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TEST CODE : 4 1 0 9 7

FIAS - MGP 2021 (C-14) - GS Test #3

ForumIAS

GENERAL STUDIES

Name Of Candidate	Dshita Rathi		
Roll No.	0801479	Date:	30/12/21

Time Allowed: Three Hours

Maximum Marks: 250

INDEX TABLE			INSTRUCTION
Q. No.	Max. Marks	Marks Obtained	1. Please do furnish Name, Email, Roll No and Mobile in the answer sheet. 2. There are TWENTY questions printed in ENGLISH & HINDI, all questions are compulsory. 3. The number of marks carried by a question/part is indicated against it. 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. 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.
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11			Any specific messages for ForumIAS Mentors/Evaluators with respect to your copy? Write it here. ----- ----- ----- ----- ----- ----- ----- ----- ----- -----
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Total:	250		
Evaluator's Discretion:			For Student Only
			Start Time 9:30.
			End Time 12:30.
Total Marks:			Mode Of Examination:
			Online <input checked="" type="checkbox"/> Offline <input type="checkbox"/>
Evaluator's Discretion: This is the marks awarded at the discretion of the evaluator 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.			For Office Use Only
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Parameters	Excellent	Very Good	Good	Average	Poor	Very Poor
Language						
Structure						
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Handwriting						
Content						
Attempt						

ADDITIONAL REMARKS



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(Don't Write anything in this Area)

Q.1) The cryptocurrency paints a lucrative avenue towards creation of a digital currency and at the same time raises concerns for macro-economic and financial stability of the country. Analyze. Also, bring out various options for regulation of crypto currency and highlight the most desirable regulatory option for India. (10 Marks, 150 words)

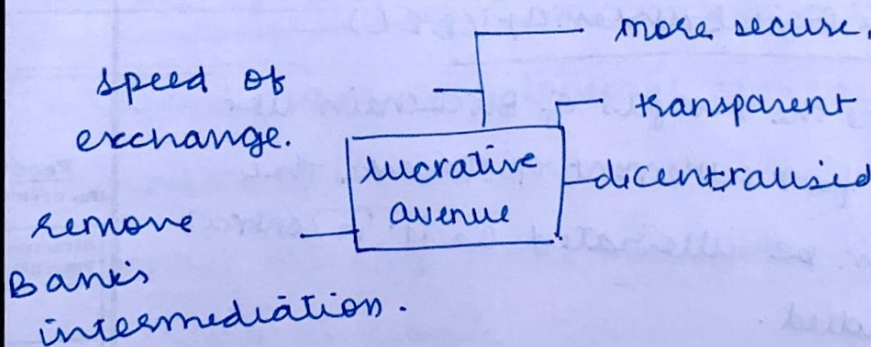
क्रिप्टो करेंसी एक डिजिटल मुद्रा के निर्माण की दिशा में एक आकर्षक अवसर प्रदान करती है और साथ ही साथ देश की मैक्रो-इकोनॉमिक और वित्तीय स्थिरता के लिए चिंता पैदा करती है। विश्लेषण करें। इसके अलावा, क्रिप्टो करेंसी के नियमन के लिए विभिन्न विकल्पों को सामने लाएं और भारत के लिए सबसे वांछनीय नियामकीय विकल्प पर प्रकाश डालें।

(10 अंक, 150 शब्द)

A)

Cryptocurrency is a digital asset that is encrypted. It is an emerging technology based on blockchain technology e.g. Bitcoin, Ethereum.

Cryptocurrency features



Concerns

1. macroeconomic instability
 -) Anonymity raises concerns of money laundering.
 -) Not controlled by central Bank → monetary policy loses effectiveness

2: Financial instability

-) Subject to speculative attack
-) Huge fluctuation in value.

Options for regulation

- 1) Ban the cryptocurrency
- 2) Regulate via SEBI like other financial assets.
- 3) Use the technology and bring central bank digital currency.

Most desirable option

Central Bank Digital currency (CBDC)

While enjoying the benefits of Blockchain like transparency, fast settlement of claims, the concerns can be alleviated as it is central bank controlled.

El Salvador has legalised cryptocurrency while china has come out with CBDC - Both models should be studied before finalising regulatory option.

Feedback

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Structure/ Presentation
Question Interpretation
Content
Value Addition
Total

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Q.2) China plus one strategy has opened up new vistas of opportunities for the nation to integrate into global value chains and create new manufacturing jobs. In this context, identifying the inhibiting factors, suggest strategies to leverage global quest for supply chain resilience to emerge as a global export hub. (10 Marks, 150 words)

चीन प्लस वन रणनीति ने राष्ट्र के लिए वैश्विक मूल्य श्रृंखलाओं में एकीकृत होने और नई विनिर्माण नौकरियां पैदा करने के अवसरों के नए रास्ते खोल दिए हैं। इस संदर्भ में, अवरोधक कारकों की पहचान करते हुए, वैश्विक निर्यात केंद्र के रूप में उभरने हेतु लचीली आपूर्ति श्रृंखला के लिए वैश्विक खोज का लाभ उठाने के लिए रणनीतियों का सुझाव दें।

(10 अंक, 150 शब्द)

A)

Global supply chain dominate the world trade. To reduce reliance on china the supply chain resilience initiatives has been initiated by countries like Japan, Australia and India.

Benefits of Supply chain resilience initiatives

- 1) Expand trade and leverage dynamic benefits of competition
- 2) Attract FDI and make manufacturing the engine of growth
- 3) more semi and low skilled job resolve issue of unemployment & disguised unemployment

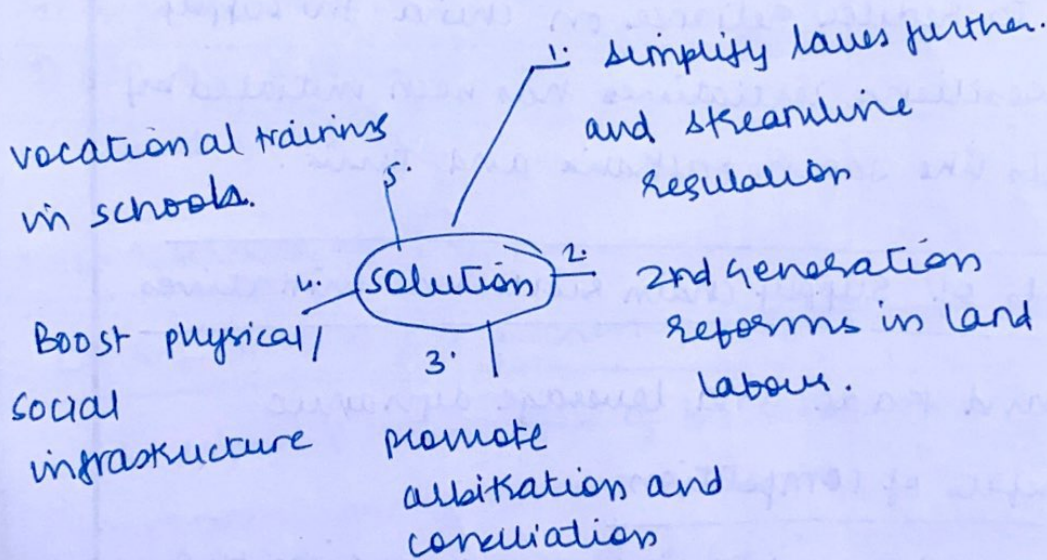
Inhibiting Factors

- 1) Regulatory Cholesterol

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- 2) Infrastructure deficiency.
- 3) Lack of labour and land reforms
- 4) Dispute resolution remain ~~stagnant~~ delayed
- 5) Logistic cost are high (11% of GDP)
- 6)



Schemes like production linked incentives, National Infrastructure Pipeline, Amendment in labour law, ~~atq~~ SWAMITVA scheme etc are step in right direction. Better implementation insure we take advantage of our demographic dividend.

Feedback
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Structure/ Presentation
Question Interpretation
Content
Value Addition
Total



Q.3) Why has there been no significant reform in agricultural sector in the past few decades, even when a broad consensus exists that farming is becoming non-remunerative and unsustainable?

(10 Marks, 150 words)

पिछले कुछ दशकों में कृषि क्षेत्र में कोई महत्वपूर्ण सुधार क्यों नहीं हुआ है, जबकि इस बात पर व्यापक सहमति है कि खेती गैर-लाभकारी और गैर-टिकाऊ होती जा रही है?

10 अंक, 150 शब्द)

A) The LPG reform that transformed industries and services bypassed agriculture. There has been no significant technological or institutional reform post the 1970s green revolution which has left agriculture stagnant.

Reasons

1) Misplaced priorities

→ most expenditure (~7% of GDP) in wasteful subsidy eg: power, water.

→ little fiscal space left for institutional / structural reform.

2) Vote Bank Politics

→ more focus on populist schemes like farm loan waiver.

3) vested interests

- dominate the landscape which resist the change in status quo.
- rich dominant farmers (15%) resist change.

4) cooperative federalism

- Agriculture in the state list. Reform require concurrence of state.
- eg: Model APMC act, Model tenancy act not yet implemented.

5) Fragmented stakeholders

- difficult to build consensus.
- Illiteracy, backwardness make them ~~diff~~ subject to misinformation.

6) lack of political will

There is a need to introduce reform in marketing, storage, pre and post harvest infrastructure. Strong political will and consensus building is required to make farming viable and sustainable.

Feedback
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Structure/ Presentation	
Question Interpretation	
Content	
Value Addition	
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Q.4) Food processing sector can be the key to bridging the gap between food sufficiency and nutrition deficiency in the country. Examine. (10 Marks, 150 words)

खाद्य प्रसंस्करण क्षेत्र देश में खाद्य पर्याप्तता और पोषण की कमी के बीच की खाई को पाटने की कुंजी हो सकता है। परीक्षण करें। (10 अंक, 150 शब्द)

Ans) Food processing refers to the value addition in primary food via technology that enhances the quality and nutrition value. eg: conversion of milk to curd, ghee. It has grown at CAGR of ~8% and is a sunrise sector.

Benefits of food processing

Food sufficiency

1. Leads to diversification in agriculture.

→ Fruits, vegetables, pulses, oilseeds etc. will get a boost.

2. Agro climatic sowing of crop

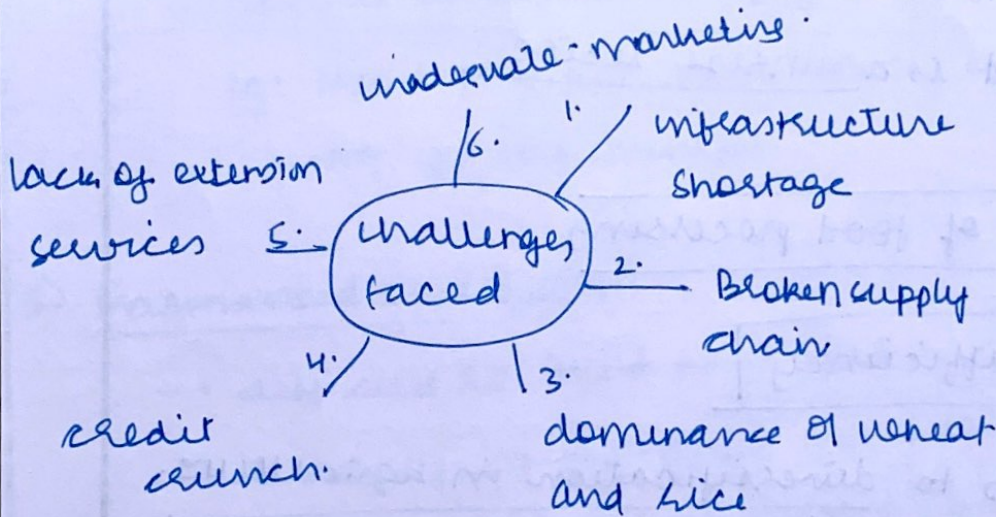
→ ensures sustainability and boost productivity.

3. Reduces wastage of food.

counter nutritional deficiency

address hidden hunger → and deficiency of micro-nutrients

counter hunger and malnutrition by making available of PDS and reducing inflation.



Placing food processing under PLI scheme, constituting mega food parks and organising 10,000 FPO are steps in right direction. Must be supplemented with infrastructure building via PPP model.

Feedback
(For OFFICE use only)

Structure/ Presentation
Question Interpretation
Content
Value Addition
Total



Q.5) Artificial Intelligence (AI) is often seen as a kind of panacea for many of the current problems and ills, but like all advances in technology it tends to be a double-edged sword. Critically analyze this statement in light of recent advancement in artificial intelligence. (10 Marks, 150 words)

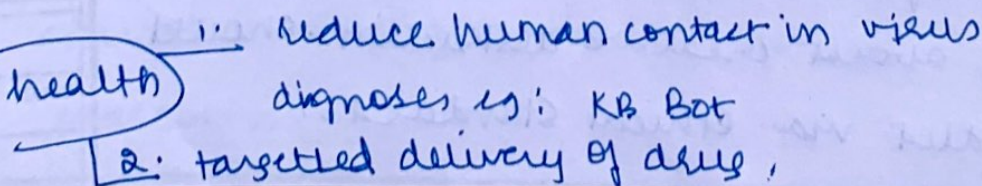
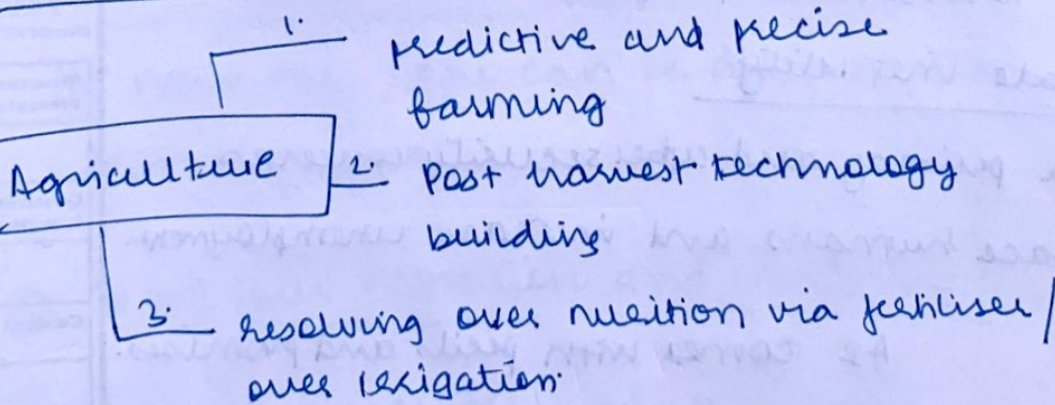
कृत्रिम बुद्धिमत्ता (AI) को अक्सर मौजूदा समस्याओं और बीमारियों में से कई के लिए रामबाण के रूप में देखा जाता है, लेकिन प्रौद्योगिकी में सभी प्रगति की तरह यह एक दोधारी तलवार है। कृत्रिम बुद्धिमत्ता में हाल की प्रगति के आलोक में इस कथन का समालोचनात्मक विश्लेषण करें। (10 अंक, 150 शब्द)

A)

Artificial Intelligence refers to the machines mimicking human intelligence and performing cognitive tasks like problem solving, analysis etc without human intervention.

AI - a double edge sword

Some current problem



Education

↳ customised evaluation & monitoring.

↳ Better test design & feedback.

concerns

① Accountability

No consensus on who bears responsibility if AI goes wrong.

② Ethical concerns

Inherent bias, prejudice of manufacturers

eg: single out Blacks as potential criminals in facial recognition.

③ create inequality

4) Data privacy and cybersecurity concerns.

5) Replace humans and increase unemployment.

AI comes with perils and promises.

It is a major disruptive technology which will bring about creative destruction. Should be handled via ethical standards.

Feedback

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Structure/ Presentation
Question Interpretation
Content
Value Addition
Total



Q.6) What do you understand by non-fungible token (NFT)? Discuss its significance in trade of digital artwork.
(10 Marks, 150 words)

नॉन-फिन्जिबल टोकन (NFT) से आप क्या समझते हैं? डिजिटल कलाकृति के व्यापार में इसके महत्व की चर्चा कीजिए।
(10 अंक, 150 शब्द)

A) Non Fungible Tokens are digital certificate that authenticate the originality of virtual artform like video, song etc. It is increasingly being adopted by artists to preserve authenticity of their work.

Significance

- ① Increase value of artistic work
As now the fake can be distinguished from original.
- ② It will spurs innovation and creativity
- ③ Since it is decentralised, the delay caused in copyright, trademark etc is overcome.

- 4) create market of virtual trading of art work.
- 5) The application can help in monetary growth of creative industry.
- 6) Overcome the ridership problem.

Therefore, the NFT can be used to improve trade of digital artwork and prevent piracy, stealing etc.

Feedback

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Structure/ Presentation	
Question Interpretation	
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Value Addition	
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Q.7) Examine the reasons for the rising trend in the incidences and widespread occurrences of landslips in hilly terrains of the country. Highlighting National Disaster Management Authority (NDMA) Guidelines on Landslide Hazard Management, suggest ways to mitigate impact of landslips.

(10 Marks, 150 words)

देश के पहाड़ी इलाकों में भूस्खलन की घटनाओं और ऐसी व्यापक घटनाओं में बढ़ती प्रवृत्ति के कारणों की जांच करें। भूस्खलन जोखिम प्रबंधन पर राष्ट्रीय आपदा प्रबंधन प्राधिकरण (NDMA) के दिशानिर्देशों पर प्रकाश डालते हुए, भूस्खलन के प्रभाव को कम करने के उपाय सुझाएं।

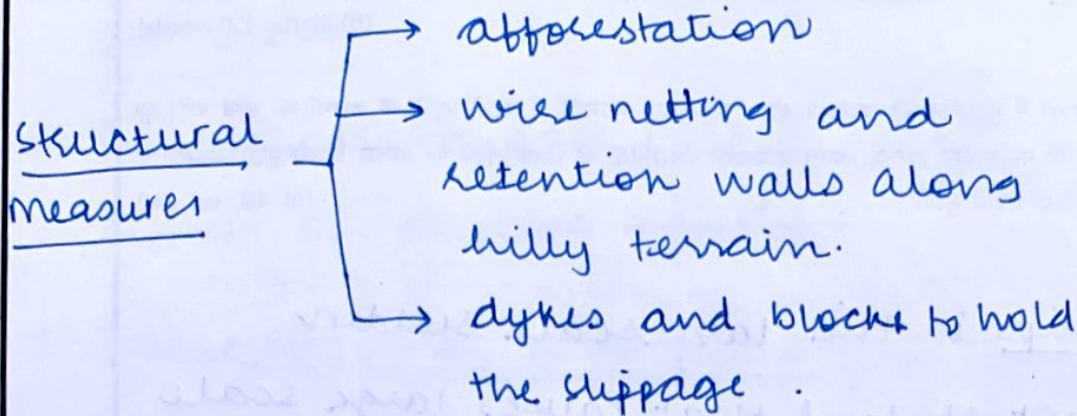
(10 अंक, 150 शब्द)

A) landslips is the largescale sudden movement of land that causes large scale loss of life and property. It is common in hilly terrains.

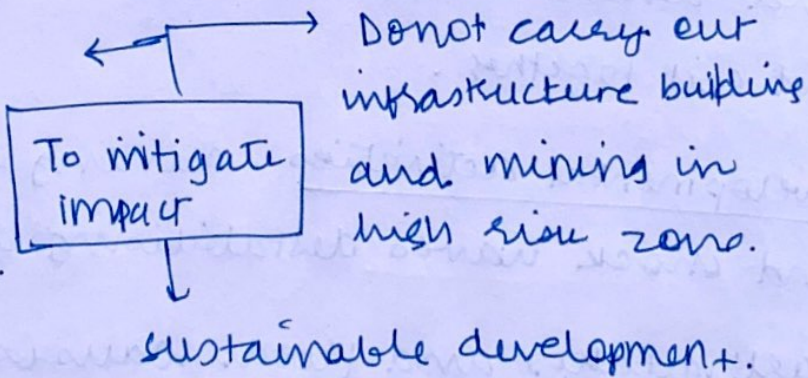
Reason for rising trend

- 1) Deforestation and loss of vegetation cover which otherwise held the ground and soil together.
- 2) Developmental activities, mining etc send shock waves destabilising land.
- 3) Earthquakes and floods causes secondary effect of landslide

NDMA guidelines



evacuate people from seismically active zones.



We must minimize the vulnerability toward the hazard to prevent it from becoming a disaster.

Feedback

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Structure/ Presentation
Question Interpretation
Content
Value Addition
Total



Q.8) Critically evaluate the proposed changes in Forest conservation Act 1980 keeping in mind rights of local population and developmental needs of the country. (10 Marks, 150 words)

स्थानीय आबादी के अधिकारों और देश की विकासात्मक आवश्यकताओं को ध्यान में रखते हुए वन संरक्षण अधिनियम 1980 में प्रस्तावित परिवर्तनों का समालोचनात्मक मूल्यांकन करें। (10 अंक, 150 शब्द)

A1

The rights of indigenous and local people were realised via amendment in Forest Rights / conservation act which is in line in participatory approach towards decentralised conservation and social justice

Benefits of proposed changes

- 1) Harmonise by defining the role of local community and forest officials.
- 2) Acknowledge and incorporate traditional knowledge and practices of forest conservation
- 3) Prevent alienation of land and institutionalise role of Gram Sabha.

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- 4) Robust environmental impact assessment carried out in transparent manner for proposed developmental projects.
- 5) Distribute the spillover effect of to local people.
- 6) Rehabilitation keeping in mind their unique culture, livelihood needs and consent.

Therefore it will harmonize the rights of local population and developmental challenge provided it is implemented effectively.

Feedback

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Content	
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Q.9) Wars of future will be decided less by the heft of the adversaries and more by their swiftness, agility and interconnectedness. In light of this statement, discuss the significance of integrated theatre command and various challenges associated with its implementations.

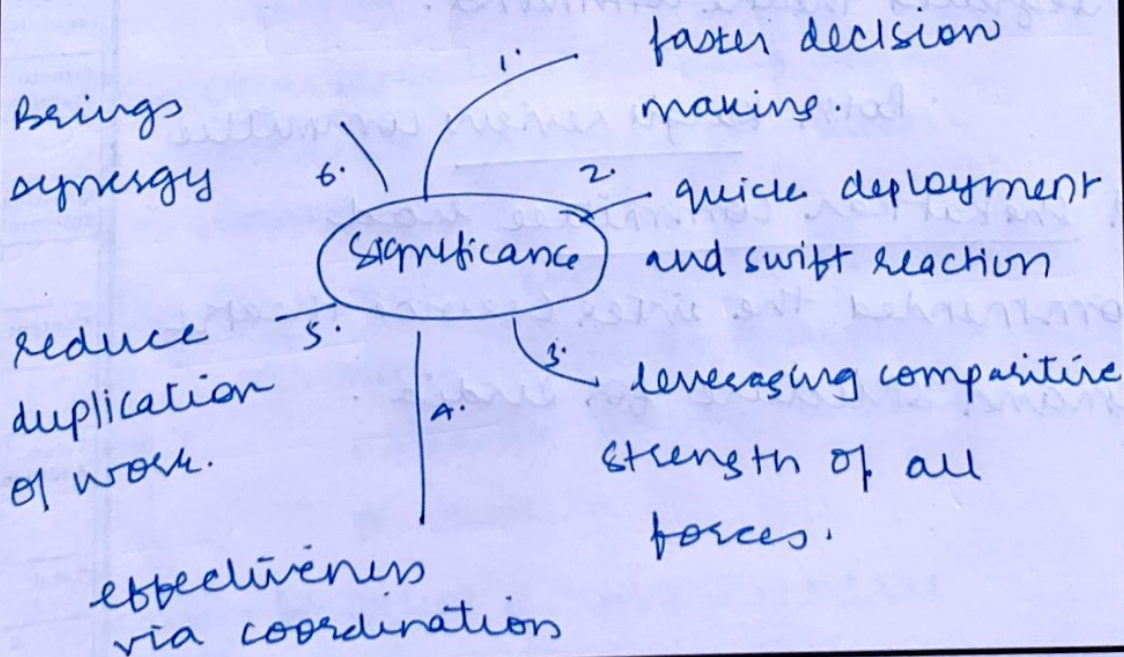
(10 Marks, 150 words)

भविष्य के युद्धों का निर्णय विरोधियों की ताकत से कम और उनकी तेजी, चपलता और परस्पर जुड़ाव से अधिक होगा। इस कथन के आलोक में एकीकृत थिएटर कमांड के महत्व और इसके कार्यान्वयन से जुड़ी विभिन्न चुनौतियों पर चर्चा करें।

(10 अंक, 150 शब्द)

A)

Integrated Theatre Command refers to integration between three armed forces and put in place a unified command and control system for swift and effective cold start doctrine. It already exist for Andaman & Nicobar and Nuclear supplies.



challenges

① Inter service friction

Resistance of dominance and accept leadership of other service.

② lack of expertise and comprehensive knowledge

To bring about unified command structure.

③ Financial constraints.

④ geographical constraints - The ^{extent} area of

India is not suitable for multiple integrated theatre command.

Both Kargil review committee and Shekatkar committee had recommended the inter service theatre command structure for India.

Feedback (For OFFICE use only)

Structure/ Presentation	
Question Interpretation	
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Q.10) Evolution of threats has made conventional warfare not only expensive but also futile. Highlighting various asymmetric threats faced by the country, elucidate various counter measures that can be taken to tackle them. (10 Marks, 150 words)

खतरों के विकास ने पारंपरिक युद्ध को न केवल महंगा बना दिया है बल्कि निरर्थक भी बना दिया है। देश द्वारा सामना किए जाने वाले विभिन्न विषम खतरों को उजागर करते हुए, उनसे निपटने के लिए किए जा सकने वाले विभिन्न काउंटर उपायों को स्पष्ट करें। (10 अंक, 150 शब्द)

A) The security threat have become multidimensional and has evolved with regards to incorporation of technological advancement. Thus states today face threat of hybrid warfare and asymmetric threat.

Asymmetric Threats

Example : social media and political & social unrest it can create

- Cyber security, hacking and attack on critical information infrastructure
- Economic threat due to globalisation
eg. chinese takeovers of indian companies during covid pandemic.
- Biological + chemical warfare.

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Induce Mass panic
at a click of a mouse

Asymmetric threat characteristic

Anonymity

cannot fix jurisdiction.
opaqueness

fast changing

Nature

difficult to keep pace.

early warning
seldom detected

Counter measure

① Strengthen cyber security

eg. National cyber security policy.
NATGRID - CCINS integration. etc.

Gulshan Rai committee recommendation
should be studied.

② Develop skills and technical expertise.

③ International cooperation.

④ Robust intelligence network.

⑤ monitoring social media and cooperate with platforms.

⑥ Build Atmanirbharata.

21st century challenges require transformative reforms in security framework.

Feedback (For OFFICE use only)

Structure/ Presentation
Question Interpretation
Content
Value Addition
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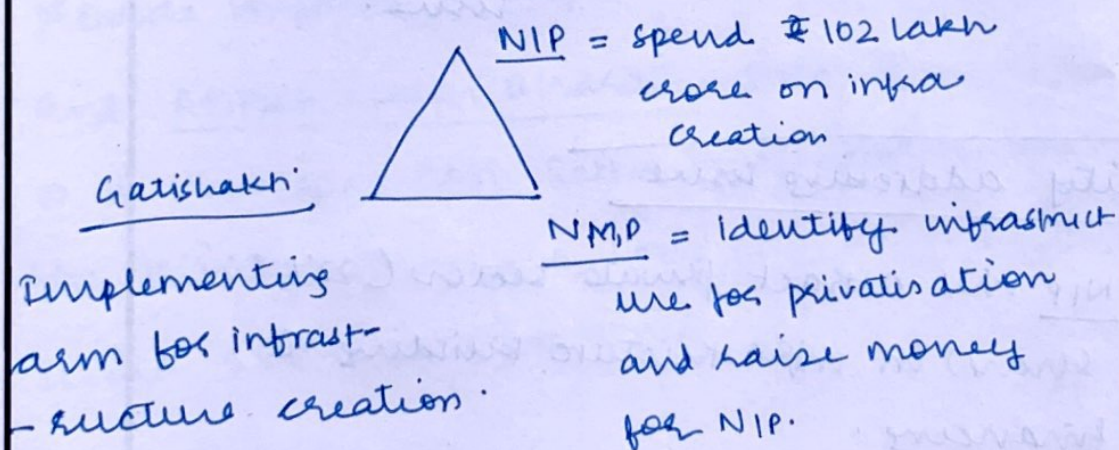
Q.11) National Infrastructure Pipeline (NIP), National monetization pipeline (NMP) and PM Gati-Shakti form a trinity of complementary initiatives that can address the critical issues plaguing the infrastructure sector in the country. Discuss. (15 marks, 250 words)

राष्ट्रीय अवसंरचना पाइपलाइन (NIP), राष्ट्रीय मुद्राकरण पाइपलाइन (NMP) और पीएम गति-शक्ति पूरक पहलों की एक त्रिमूर्ति हैं जो देश में बुनियादी ढांचा क्षेत्र से जुड़ा रहे महत्वपूर्ण मुद्दों को संबोधित कर सकते हैं। चर्चा करें।

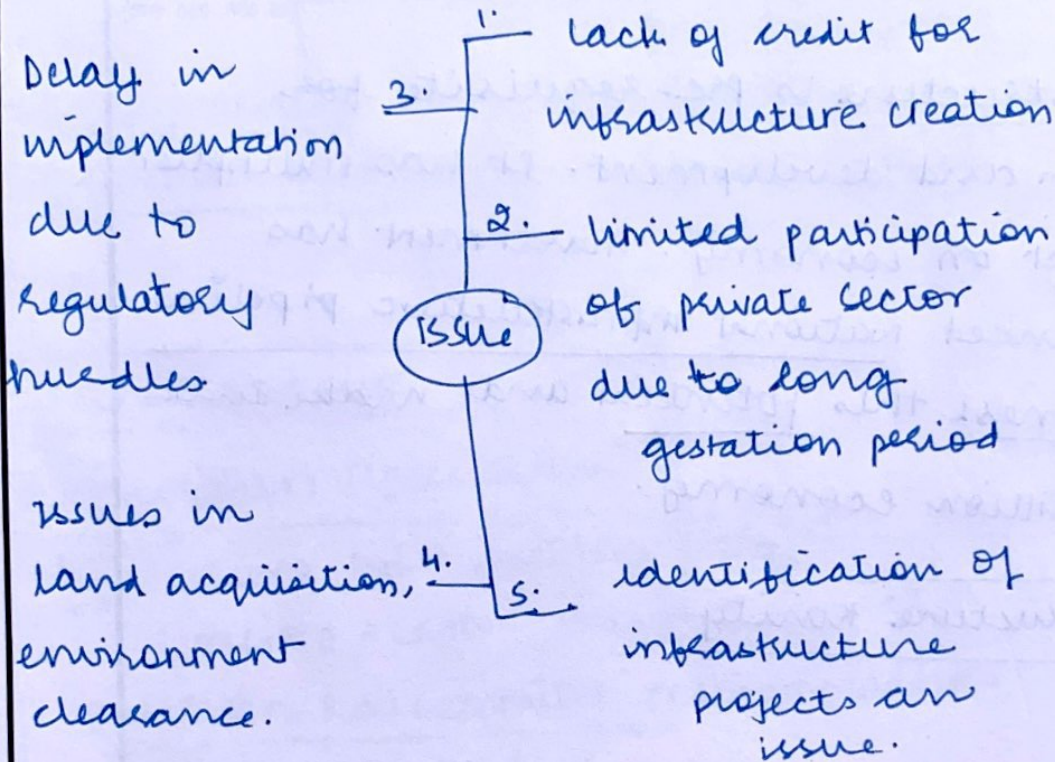
(15 अंक, 250 शब्द)

A) Infrastructure is pre-requisite for growth and development. It has multiplier impact on economy. Government has announced National Infrastructure pipeline to harness this potential and make India a \$5 trillion economy.

Infrastructure Trinity



Thus the trinity can address various issues plaguing infra



Trinity addressing issue

1. NIP will attract private sector (22%) share in infrastructure building & financing.
2. NMP will transfer brownfield project for

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private sector to manage thereby creating fiscal space for greenfield project.

→ management by private } Based on
creation by public } comparative
sector } advantage.

3. Getishakti

ensures that projects are completed on

→ time and face minimum regulatory hurdle.

→ Thus supporting NIP and NMP.

Therefore to support India @75 and

Provide impetus to projects like Make In India

and Atmanirbhar Bharat, strong infrastructure

is a sine qua non. Better implementation via

the trinity can go a long way in making

India \$5 Trillion economy.

Feedback

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Q.12) Move from Washington consensus to Cornwall consensus reflects a shift from fast liberalization to rapid decarbonization, from profit to people, and from free market to public-private partnership aimed at creating sustainable, equitable and resilient economies. Analyze.

(15 marks, 250 words)

वाशिंगटन सहमति से कॉर्नवाल सहमति की ओर बढ़ना तीव्र उदारीकरण से तीव्र डीकार्बोनाइजेशन की ओर, लाभ से लोगों की ओर, और मुक्त बाजार से सार्वजनिक-निजी भागीदारी में स्थायी, न्यायसंगत और लचीली अर्थव्यवस्था बनाने के उद्देश्य से एक बदलाव को दर्शाता है। विश्लेषण करें।

(15 अंक, 250 शब्द)

A) The invisible hand of ^{private sector} ~~state~~ needs to be supplemented with the visible hand of the state to ensure a more sustainable and inclusive growth. In this context the movement from Washington consensus to Cornwall consensus marks a radical shift in defining priorities and partnerships.

Shifts in objectives

- ① Fast liberalisation → decarbonisation
- .) Led by capitalist institutes like WB, IMF.
 - .) Led by multilateral institutes and partnership like Paris agreement.
 - .) Focus on fast growth.
 - .) Focus on sustainable growth.

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1) growing the GDP size

1) achieving intergenerational equity.

②

Profit

to →

people

1) focus on maximising profits and output.

1) focus of maximising welfare and outcomes.

1) Rapid growth

1) Inclusive growth.

1) Efficiency

1) Equity.

1) money making primary objective

1) people's satisfaction as primary objective.

③

free market

to →

PPP

1) laissez faire economy.

1) minimum government maximum governance.

1) Roll back of the state & non interference.

1) Government complementing the efforts of private sector.

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·) Concentration of wealth and inequality later brings Kickle down

·) Welfare and rights based approach emphasise capability approach.

Covid 19 has reposed the limitation of washington consensus.
The flag bearers of capitalism are advocating government's role in bringing about stability, resilience and equitable distribution. In this context, the post covid world must focus on Coenwall.
consensus

Feedback

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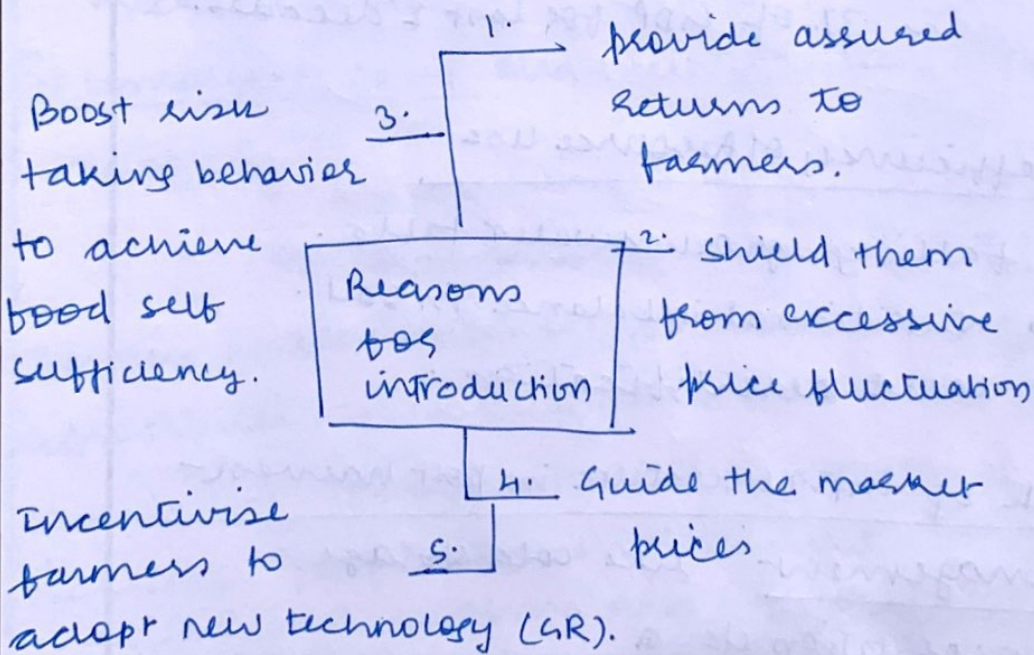
Q.13 Examine the rationale behind introduction of Minimum Support Price (MSP) in agricultural sector. In your opinion, can legalizing MSP provide a solution to address woes of the farmers in the country? (15 marks, 250 words)

कृषि क्षेत्र में न्यूनतम समर्थन मूल्य (MSP) की शुरुआत के पीछे तर्क का परीक्षण करें। आपकी राय में, क्या न्यूनतम समर्थन मूल्य (MSP) को वैध बनाने से देश में किसानों की समस्याओं का समाधान हो सकता है? (15 अंक, 250 शब्द)

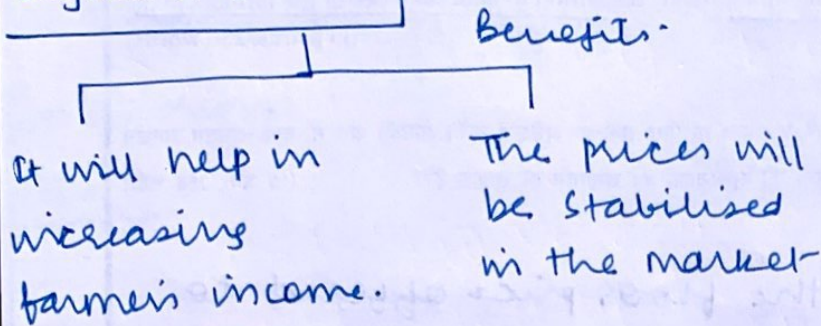
A1

MSP refers to the floor price offered to farmers for their crops. It was first introduced during Green Revolution to support objective of self sufficiency and self reliance.

MSP



Legalising MSP



However it will not resolve the farmer issues

Issues in farming include

① Low productivity and stagnation in agriculture growth

~ 3% of GDP for last 2 decades.

② Inefficiency of Resource Use

- falling groundwater table.
- Nutritional imbalance in soil.
- land desertification.

③ Lack of infrastructure in post harvest management like cold storage, transportation etc.

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→ leads to high wastage (30-40%)

④ Farmer indebtedness

- ~ 70% of farmers are indebted.
- lead to farmer suicide.

Solutions

- ① provide extension services.
- ② create post harvest infrastructure and marketing in PPP format.
- ③ Market Intervention scheme and PM-AASHA as models of price support.
- ④ undertake public investment in road, micro irrigation.
- ⑤ consolidate land and incentives technology adoption.

MSP has benefited only 26% of the farmers in few states. It has disturbed the agroclimatic crop cultivation and environmental degradation. Therefore to resolve structural problems, more deep technology and institutional reforms are required.

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Q.14) Technological interventions envisioned under AgriStack will help in increasing the income of farmers and improving the efficiency of the agriculture sector by creating a seamless digital ecosystem. Examine. (15 marks, 250 words)

एग्रीस्टैक के तहत परिकल्पित तकनीकी हस्तक्षेप से किसानों की आय बढ़ाने और एक सहज डिजिटल पारिस्थितिकी तंत्र बनाकर कृषि क्षेत्र की दक्षता में सुधार करने में मदद मिलेगी। परीक्षण करें। (15 अंक, 250 शब्द)

A) ^c Agriculture requires efficiency, productivity and sustainability' (Manendra Dev)

To bring about such reforms technology intervention is critical. In this context agristack is a welcome initiative.

Benefits of agristack

Improve efficiency

- ① ~~to~~ Bridge the information asymmetry that characterises agriculture.
- ② make available extension services and custom made advice for the farmers.

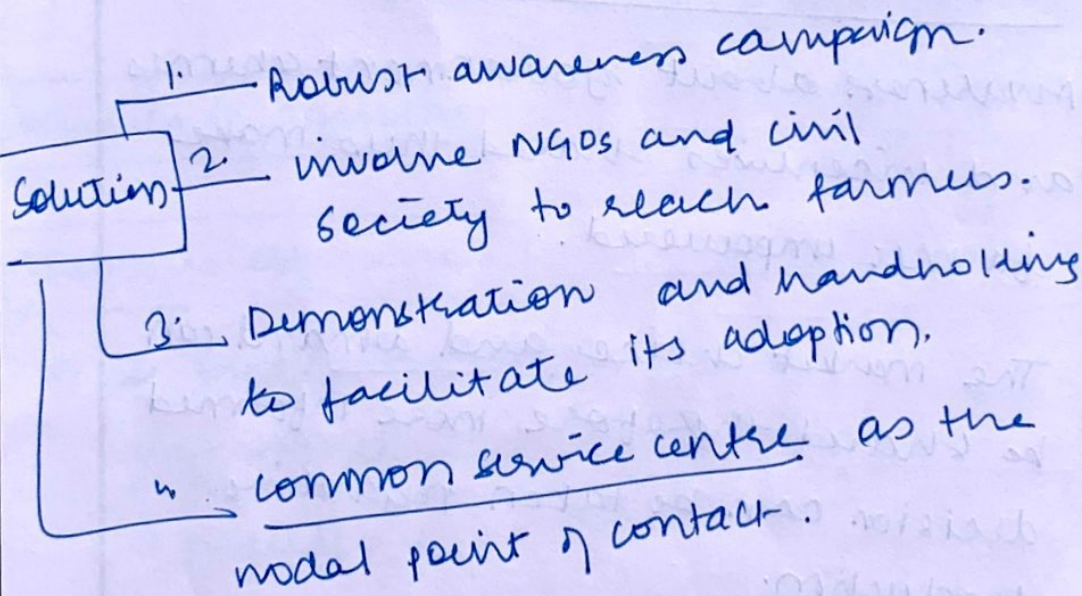
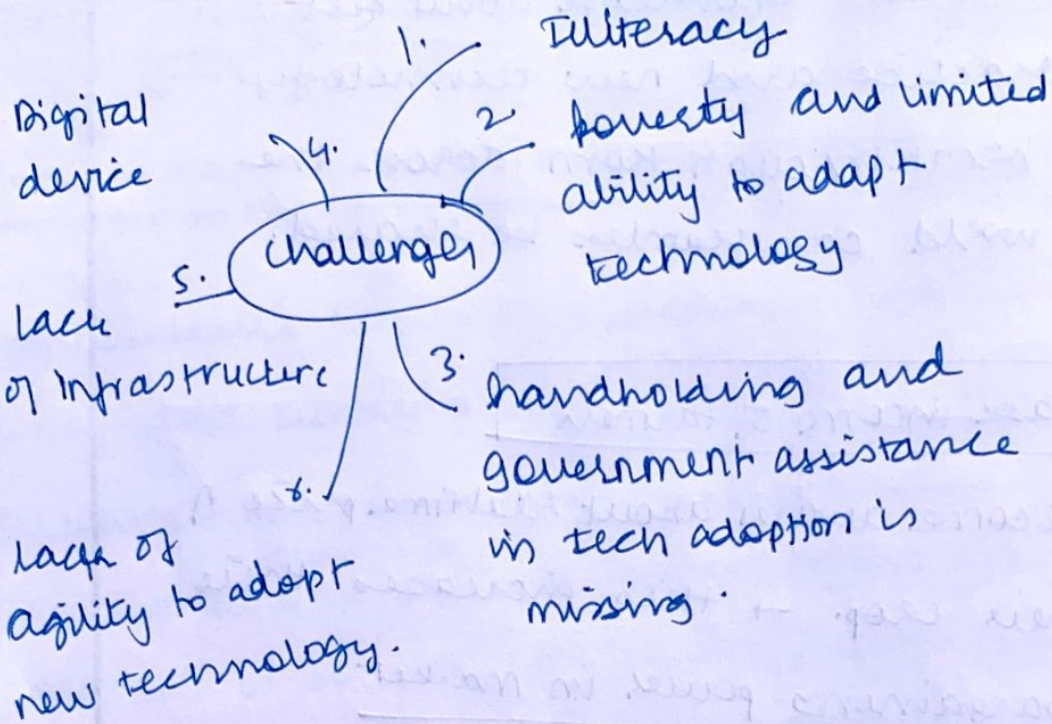
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③ technical knowledge about best practice and new technology breakthrough from across the world can seamlessly be shared.

Increase income of farmer

1. Become aware about real time price of their crop. → this increases their bargaining power in market
2. Awareness about government schemes and incentives shared thus make farmer empowered.
3. The market choice and demand can be shared therefore more informed decision can be taken regarding production.



Bridging the information lag and gap is the key to helping farming become more dynamic in nature.

Feedback
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Structure/ Presentation
Question Interpretation
Content
Value Addition
Total



Q.15) Describe the salient features of National Biodiversity Development Strategy 2021-2025 and discuss the application of biotechnology in promoting food security, conserving biodiversity, and controlling pollution. (15 marks, 250 words)

राष्ट्रीय जैव विविधता विकास रणनीति 2021-2025 की मुख्य विशेषताओं का वर्णन करें और खाद्य सुरक्षा को बढ़ावा देने, जैव विविधता के संरक्षण और प्रदूषण को नियंत्रित करने में जैव प्रौद्योगिकी के अनुप्रयोग पर चर्चा करें।

(15 अंक, 250 शब्द)

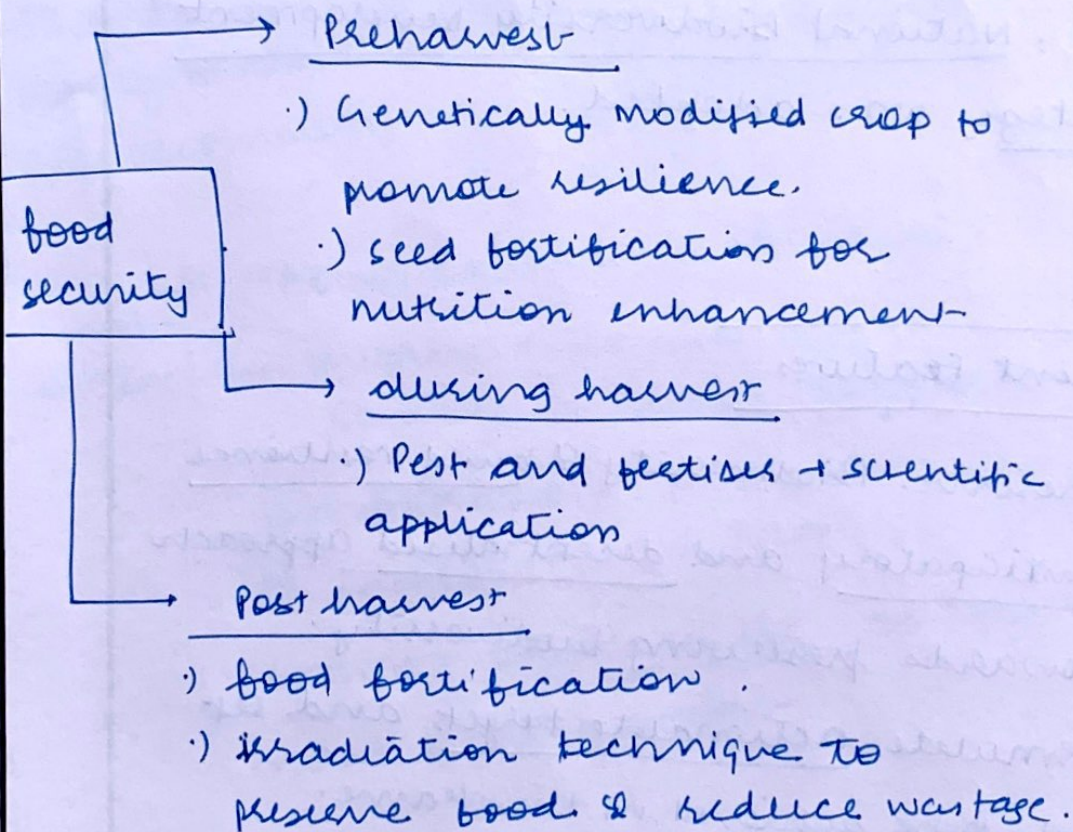
As part of commitment towards the convention on conservation of biodiversity (BD), National Biodiversity Development Strategy was adopted.

Salient Features

- ① Preserve Biodiversity & build resilience
- ② Participatory and decentralised approach towards preserving biodiversity.
- ③ Formulate actionable targets and set goals to be achieved in timeframe.
- ④ Ensure sustainable development.
- ⑤ Spread knowledge and awareness about BD.

- ⑥ Identify threats to BP and phase out practices that harms BP.
- ⑦ Preserve rich heritage of our composite culture.
- ⑧ Revert monoculture.

Application of Biotechnology



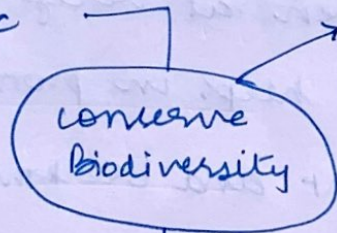
controlling pollution

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- ① Environment friendly techniques. like bioremediation for waste disposal.
- ② use of microorganism like oil zipper to reduce water pollution.
- ③ tweaking microbiology of fuel through hydrogen fuel, ethanol blending, and 14, 24, 34, 44 → Biofuel to reduce pollution.

scientific breeding of animals.



cataloging and recording gene basepairs → to prevent extinction

Gene modification to promote climate change resilience.

Therefore, Biotechnology Mission launched by government is step in the right direction to promote and achieve National Biodiversity targets.

Feedback

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Value Addition
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Q.16) Write short notes on the following:

(15 marks, 250 words)

- Semi-cryogenic engine
- Subunit, Conjugate and m-RNA vaccine.
- Indian Satellite Navigation Policy-2021 (SATNAV Policy - 2021)

निम्नलिखित पर संक्षिप्त टिप्पणी लिखिए:

(15 अंक, 250 शब्द)

- सेमी-क्रायोजेनिक इंजन
- सबयूनिट, कॉन्जुगेट और एम-आरएनए वैक्सीन।
- भारतीय उपग्रह नेविगेशन नीति-2021 (SATNAV नीति - 2021)

AS

Semi cryogenic engine

2)

Next generation engine to promote fuel use efficiency even at very low temperature. It helps in promoting technology advancement and breakthrough in space exploration missions. It ensures that minimum cost fuel can power our space expeditions and provide enough thrust to launch heavy carriers like GSLV IV.

1) m-RNA vaccine

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Vaccine that mimics the messenger RNA of cell and guide the cell to make proteins that can kill the virus. It is a vaccine that does not use live virus thereby considered more safe to use.

conjugate - combining various microorganism to leverage their defence mechanism in production of vaccine -

subunit

Indian satellite navigation Policy

Supplement IRNSS. To make indigenous satellite infrastructure to provide various general purpose services like navigation for ocean expedition, fishermen for fishing in territorial water etc and specialised services to the armed forces for national security.

It also involves radar, thermal imaging etc

Feedback

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Question Interpretation
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Value Addition
Total



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Q.17) One Sun, One World, One Grid (OSOWOG) gives an actionable agenda to International Solar Alliance (ISA) for attaining its goal of making solar energy available 24X7 at affordable cost for all. Elucidate. Also, discuss associated challenges and significance of OSOWOG to decarbonize the energy sector and promote green energy. (15 marks, 250 words)

एक सूर्य, एक विश्व, एक ग्रिड (OSOWOG) सभी के लिए सस्ती कीमत पर 24X7 सौर ऊर्जा उपलब्ध कराने के अपने लक्ष्य को प्राप्त करने के लिए अंतर्राष्ट्रीय सौर गठबंधन (ISA) को एक कार्रवाई योग्य एजेंडा देता है। इसके अलावा, ऊर्जा क्षेत्र को डीकार्बोनाइज करने और हरित ऊर्जा को बढ़ावा देने के लिए OSOWOG की संबंधित चुनौतियों और महत्व पर चर्चा करें। (15 अंक, 250 शब्द)

A) To meet the INDC targets and increase the share of solar energy in power mix, government introduced OSOWOG initiative in partnership with nations like France as part of ISA's actionable agenda.

OSOWOG benefits

1) Resolve issue of Reliability

by connecting various continents falling in tropical and temperate zone via grid.

2) Proposes market framework to trade

solar energy

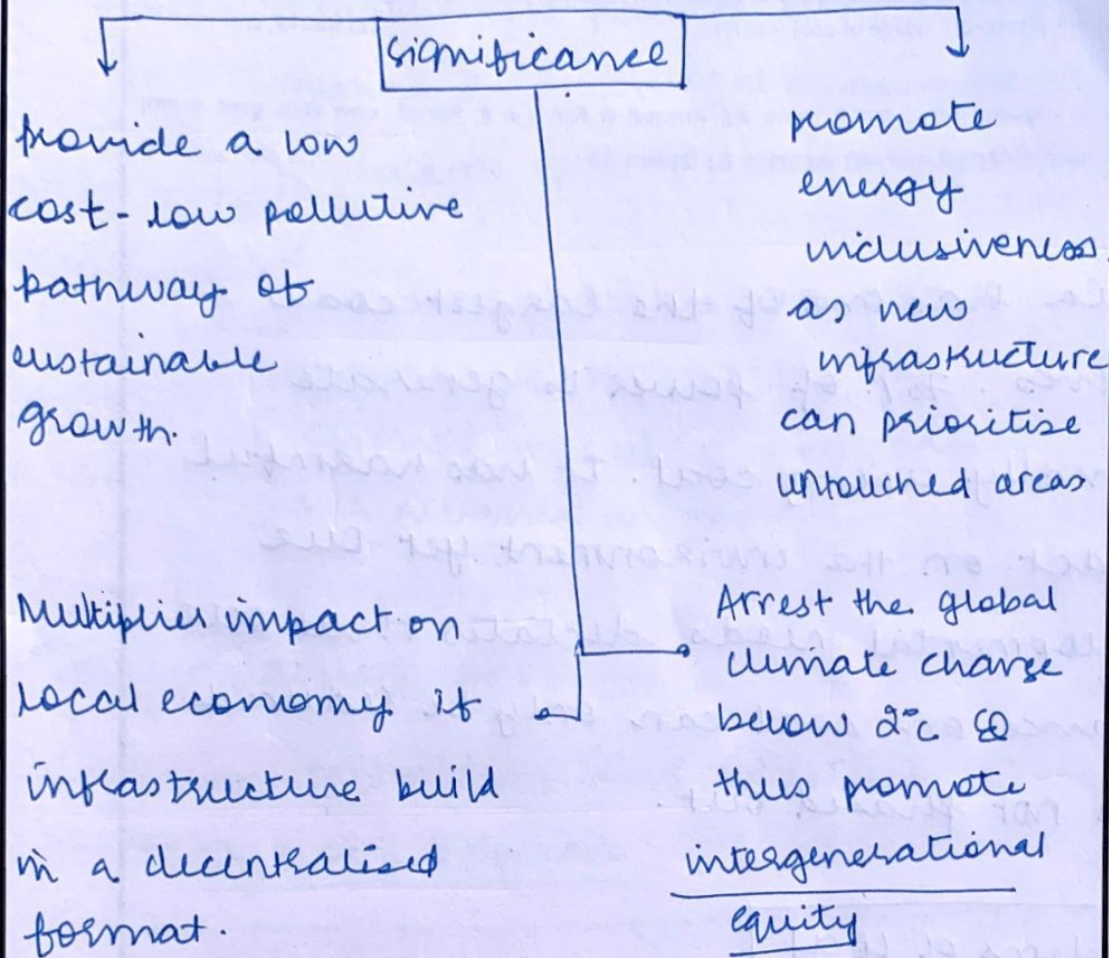
Thereby reducing the cost and making it more affordable.

challenges

- ① Require major infrastructure investment and mobilise finances for the projects
- ② Long gestation period before it can be made operational
- ③ consensus building on how the market for renewable trading will operate.
- ④ technological challenge in large scale manufacturing of solar cell inputs.
- ⑤ It is subject to vagaries of natural disaster, the insurance, repair and maintenance will require negotiations.
- ⑥ Developing countries like India and Africa still need to rely on coal based energy for development.
- ⑦ Land acquisition, environmental concerns will be potential roadblocks.

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OSOWDQ is guided by the leveraging comparative Advantage & sharing the benefits in spirit of vasudeva kudumbakam. The roadblock must be addressed via negotiation to make the vision into reality.

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Question Interpretation
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Value Addition
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Q.18) Coal as a resource as well as sector is beset with multiple problems, still, India can only phase-down and not phase-out usage of coal. Analyze. (15 marks, 250 words)

एक संसाधन के साथ-साथ क्षेत्र के रूप में कोयला कई समस्याओं से घिरा हुआ है, फिर भी, भारत केवल इसके उपयोग को कम कर सकता है और इसे बाहर नहीं कर सकता है। विश्लेषण करें। (15 अंक, 250 शब्द)

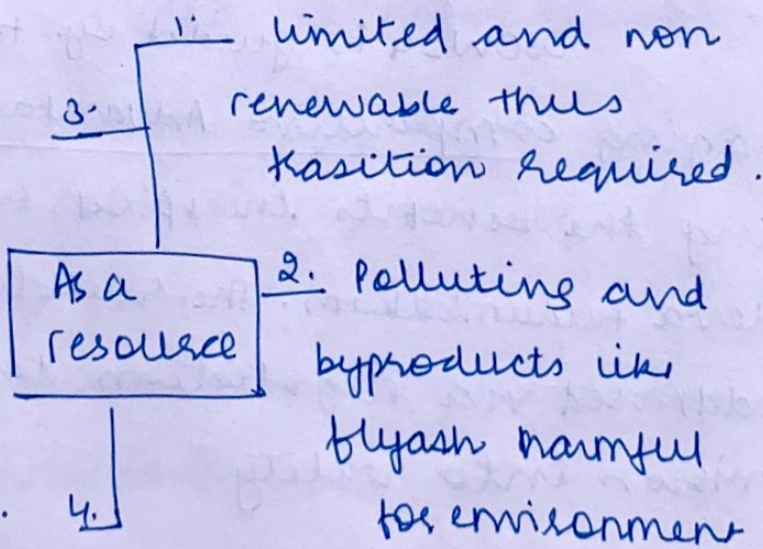
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India has one of the largest coal reserves. 70% of power is generate thermally using coal. It has harmful impact on the environment yet our developmental needs dictates that our reliance on coal can only be reduced and not phased out.

Problems of coal

Difficult to mine and can harm local ecology.

Release GHG.



1. unsustainable practice like Rathole mining and illegal mining harm health of people and environment

As a sector

2. Regulatory hurdles like captive mining etc had left the coal reserves unexplored → increasing our reliance on exports.

Phasing down coal

1. Using mitigation and adaptive technology such as

electrostatic precipitator

coal washing

coal Bed methane production.

2. Promoting sustainable management of byproducts

eg: flyash management policy.

3. Promote hybrid energy structure combining Renewable Energy [Renewable purchase obligation] with thermal power production.

4. Attracting FDI [100% through automatic route], allowing captive mining will help us use our coal to generate surplus which can be invested in technology advancement.

~ 300 million people are below poverty line. Expecting India to phase out coal is against the principle of differentiated responsibility. We will use our strategic reserve and at the same time make transition towards a more sustainable path of controlling GHG emission.

Feedback

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Structure/ Presentation	
Question Interpretation	
Content	
Value Addition	
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Q.19) Border management and security of frontier regions revolve around controlling infiltration, incursion and insurgency. Differentiating between infiltration, incursion and insurgency, elucidate reasons for continued existence of these security challenges and recommend steps for their effective management.
(15 marks, 250 words)

सीमा प्रबंधन और सीमावर्ती क्षेत्रों की सुरक्षा घुसपैठ, आक्रमण और उग्रवाद को नियंत्रित करने के इर्द-गिर्द घूमती है। घुसपैठ, आक्रमण और विद्रोह के बीच अंतर करें, इन सुरक्षा चुनौतियों के निरंतर अस्तित्व के कारणों को स्पष्ट करें और उनके प्रभावी प्रबंधन के लिए आवश्यक कदमों की सिफारिश करें।
(15 अंक, 250 शब्द)

India share borders with 8 countries.
The unsettled boundaries and difficult terrain has led to increased security threats along the major frontiers.

Various security challenges

Infiltration

→ entering the Indian border illegally and in hiding by non state actors.

eg: Pakistan infiltrating Jammu & Kashmir.

Incursion

→ violating territorial sovereignty via illegitimate state action.

eg: chinese incursion in the Galwan valley.

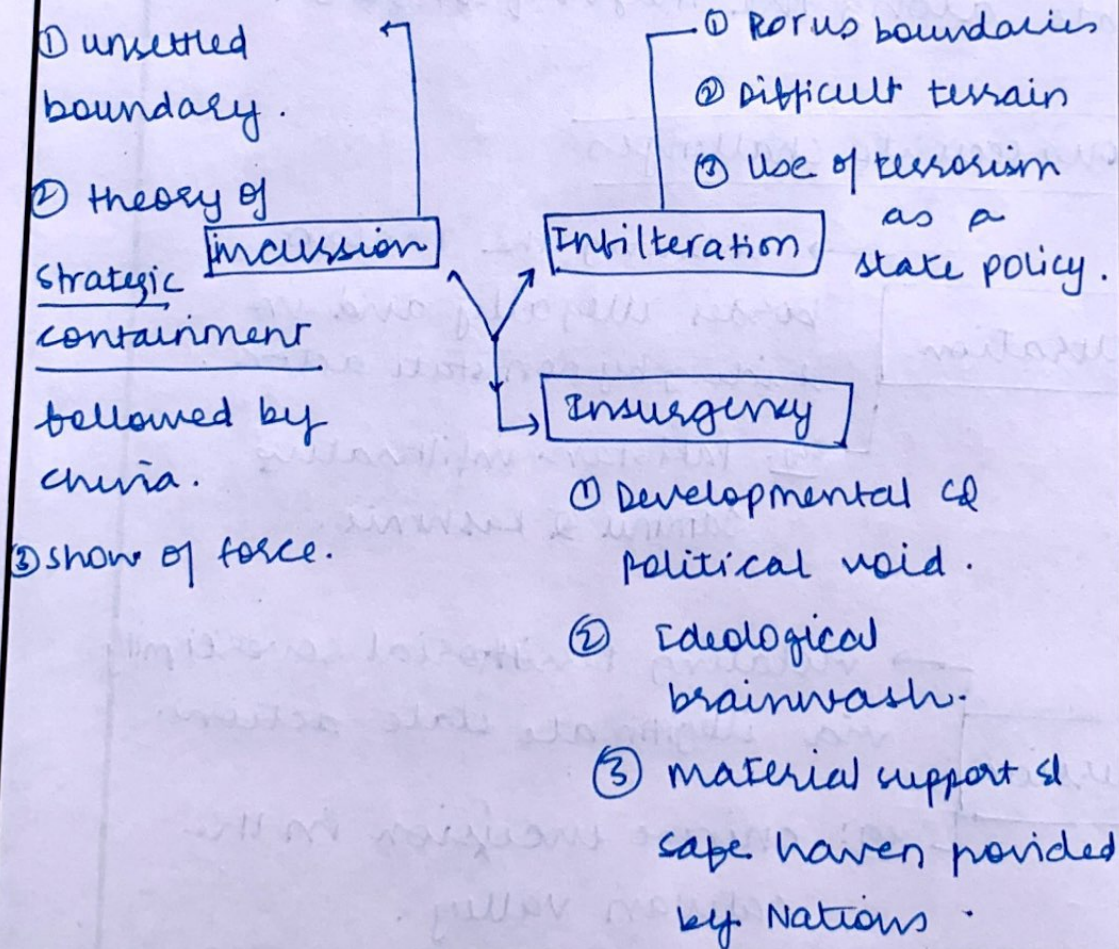
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Insurgency → armed conflict against the government which often receives ideological & material support from other Nations.

→ eg: Insurgency in NE, unofficially supported by China.

Reasons for continued existence



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(Don't Write anything in this Area)

Recommendations

Security

① use state of the art technology

wire netting, electrification of border, use of laser boundary.

night vision goggles, drones for surveillance and CCTV camera

infiltration

② Develop military and economic powers.

③ Use diplomacy.

④ Garner international support

⑤ settle boundary through dialogue

inclusion

⑥ Bilateral support eg: operation sunrise

⑦ developmental intervention

⑧ Political Representation

Insurgency.

To emerge as a net security provider, securing border is the first step.

Feedback

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Structure/ Presentation
Question Interpretation
Content
Value Addition
Total



Q.20) Misuse of social media has emerged as a new threat to internal security of the country. Elaborate with example. Suggest suitable strategies for countering the threats emanating from social media with special emphasis on IT (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021. (15 marks, 250 words)

सोशल मीडिया का दुरुपयोग देश की आंतरिक सुरक्षा के लिए एक नए खतरे के रूप में उभरा है। उदाहरण सहित विस्तृत विवरण करें। आईटी (मध्यवर्ती दिशानिर्देश और डिजिटल मीडिया आचार संहिता) नियम, 2021 पर विशेष जोर देते हुए सोशल मीडिया से उत्पन्न होने वाले खतरों का मुकाबला करने के लिए उपयुक्त रणनीतियों का सुझाव दें।

(15 अंक, 250 शब्द)

A)

Social media brought interaction between people and software via decentralised distributed set of electronic devices. It has emerged as a major security threat for the country.

Threat through social media

Political

→ increase in protest and rise in external interference
eg: toolkit and Greta Thunberg.

→ Impact free & fair election
eg: Cambridge Analytica case.

Economic

→ can spur panic via mis information

eg: can spark speculative trading and capital flight due to rumors.

social → rise in hate speech
 → impact secular fabric of country
 via misinformation
 → Rise in communal violence.

eg: Mob lynching of Akhlaq, Delhi riots, use of deep fakes in whatsapp circulations.

Suitable Strategy

① Awareness and Digital Literacy

-) Apply logic and Rationality.
-) Use sites for news verification like Hoot.

② Strengthening social media monitoring

eg: Mumbai police has social media branch to identify early signs of misinformation.

③ Amend IPC to include - offence of misinformation, rumors, mob lynching

Role of IT intermediary guidelines

- ① share the end to end encryption with the government to identify the perpetrators and set up effective deterrence.
- ② grievance officer to handle the complaints on real time basis.
- ③ suspend account on government's direction in case it poses threat to sovereignty and security of the country.
- ④ Nodal compliance officer to keep government in the loop.
- ⑤ Need data protection law and compliance with data localisation

Regulatory tools must ensure that balance between freedom of speech and expression (Article 19) and reasonable restriction is applicable on digital world as well.

Feedback (For OFFICE use only)

Structure/ Presentation
Question Interpretation
Content
Value Addition
Total