उत्पादकों में से एक है, फिर भी देश में खाद्य प्रसंस्करण उद्योग (एफपीआई) का पर्याप्त विकास नहीं हुआ है। अवरोधक कारकों की जांच करें और एफपीआई को बढ़ावा देने के लिए कुछ उपचारात्मक कार्रवाइयों की सिफारिश करें। (15 अंक, 250 शब्द)

India is the largest producer of milk and second largest producer of rice, wheat, meat and eggs

Even then, food processing industry (FPI) is lagging behind

because of the factors at various levels ① ② ③ ④



-) lack of efficient transportation routes because of lack of connectivity to many rural areas
-) many roads are kuchha roads.

- o) lack of storage facilities at APMC, FPI level.
 - (eg) No cold storages and warehouses in 30% APMCs leading to loss of wastage.
- o) inefficient techniques of food processing industries like spreading, cleaning, pecking etc
- o) Initial capital cost of FPI is very high.
- o) presence of middlemen and other brokers at various levels leading to leakages and corruption.
- o) lack of farmer's interest and awareness about food processing is the main inhibiting factor.

Remedial actions needed:

- ① To build strong infrastructure & storage like cold storages and warehouses, according to the production, and these should be concentrated near to villages for easy access to farmers.
- ② To spread awareness about FPI and income generation among farmers. CSC, KVKs can be used.
- ③ Strengthening the FPIs in hub and spoke model,
 (eg) mega food parks.
- ④ Incentives to both farmers and producers can be extended through PM SAMPADA yojana,
from farm to fork,
 there should be patrons and failproof transportation and storage.

Feedback

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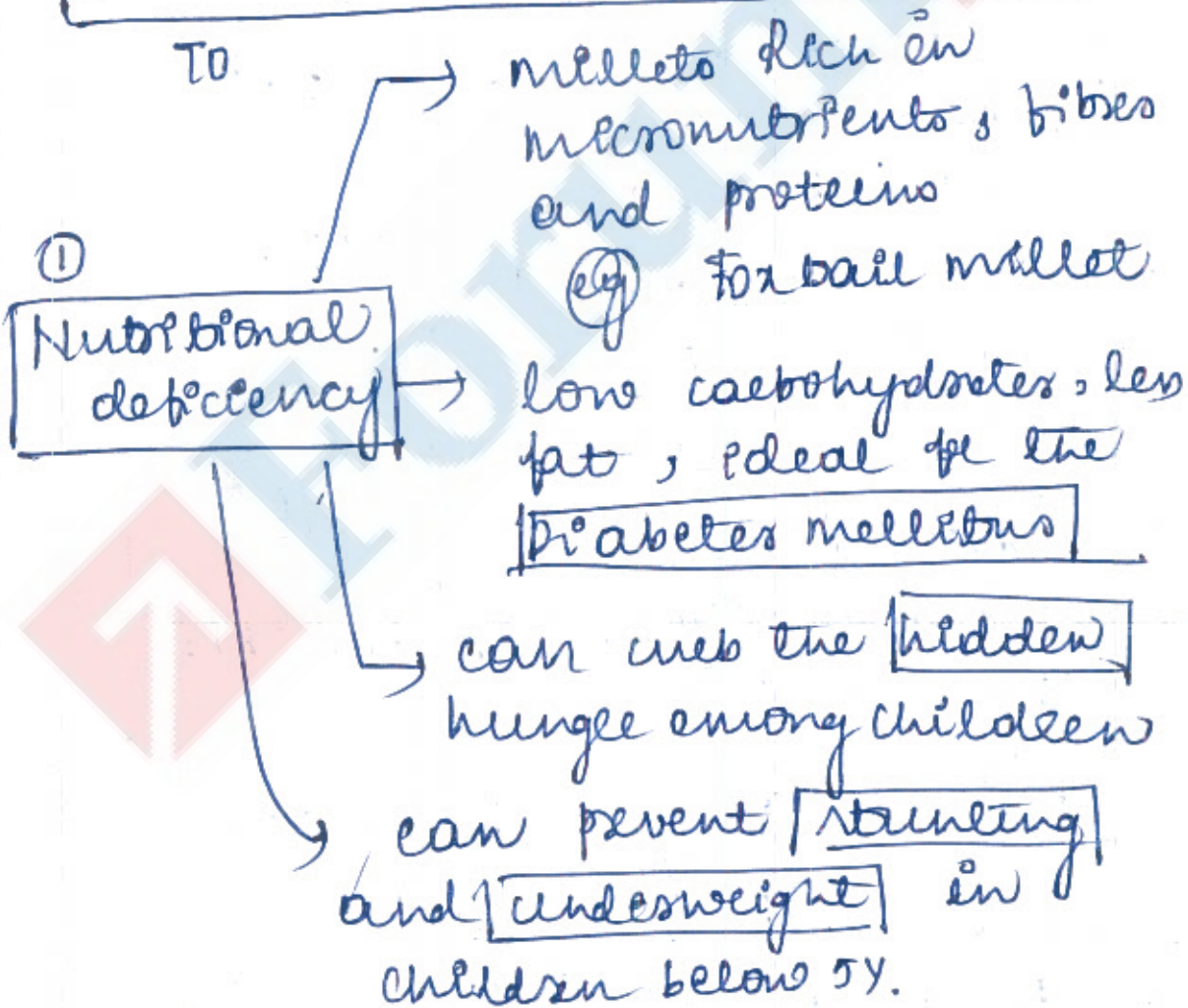
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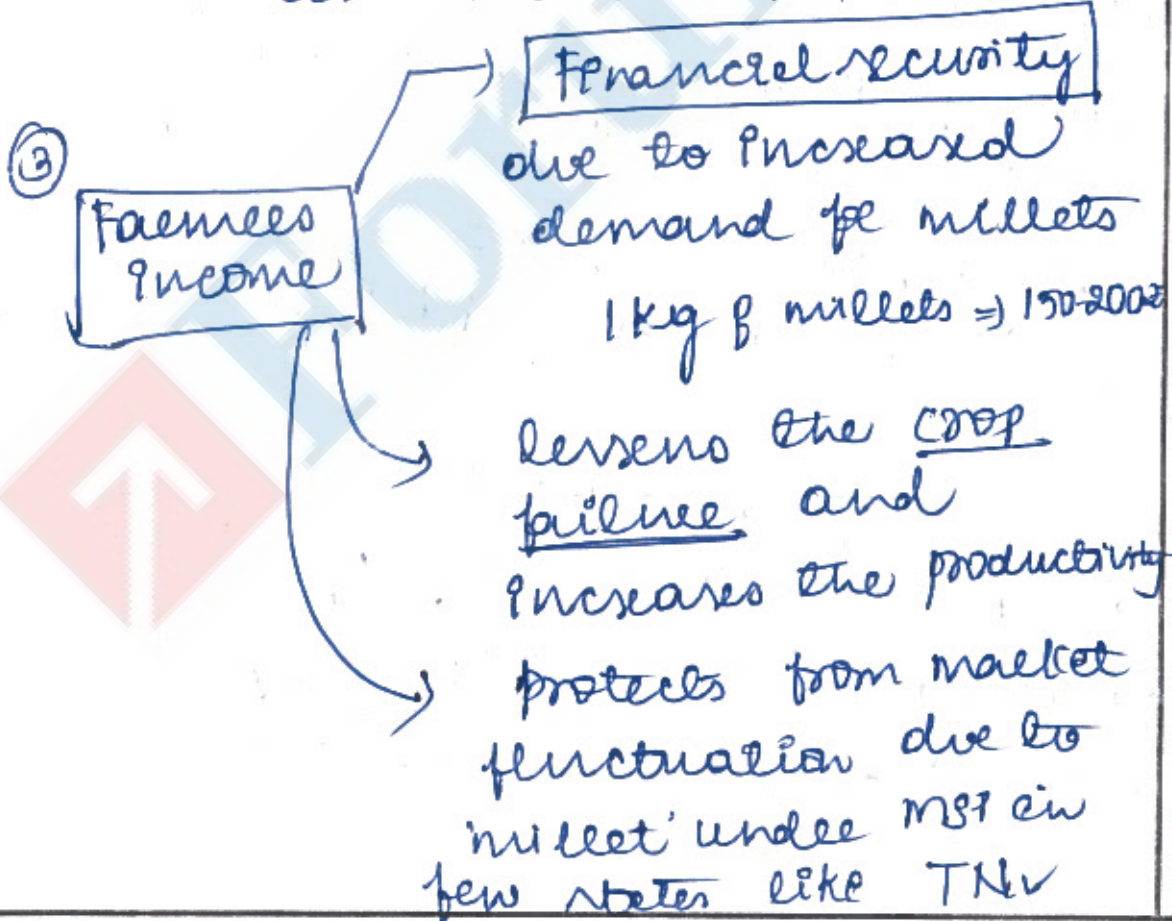
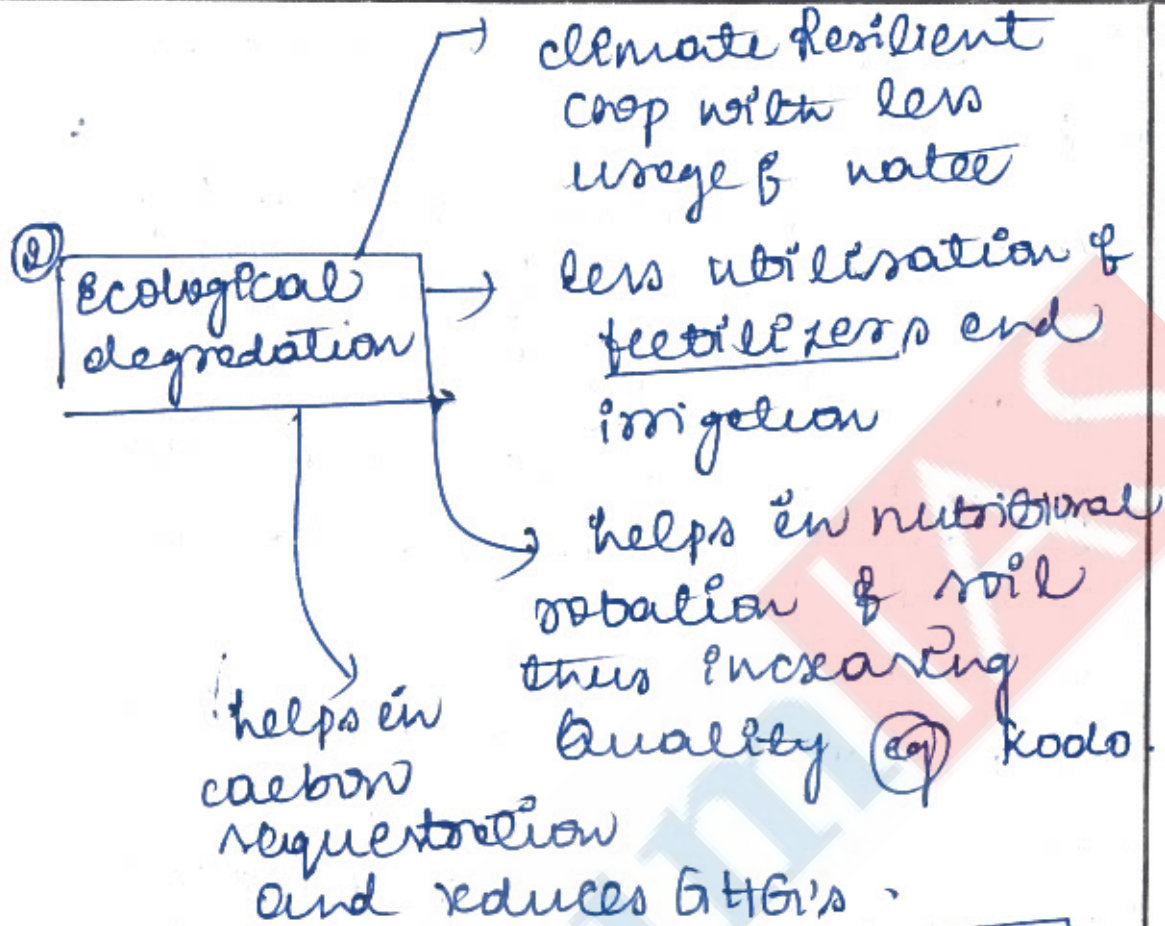
Q.14) Adoption of millets can provide unique solutions to the problems of nutritional deficiency, ecological degradation, and receding farm incomes; however, the realization of its complete potential is hindered by a slew of factors. Analyse. (15 marks, 250 words)

मोटे अनाज को अपनाने से पोषण की कमी, पारिस्थितिकी क्षरण और घटती कृषि आय जैसी समस्याओं का अनूठा समाधान मिल सकता है; हालाँकि, इसकी पूरी क्षमता की प्राप्ति कई कारकों से बाधित है। विश्लेषण करें (15 अंक, 250 शब्द)

'Millets' are the magic cereals which were promoted under the International year of millets 2023.

Millets provide unique solutions :-





However, its potential is hindered due to :-

- ① Lack of availability of 'quality' seeds and costly nature of seeds if available.
- ② 'MSP' makes farmers to produce limited crops, discouraging to take risks for others.
- ③ Lack of awareness among people about the uses of millet and high attachment to Rice and wheat.
- ④ Lack of knowledge about cooking methods of millet.
- ⑤ Disappearance of many traditional millet due to lack of demand.

Usage of 'oral knowledge' and spreading awareness by organizing more millet melas to enhance the demand for them.

Feedback

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TOTAL MARKS			

Q.15) Describe how the Gaganyaan mission can help achieve India's broader national objectives. Also, throw light on the key challenges that the mission faces. (15 marks, 250 words)

वर्णन कीजिए कि गगनयान मिशन भारत के व्यापक राष्ट्रीय उद्देश्यों को प्राप्त करने में किस प्रकार सहायक हो सकता है। साथ ही, मिशन के समक्ष आने वाली प्रमुख चुनौतियों पर भी प्रकाश डालिए। (15 अंक, 250 शब्द)

'Gaganyaan mission' is the most awaited mission of India in sending humans to the space & conducting extensive research.

Gaganyaan mission in achieving India's broader objectives:

- ① Enhancing the 'prestige of India' in the world order in becoming the fourth nation to do so, space diplomacy.
- ② promotes space research and development, knowing the undiscovered secrets of the universe.

- ③ with the involvement of techniques of crew escaping module, checking the viability of humans.
- ④ conducting experiments to see the livability conditions for other living organisms in the space.
- ⑤ Enhances the future scope for space missions.
- ⑥ Overall develops a pride feeling as an Indian in the achievement of country in space sector
↓
motivates youth to take up the research and work for Make in India.

Key challenges :-

- ① Dependence on other nations for the training & technology required
 - ① Cosmos training
 - Indian astronauts
- ② Delay in the project, almost running since many years in the preparation. ① due to covid
- ③ Financial constraints in funding the project increasing the fiscal deficit.

But considering the cost benefit ratio, no doubt that Gaganyaan mission becomes a milestone in the history after Chandrayaan-3 success.

Feedback

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TOTAL MARKS	
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Q.16) Green Hydrogen is necessary for the country to modernize without carbonizing; however, its adoption is beset with several challenges. Discuss. (15 marks, 250 words)

देश को कार्बनीकरण के बिना आधुनिक बनाने के लिए ग्रीन हाइड्रोजन आवश्यक है; हालाँकि, इसे अपनाना कई चुनौतियों से घिरा हुआ है। चर्चा करें। (15 अंक, 250 शब्द)

Green hydrogen is the clean hydrogen produced through the electrolysis of water using renewable sources of energy.

Green hydrogen in modernizing without carbonizing:

- ① To achieve the target of net zero emissions by 2070.
- ② Towards the gradual transition of clean energy as promoted by India @ G20 platform.
- ③ Reduces 'carbon output' by utilizing the available renewable sources such as water and solar energy.

- ④ In order to mitigate climate change persons.
- ⑤ In alignment with the common but differentiated responsibility and Nationally Determined goals according to Paris goals.

Several challenges in its transition

- ① Lack of expertise in technology in producing green hydrogen on large scale.
- ② Lack of efficient infrastructure for production and distribution.
- ③ Lack of compliance of present, existent supply system of natural gas.

④ Requirement of huge capital and burdened financial constraints, weakening the fiscal enchequer.

In spite of challenges, Green hydrogen policy is a forward looking step to slowly transform into clean India in energy.

Feedback

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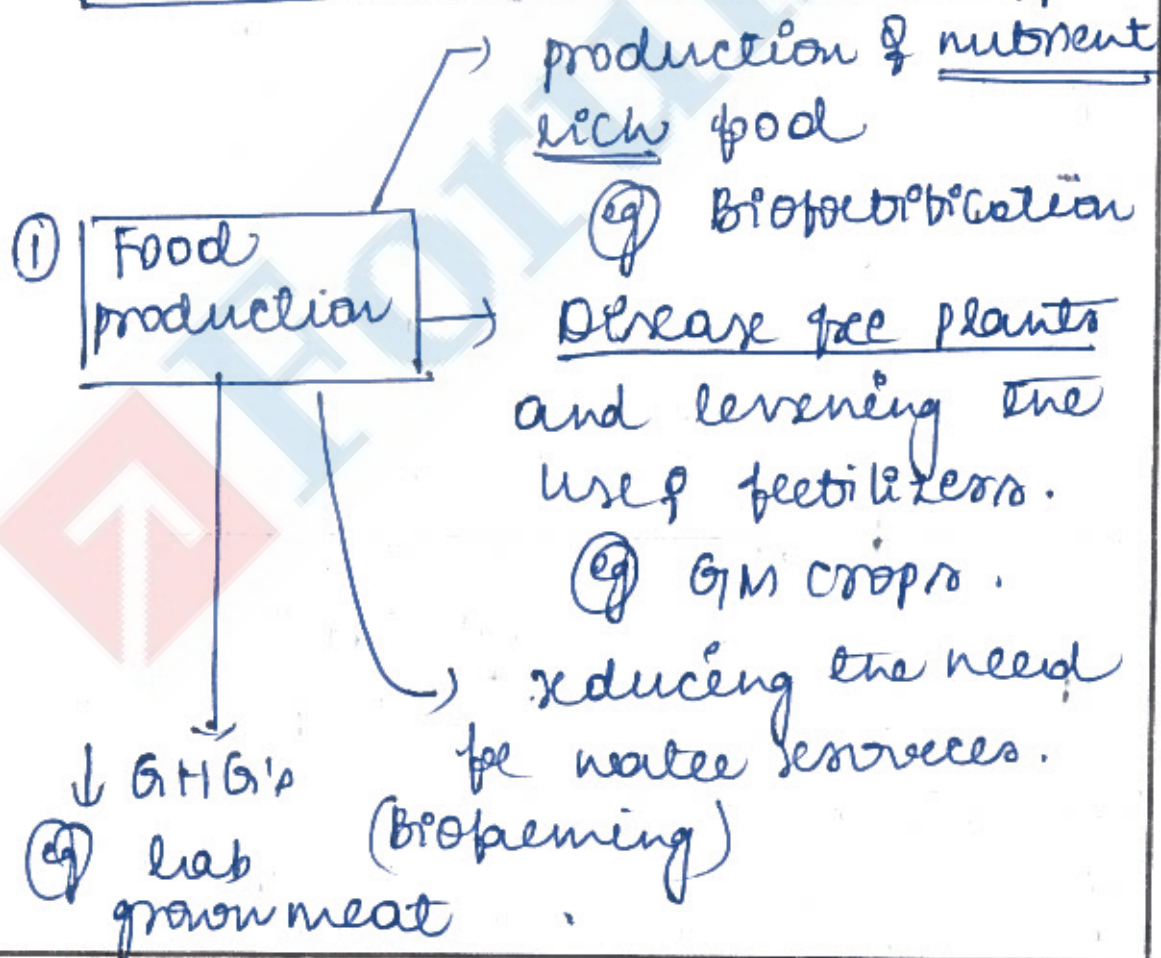
Q.17) Biotechnology, by integrating biological sciences with technological innovations, offers comprehensive solutions to some of the most pressing challenges in food production, waste management and human health. Elucidate. (15 marks, 250 words)

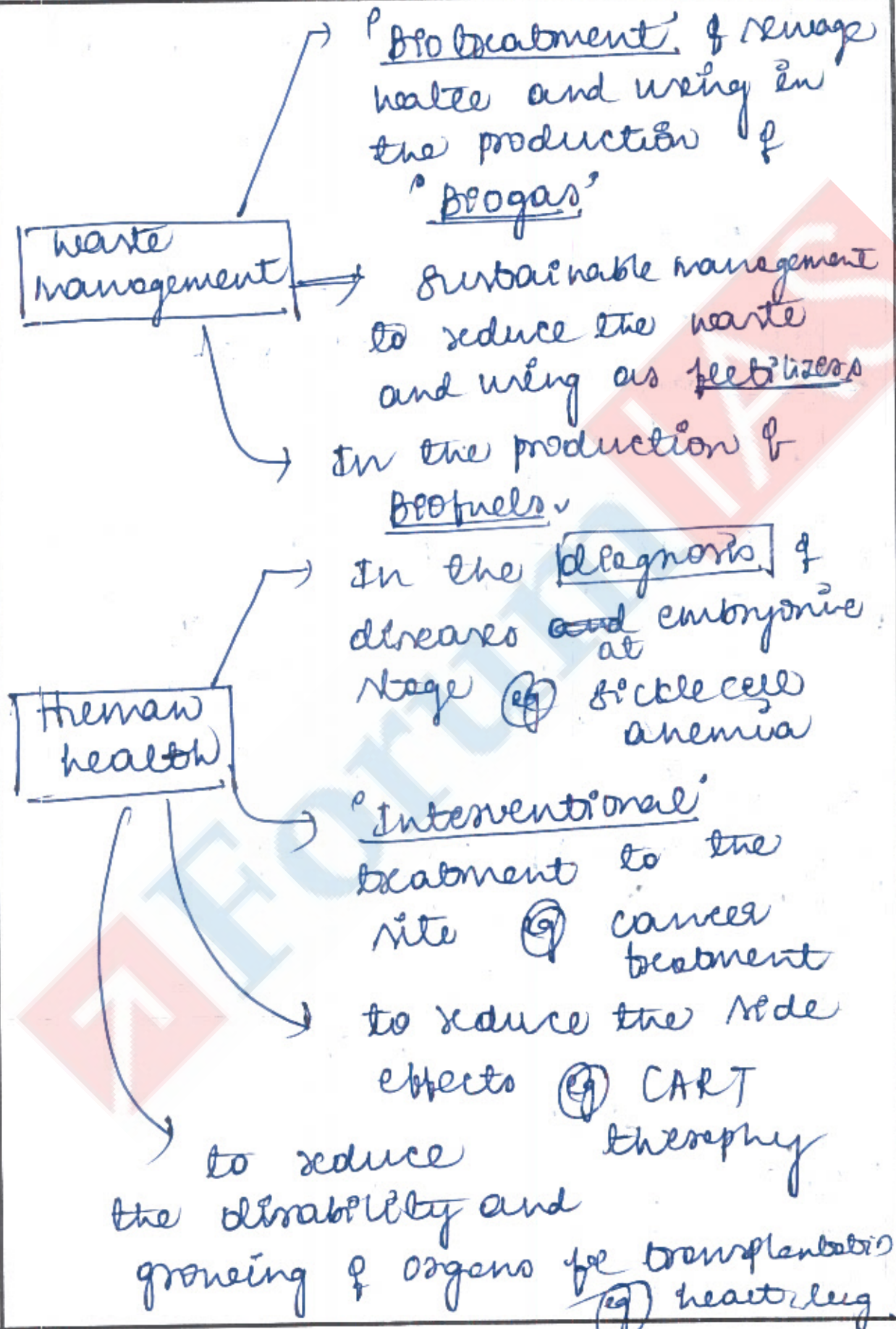
जैव प्रौद्योगिकी, जैविक विज्ञान को तकनीकी नवाचारों के साथ एकीकृत करके, खाद्य उत्पादन, अपशिष्ट प्रबंधन और मानव स्वास्थ्य में सबसे अधिक दबाव वाली चुनौतियों में से कुछ के लिए व्यापक समाधान प्रदान करती है। स्पष्ट करें।

(15 अंक, 250 शब्द)

Biotechnology is a unique intersection of biology and technology which is the future of 21st century.

Biotechnology - comprehensive solutions in :-





However it has challenges in

- ① 'Bioethics' can endanger the viability of living organisms on this earth
- ② can lead to 'bioweapons' introducing new diseases threatening life
- ③ against to the 'law of nature'

It is a double edged sword. Should be used for Human welfare but not destruction

Feedback

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Q.18) Explain the causes and impacts of landslides. Also, discuss the various measures to mitigate their impact, with a special emphasis on National Disaster Management Authority (NDMA) guidelines. (15 marks, 250 words)

भूस्खलन के कारणों और प्रभावों की व्याख्या करें। इसके अलावा, राष्ट्रीय आपदा प्रबंधन प्राधिकरण (एनडीएमए) के दिशा-निर्देशों पर विशेष जोर देते हुए, उनके प्रभाव को कम करने के विभिन्न उपायों पर चर्चा करें। (15 अंक, 250 शब्द)

'Landslides' is the sudden fall of earth materials under the influence of gravity.

(According to GSI ~12% of Indian land is prone to landslides)

Causes of landslides :

Natural

- 1) Earthquakes
- 2) Tectonic activity (Himalayas)
- 3) Heavy rainfall (western ghats)
- 4) eroding nature of rivers

Man-made

- ① Construction of roads and railway
- ② Dams
- ③ Deforestation
- ④ unmanageable tourism

- 5) cloudbursts
- 6) GLOF (glacial lake outburst flow)

- 5) mining (Jharkhand)

Impacts of landslides

- ① Huge destruction of lives and property
- ② Recent mountain landslides.
- ③ change in the landforms
- ④ loss of infrastructure like roads, dams, railways
- ⑤ Displacement of people
loss of their cultural and social stability
- ⑥ Economic burden on the state



landslides
high prone
zones.

NDMA guidelines :-

- ① Mapping and survey of high risk prone zones.
- ② Mitigation and prevention strategies.
 - building of check dams
 - Reducing the seepage percolation by placing pipes underground
 - Awareness among the community
- ③ comprehensive early warning system with regular Radar inspection in high prone zones.

Disaster management is crucial to reduce the harm and loss of lives

Feedback

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Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Q.19) As threats to maritime security evolve, India faces multifaceted challenges that necessitate a comprehensive and proactive approach to safeguard its strategic interests. In light of the statement, throw light on the key maritime security challenges in India. Also, highlight the measures taken by the government to strengthen maritime security in the country. (15 marks, 250 words)

समुद्री सुरक्षा के लिए खतरे बढ़ने के साथ ही भारत को बहुआयामी चुनौतियों का सामना करना पड़ रहा है, जिसके लिए अपने रणनीतिक हितों की रक्षा के लिए एक व्यापक और सक्रिय दृष्टिकोण की आवश्यकता है। बयान के आलोक में, भारत में प्रमुख समुद्री सुरक्षा चुनौतियों पर प्रकाश डालें। साथ ही, देश में समुद्री सुरक्षा को मजबूत करने के लिए सरकार द्वारा उठाए गए उपायों पर प्रकाश डालें। (15 अंक, 250 शब्द)

'Maritime security' has
taken a pivotal role in the
holistic national security
framework.

Challenges :

- ① Growing influence of China in the Indian Ocean
i.e. String of pearls.
- ② Neighbourhood challenges such as Maldives, moving out of Colombo security conclave.

- ③ regular conflicts
④ hachabreen inland with Sri Lanka
- ④ piracy and JUV near hwen of Africa
- ⑤ Arrest of naval officers by the Arabian countries.

measures taken by India

- ① Initiatives like SAGAR "security and growth for all"
- ② "Indian Ocean Naval Symposium"
- ③ "India Africa growth corridor"
- ④ Strengthening of ports by signing India middle east european economic corridor

- ⑤ Strengthening the
Indian coastal guard with
technology and continuous
fleet management.

Feedback

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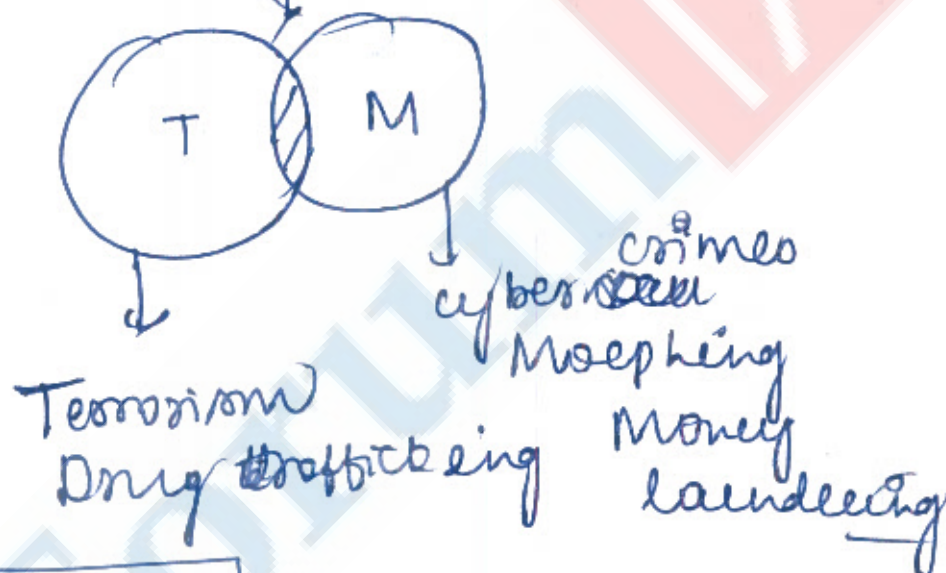
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TOTAL MARKS	
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Q.20) Bring out the challenges posed by 'hybrid warfare' to the national security and suggest comprehensive counter-measures. (15 marks, 250 words)

'हाइब्रिड युद्ध' से राष्ट्रीय सुरक्षा के सामने उत्पन्न होने वाली चुनौतियों को स्पष्ट करें और उनके समाधान के लिए व्यापक प्रतिरोध उपायों का सुझाव दें। (15 अंक, 250 शब्द)

Hybrid warfare is the intermingling of traditional and modern warfare techniques.



Challenges

- ① Disturbs the stability
- ② Regional disturbances
- ③ J & K

- ③ ~~Students~~ financial security
money laundering
- ④ finances insurgent
groups
- ⑤ weakening the social
unity and fabric
communal issue

Feedback

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table.

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Average and P is
Poor.

TOTAL MARKS	
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Mentor Feedback Questions

- 1
- 2
- 3
- 4
- 5

Test Goal

- 1 ☐
- 2 ☐
- 3 ☐

Outcomes

- 1
- 2
- 3

Marking Scheme

Mark	Good	Average	Below average
10 Marker	3.75 – 5.0	3.0 – 3.5	< 3.0
15 Marker	5.75 – 7.0	4.0 – 5.5	< 4.0
20 Marker	7.75 – 10	6 – 7.5	< 6
✓✓	Key / Relevant Point		
✗	Vague / Irrelevant		

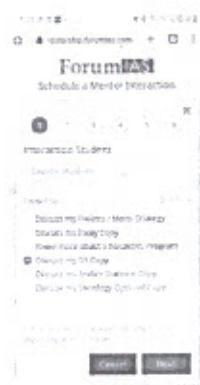
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