

ForumIAS

## GENERAL STUDIES

Name Of Candidate	SHRUTI SHARMA		
Roll No.	1910051334	Date:	23/12/21

Time Allowed: Three Hours

Maximum Marks: 250

INDEX TABLE			INSTRUCTION	
Q. No.	Max. Marks	Marks Obtained		
1			1. Please do furnish Name, Email, Roll No and Mobile in the answer sheet.	
2			2. There are TWENTY questions printed in ENGLISH & HINDI, all questions are compulsory.	
3			3. The number of marks carried by a question/part is indicated against it.	
4			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			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..	
6			<p><b>Any specific messages for ForumIAS Mentors/Evaluators with respect to your copy? Write it here.</b></p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	
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<b>Total:</b>	<b>250</b>			
<b>Evaluator's Discretion:</b>			<b>For Student Only</b>	
			Start Time   10 AM	End Time   1 PM
<b>Total Marks:</b>			Mode Of Examination: Online <input checked="" type="checkbox"/> Offline <input type="checkbox"/>	
<b>Evaluator's Discretion:</b> 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.			<b>For Office Use Only</b>	
			ECN CODE:	EG:
			Evaluation Date:	

**Note:** You can discuss your evaluated copy with the Mentor. Raise a ticket from your portal to schedule a mentor call or visit the offline centre to meet mentor (all 7 days, Timings - 11 AM to 6 PM). Further if you are unsatisfied with the evaluation, you can seek re-evaluation of the copy.

Parameters	Excellent	Very Good	Good	Average	Poor	Very Poor
Language						
Structure						
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**ADDITIONAL REMARKS**

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)

Cryptocurrency - based on a decentralised, democratised blockchain system - has expanded as the modern exchange system in the world - eg: Dogecoin, Bitcoin → revolutionising the payment space

Cryptocurrency as digital currency is gaining force:

① Venezuela being 1st country to launch own digital currency

② China has taken the foot forward → launching own digital currency - by the central bank

Advantages →

- Reduces cost of printing
- Ensures easy transactions
- More democratic
- Possible use in cross border transactions, banking

(Subhash Chandra Group.com)

## Yet concerns for macroeconomic stability

- ① Decreased control of Central Bank to regulate its use.
- ② Increased volatility based on extraneous factors  
 Ex) Fall of Bitcoin's value after Elon Musk tweet.
- ③ Wrongful use by nefarious elements  
 Ex) Use of Dark net for drugs and arms smuggling.
- ④ Will decrease Central bank's ability to control monetary supply.

## Options for Regulation

- ① Complete ban (Subhash C. Garg comm) → not practical (Supreme Court)
- ② Launching of Central Bank currency  
 Ex) Recent Cryptocurrency Bill of Banker's
- ③ Complete non interference is working (current scenario)
- ④ 'Light touch' regulation - Ensuring control in certain areas to protect national security & maintaining financial variables.  
 ↳ This is the way to go with possible launch of central bank digital currency.

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)

India's export policy envisages to expand its export share in the world economy from current 2% to 4% by 2030.  
(\$60 billion)

The main hurdle is our non-involvement in global supply chains - for which China + 1 is an effective strategy.

Current Inhibiting Factors:

① Excess representation of raw materials in export basket  $\Rightarrow$  Rice, Wheat, Agri products  
↳ Lack of value added products

② Competitive advantage of neighbouring countries (Vietnam, Bangladesh)  
 $\Rightarrow$  High GST (12, 18%) on textiles, aluminium - decreases competitive advantage.

- ③ High logistics cost (Current 14%)
- ④ Sanitary and phytosanitary lacunae.  
 ↳ Rejection of contaminated GM Rice
- ⑤ Poor and complex labour laws - discouraging foreign industries.
- ⑥ Excessive red tapism and 'inspector raj'  
 ↳ GoDB Contract Enforcement rank - 163

## Strategies to emerge as Global Export Hub

- ① China Plus One strategy : To collaborate with China to boost exports  
 ↳ China + India → Pharmacy of the World  
 (APIs) (Medicines)
  - ② Bypassing China : Achieve self-sufficiency  
 ↳ Japan - supply chain resilience Initiatives.
  - ③ Atmanirbhar Bharat - Development of PLI schemes → for textile, automobile, food export capacities
  - ④ Development of 'Brand India' - niche marketing ↳ Handicraft products.
- A widespread and expansive export policy can achieve aim of \$5 Trn econ.

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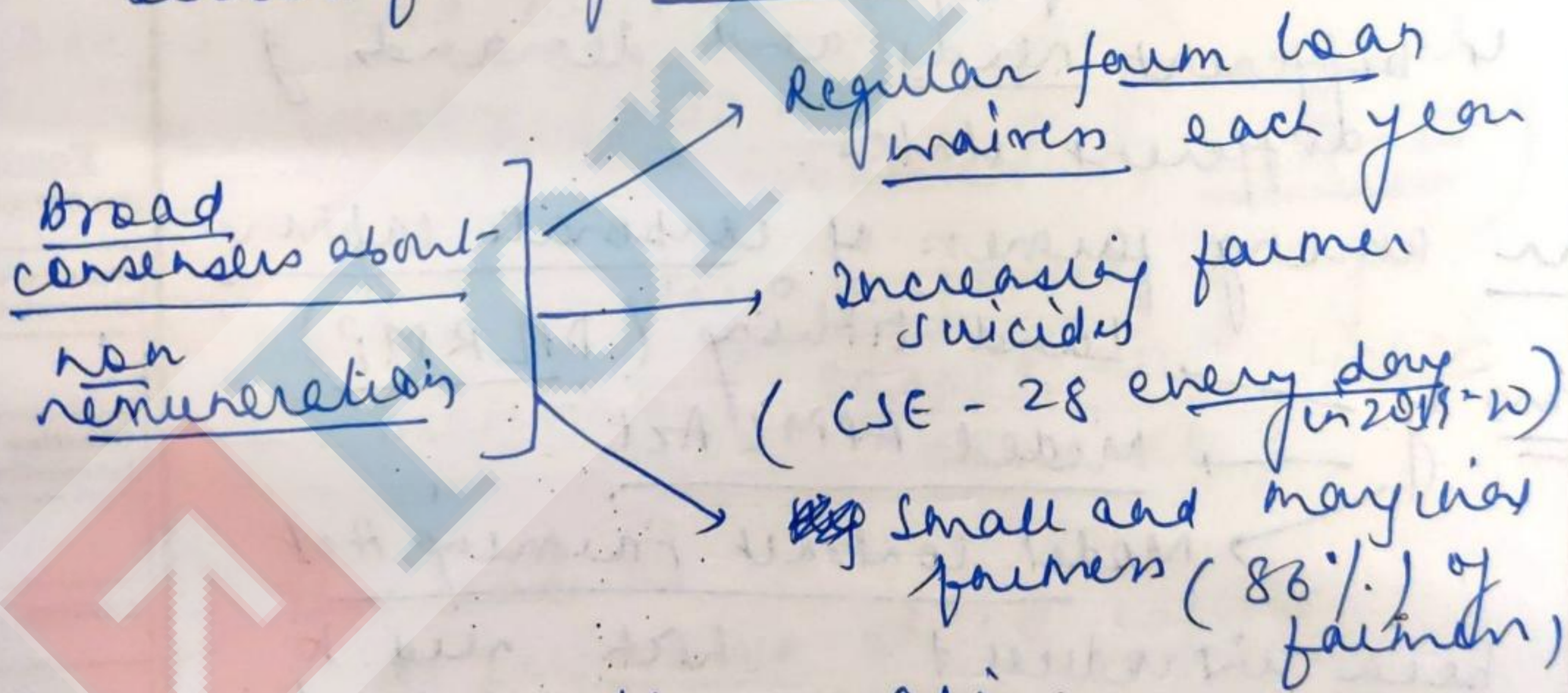
Q.3) Why has there been no significant reform in agricultural sector in the past few decades, even when a broad consensus exists that farming is becoming non-remunerative and unsustainable?

(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

The recent farm laws proposed has again thrown light on an agriculture sector that provides 50% of employment and 20% of the GDP.

Structural reforms are the need of the hour to enhance productivity, reduce disguised unemployment and modernise the sector for global competition.



Yet many hurdles remain:

- ① Lack of political will in interest of populist politics: more helpful

to encourage farm loan waivers.

② Lobbying by certain prosperous farmer groups - who benefit from current regime

↳ MSP regime - farmers 6% wealthy farmers

③ Lack of consensus building and stakeholder consensus and discussions to devise reforms acceptable to all.  
↳ Lack of state wise detailed data for evidence based policy making.

④ Federal nature of agriculture subject  
↳ different needs and demands of different states.

⑤ Fear among farmers of corporate capture Land titling (DILRMP)

Reforms of → Model APMC Act  
→ Model Contract Farming Act

have been introduced - which need to be taken a step further by collaborating with all stakeholders to double farmer's income (Ashok Dalwai Committee)

Feedback (For OFFICE use)	
Structure/Presentation	
Question Interpretation	
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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)

The food processing in India is restricted to only 10% of the food produce - with much higher rates in Canada and USA (capture 40% of world market)

It can act as the bridge between food sufficiency and nutrition deficiency as :

① Adequate food sufficiency is seen in the country (230 mMT of food grains produced in 2019-20)

② we are a major exporter of agri raw materials (Basmati rice, wheat, okra etc)

③ This leads to :

① Low value added exports

② decrease in prices for farmers due to glut in market

↳ cobweb effect of pulses production in 2017-18

① Food wastage  
(FAO: 40% of food grain produced is wasted)

② This excess food production can be used to tackle malnutrition deficiency  
(Stunting rate - 35% NFHS 5)

↳ ① Value added products

↳ Jam manufacturing units of cranberry, strawberry, orange etc (giving necessary vitamins)

↳ ② Fortification of food

↳ Fortified rice kernels (with iron, folic acid, B12)

↳ ③ Encouraging diversification of agriculture

↳ millet based 'healthy snacks'  
↳ okra chips, ragi puffs to improve nutrition

The Mega Food Park Scheme and Scheme for Formalisation of Food Processing Units are steps in the right direction for achieving SAG 2 (Reducing hunger) and increasing exports.

Feedback  
(For OFFICE use)

Structure/  
Presentation

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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)

Artificial Intelligence is said to  
 bring in the 4th Industrial Revolution  
 revolutionising all aspects of space,  
health, education and mobility and  
computing.

## Advantages

- ① Governance: Evidence based policy making - due to collation of data existing in silos → National Health Stack  
 ↳ Effective monitoring  
 Tackling lapses not seen by human eye → Coal mining seams
- ② Health: Development of models using genome sequencing data to predict diagnosis and treatment.
- ③ Mobility: ① Future of 'driverless' cars  
 ② Data driven transport system - decreasing fuel use.

④ Computing and Technology - Much quicker decision making - leading to creative solutions for age old problems

Yes, it is a double edged sword for its nature depends upon how it is used.

① Ethicality and problems of control :  
 'Black box problem' of AI = The mechanism of coming to a solution is not always traceable leading to major regulatory issues.

② Biases creep in due to real life data  
 Ex. London police data, Facebook  
AI programme : Racial biases highlighted.

③ Privacy concerns  
 Ex. Use of facial recognition to target protestors

④ Use for cyber crimes : much easier to hack highly safe cyber ecosystems.  
AI - this must be effectively regulated - our National programme for AI and 'RAISE' progr. are steps in this direction.

Feedback	
(For OFFICE use only)	
Structure/Presentation	
Question Interpretation	
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Q.6) What do you understand by non-fungible token (NFT)? Discuss its significance in trade of digital artwork. (10 Marks, 150 words)

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

Non fungible tokens refer to unique digital items in the cyber space that cannot be replicated and have certain ownership rights based on a blockchain system.

It gained prominence recently in the realm of artwork with the highest art bid of all time (\$8 million) - of an artwork by Beeple (a digital artist).

Significance in digital art trade:

- ① Growing importance especially in Pandemic due to increased screen time of people across the world.
- ② Growth of digital art with newer formats and shift from paper

and brush based out its growth of graphic design.

(3) Unique nature of NFTs - ensures authenticity of art works are maintained as based on blockchain based ledger system

↳ Problem of 'fakes', in real world : art ~~can~~ can be tackled.

(4) As a modern form of asset in the 'metaverse' or virtual reality world emerging

↳ artwork via NFT can also be displayed in ~~the~~ digital world with greater ease.

The NFT is thus yet another artefact in the cyber ecosystem - with emergence of blockchain, cryptocurrency and Metaverse - that has now extended to the traditional 'art world' as well.

Feedback
(For OFFICE use)
Structure/ Presentation
Question Interpretation
Content
Value Addition
Total

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)

As per Geological survey of India, 12.6% of India's terrain is prone to landslides - with the Himalayan Belt and Western Ghats being the prominent areas.



Himalayas : Reasons

\* Tectonic convergence area : Tectonically active

\* Barren rocks - less trees, less soil

\* Increased construction activity  
road cutting

\* Unsustainable Tourism (Char Dham yatra)

↳ Kedarnath, Badrinath

\* Construction of dams

↳ Tapovan hydroelectr. plant

Western Ghats

\* Heavy rainfall  
↳ greater propensity for mudslide

\* Watering works Committee

↳ Increased encroachment and housing

\* New development projects

↳ Kerala - Silvanthi train project

## NDMA Guidelines on Landslide Hazard Management &

### Prevention and Mitigation :

① creation of landslide mapping and hazard zonation maps

↳ National landslide susceptibility mapping (Himalayas region)

② Limited excessive construction, undercutting of roads

↳ Sustainability of Char Dham project should be environmentally assessed (EIA)

③ Involvement of local communities - tapping local knowledge

④ Hydro seismicity related measures

↳ Deepak Chopra Committee - 23/24 proposed dams in Himalayas should be halted

⑤ Positive steps : Afforestation to be encouraged  
↳ Sikkim : development of 'mith' 'mithib' relationship with Tree

They : Prevention better than cure.

Feedback	
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Structure/ Presentation	
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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)

The Forest Conservation Act of 1980 was introduced to protect the 'lungs of the Earth' to be sacrificed at the 'altar of development'.

The recent 14 proposed amendments have radically changed key provisions of the Act.

- ① Full relaxation to businesses like zoos, safaris, mining and other non forest use on forest land.
- ② Treats Industrialists and village tribes on the same page - for procuring approval of land use for 'non forest use'.
- ③ Seeks to provide 'definition' of forest based on ~~Govender's~~ Godaverman vs UOI Indre case, 1995.
- ④ Decreasing of imprisonment for forest offences from 1 year to 15 days.

## Positive aspects

- ① will give boost to development activities - positive externalities of which will flow down to the tribal groups
- ② Increased protection for core forest regions
- ③ Encouraging forest tourism enhancing awareness among new generation  
 (  $\Rightarrow$  Development of jungle safaris )

## Negative aspects

- ① Major blow to tribal rights - argued by some to violate Forest Rights Act, 2005 - by depriving right of tribals to manage their own land.
- ② Increased encroachment on forest land would be encouraged  
 $\hookrightarrow$  environmental issues to be sacrificed for MNC interests  
 $\Rightarrow$  Buxwaha forest cutting for diamond mining

A stakeholder based solution should be offered keeping nature and tribal interests in mind for sustainable development.

Feedback (For OFFICE use)	
Structure/Presentation	
Question Interpretation	
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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)

With the opening of 4<sup>th</sup> and 5<sup>th</sup> commands of warfare ( space and cyber space ), the winability in war is defined less by military heft and more by efficient utilisation of data, integratdness of command and strategy and agility in action.

Integrated theatre command assumes importance in this context!

① Acquisition of weaponry : Not be decided in silos with overlapping ~~and~~ of weaponry → but need for integrated weapon systems.

↳ Procurement of  Sukhoi by IAF Tejas → should be integrated with Armed Forces needs as well.

② Coordination during armed conflict - needs to be pre-prepared by adequate communication and common head of force → Role performed by Chief of Defense Staff.

③ Interoperability and synergy between different armed forces.

④ Development of strengths and corresponding strategies based on quick and efficient mobilisation.

⑤ Development of trust between different arms instead of competition.

The Andaman Integrated Theatre Command

is the only one currently as?

Challenges exist:

① Disputes and issues within armed forces regarding relative importance → Recent dispute between Army and AF regarding spending on aircraft.

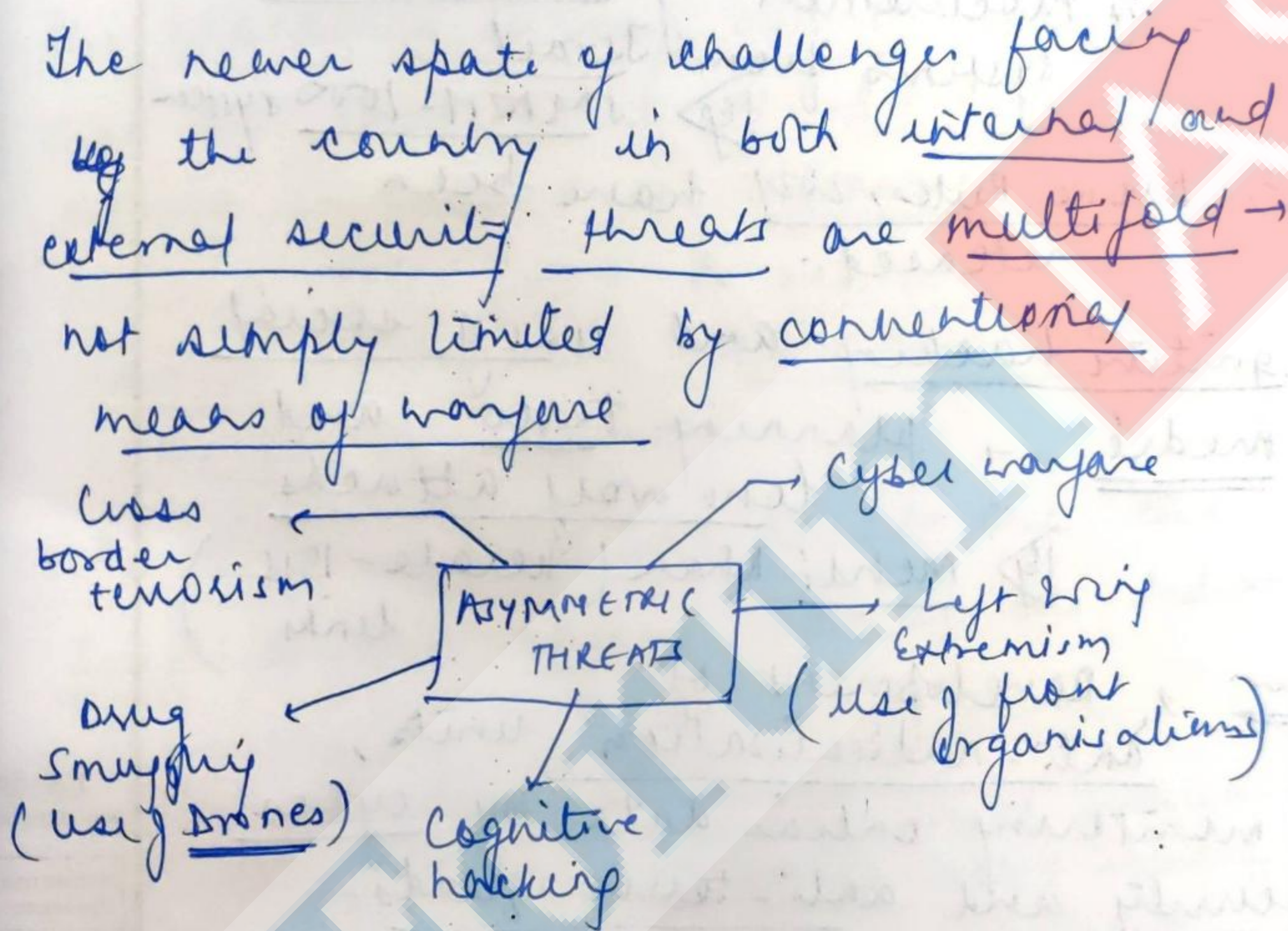
② Operational issues regarding interoperability of equipment.

Yet, more steps should be taken to build trust to develop a 'modern age' defense system.

Feedback	
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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)



### ① Cyber Threats

Key → Kudankulam (DTrack) attack targeting critical infrastructure

Key → 'Honeytrapping' by Pak spy 'Sejal Kapoor' & key 'BrahMos' missile information given away:

COUNTER \* Development of NCIIPC as to tackle attacks on critical infrastructure

and National Cybersecurity Action Plan -  
- development of capacities.

② Use of drones → Recent drone attack in Jamnui.

Counter ① Procurement of anti-drone systems from Israel  
↳ SMART-1000 system

② Drone Rules, 2021 have been released.

③ Cognitive hacking and use of social media → planning terror and low level attacks

↳ Mehdi Khan (Kerala-ISIL links)

Counter, Development of 'anti-radicalization' units, monitoring online data by cyber security and anti-terror squads

④ Left wing extremism - use of front organisations

Counter: targeting through development  
↳ Swasthman Anchal model (Odisha)  
↳ development of tourism farming, local skill training in Madia area.

New threats need new solutions. The modern security threats need a 'New Security Strategy'.

Feedback  
(For OFFICE use)

Structure/  
Presentation

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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)

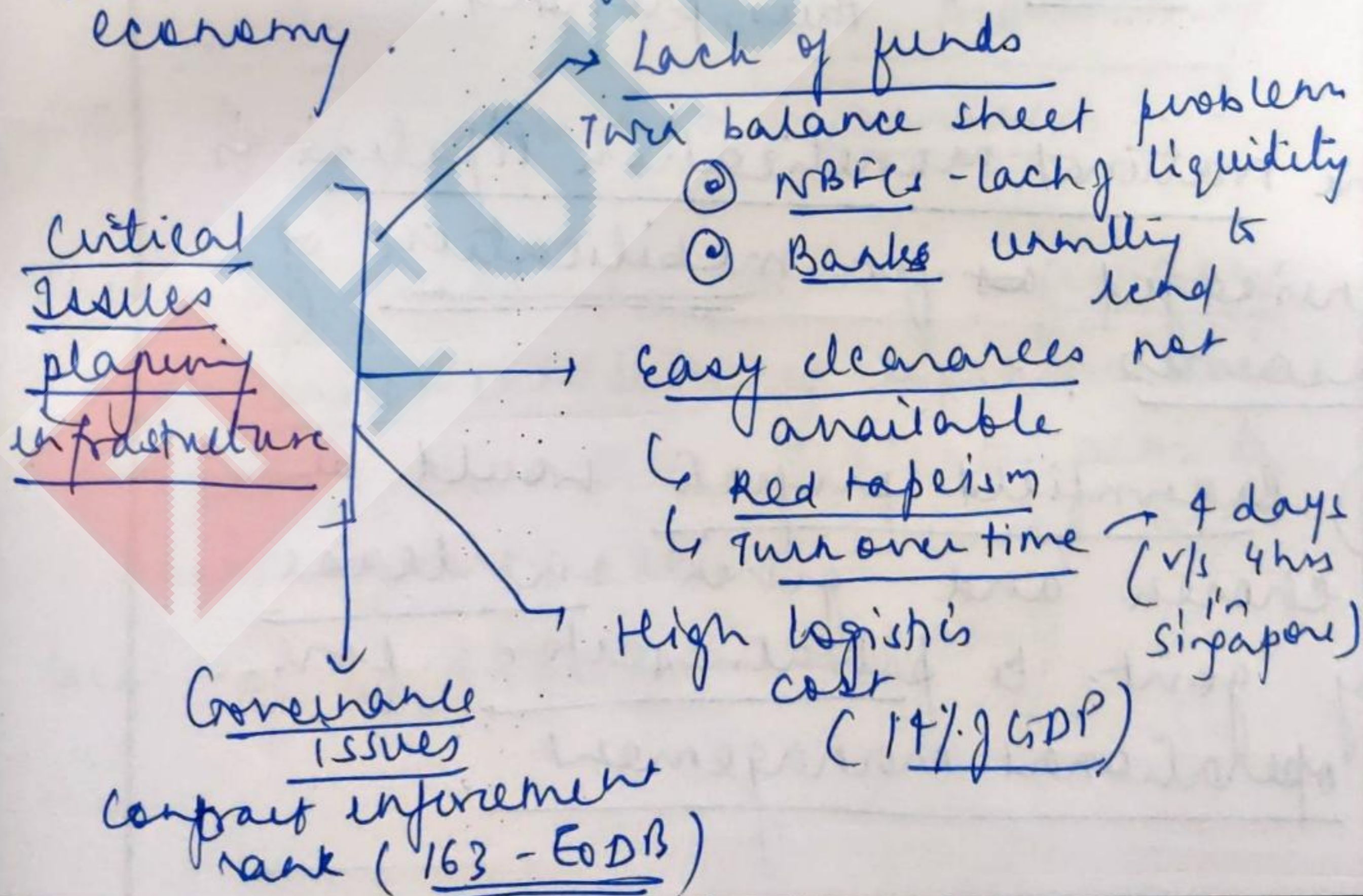
21

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)

The Economic Survey 2019-20 claimed that an investment of \$4.5 trillion is needed till 2030 to achieve our modernisation and economic recovery aims for the country.

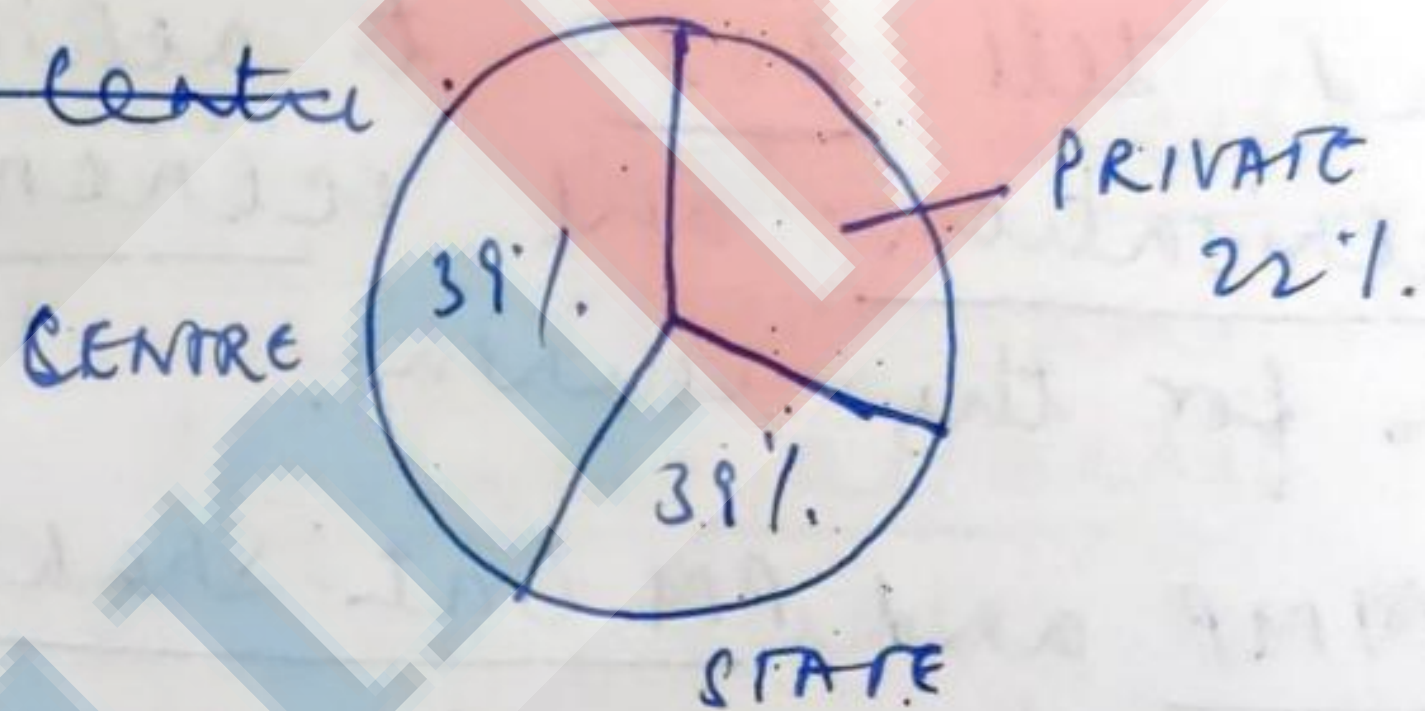
NIP, NMP and PM Gati Shakti are the fuel to the engine that is the Indian economy.



① National Infrastructure Pipeline (NIP) delineates a map of sectors which need investment (₹150 lakh crore)

④ Transport sector (Roads and railways) occupy the major share followed by energy

④ Share of ~~Centre~~



↳ The PLAN for investment is thus provided.

② The National Monetization Pipeline is envisaged ~~as~~ for mobilisation of resources.

④ Brownfield projects would be chosen and given on lease by govt. to private sector for operational management.



(A) Close to 14% of Centre's share in NIP is sought to be mobilised in this manner — without outright privatisation.

(B) PM Gati Shakti Plan is for effective implementation and monitoring of the above projects

(+) Creation of a portal to identify ideal locations for industrial by integration with GIS and GPS systems.

(+) Enhanced role of PMO in ensuring consistency in project monitoring

(+) Easy provision of clearances

Thus by tackling planning, funding and implementation of infrastructure projects, the three projects aim to bring synergy in achieving our aim of a \$5 trillion economy

### Feedback

(For OFFICE use only)

Structure/ Presentation
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Total



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)

While the Washington Consensus led to the development of the modern liberal order post World War II, the Cornwall Consensus led by G20 countries seeks to reflect the ongoing changes in the world economy - developing a new global world order in the 21st century.

This shift can be seen in manifold ways:

① Fast liberalisation to Rapid decarbonisation

② Washington Consensus : Pure emphasis

on reviving world economy

③ Creation of institutions like World Bank, IMF → giving loans,

suggesting Economic Structural Adjustment Programmes → for increasing

production, liberalisation, globalisation (low tariff)

④ Corwall Consensus - Corresponding importance of 'sustainability' of growth has been realised.

⑤ Paris principles and fulfilment of NDCs alongside net zero targets were highlighted  
 ↳ EU - 'Fit for 55' campaign.

⑥ Build Back Better World Initiative - for 'decarbonizing' infrastructure.

② Profit to people

Shift from encouraging growth of big multinational corporations post economic slump of 1940s to greater emphasis on equity can be seen.

↳ Developing countries demands were also highlighted

↳ more emphasis on outcome of development policies  
 ↳ Discussion on health outcomes  
 - Distribution of vaccines (1bn)

③ Free Market → Public private partnership

The unincreased relevance of welfare State model has been highlighted - needing state regulation so that benefits of growth are well distributed

⊛ The talks of Global Minimum Corporate Tax of 15% to reduce concentration of wealth by digital sphere (\$11.5 Trn - 1/6<sup>th</sup> of global GDP) is one such attempt to reach a more sustainable, equitable and resilient model of economic growth - due to realisation of failure of 'trickle down model'

Yet this is not a completely rosy picture. The continued presence of developed countries interests (data free flow, no discussion on WTO - issue of agriculture subsidies and climate finance) continue to be major hurdles in developing North-South equity in the economic world

Feedback  
(For OFFICE use)

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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)

The Minimum Support Price for rice and wheat has undergone a 280% and 230% rise in the past decade - highlighting its centrality in the farm sector discussion in India.

Rationale behind introduction:

- ① Increased vulnerability of poor farmer - to middlemen and cartels of traders due to poor bargaining power
- ② Poor market development and transport and connectivity - to access best practices
- ③ Ensuring welfare of farmers and income security in case of agrarian

crisis or glut in the market

(4) Ensuring continuity of production -  
necessity of procuring inputs for  
next year

(5) Recommendations of M.S. Swaminathan  
Committee - for making agriculture-  
a profitable venture.

(6) Maintenance of buffer stock by the  
State (Food security).

Legalization of MSP has been a growing  
demand which can be beneficial  
in some ways:

(→) Right to legal remedy in case of  
non-receiving of adequate price  
for produce.

(→) Increased prosperity for farmers -  
currently only 6% of farmers  
take benefit of MSP.

(→) MSP declaration of 22 crops - will  
encourage production of diverse crops

(pulses, copra etc) apart from publicly procured crops (wheat, rice)

① Aim of doubling farmer income (Salwai committee) may be fulfilled

Yet this is not a panacea and may engender new problems of its own.

① Increase inequality due to lack of awareness - only a few sections will benefit (More than 50% farmer not aware of MSP)

② will further distort crop pattern - will encourage wheat, rice cultivation.

③ Huge burden on state exchequer - other welfare policies will face impact.

④ Exports will be discouraged - due to high domestic price, may also be in contravention to WTO rules

⑤ will disincentivise and reduce attention from much needed agrarian reforms.

Thus, Salwai committee reports recommendation of developing farmer as 'agripreneurs' should be encouraged.

**Feedback**

(For OFFICE use)

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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)

The Indian farmer's image has not changed much from what Prenchard chalked out in his 'Pur ki Raat' story - in the absence of a technological revolution.

AgriStack is one step to bring a change in this direction.

A seamless digital ecosystem is being envisaged - touching areas of input use (fertilisers, pesticides, water use) along with monitoring (soil data, growth trajectory) and downstream links of market and transport.

It will boost the income of farmers - taking one step in



Salwai committee's report recommends of transforming farmers from managers to 'agripreneurs' - and enhancing income opportunities as:

① A wider market will be available. (Better price discovery)

② Opportunities of allied activities and food processing sector can be tapped.

③ Lesser cost in land disputes - due to digitization of land records

④ Lesser cost of production - due to efficient resource use - evidence based cropping patterns

⑤ Links with private retailers through contract farming can be encouraged  
 eg) Big Basket, Reliance Fresh

II) Increased Efficiency of agriculture

① Best crops to be suggested based on nutrient profiling of

soil (links established with Soil Health Card scheme)

② Increased water use efficiency  
(Use of micro, drip irrigation)  
↳ 'Per Crop, More Drop' - to be realised

③ Minimal fertilizer use based on data and soil profile - with optimum ~~use~~ profile of N:P:K ratio

④ Integrated pest management to be encouraged, for reducing cost and maintaining soil sustainability

Thus, by tackling both downstream and upstream requirement - assuring adequate transport data (refer trucks) and storage infrastructure →

A DATA BASED, EVIDENCE DRIVEN

agriculture is envisaged under AgriStack to develop it into a profit making venture

Feedback  
(For OFFICE use)

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Q.15) Describe the salient features of National Biotechnology 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 प्रौद्योगिकी 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)

India, as one of the top 10 bio-technology production countries of the world — has brought about a new National Biotech Development Strategy to streamline and plan the growth and applications of the technology in the coming 5 years.

## Salient features

- ① development of adequate funding for diverse applications of biotech. in different areas → Blue (Marine) → Red (Medicine) → Green (Environment) etc.
- ② Development of incubation centres and research infrastructure and labs. — for conducive environment

③ Need for international cooperation  
and technology transfer  
(Especially in light of COVID  
pandemic)

④ Development of strong IPR and  
patent policy and system of grants  
for encouraging innovations

## APPLICATIONS:

### Food Security

① Increasing yield of food crops

Key BT Brinjal

→ Decreasing resistance to biotic  
and abiotic factors to increase yield

Key Samba Masoori → uses less  
rice (CSIR) water

Key BT Mustard - ~~Herbicide~~  
Pest resistant

② Enhancing livestock production

Key GARIMA - Cloning of livestock  
in Haryana (better breeds)

→ Rashtriya Gokul Mission - ~~Foreign~~  
Breeds with

higher milk yield to be encouraged.

③ Food fortification by Golden Rice  
(VitA fortification)

## Biodiversity Conservation

- ① Cloning of animals - especially animals on verge of extinction
- ② Genome sequencing and replication of rare animal and plant breeds
- ③ Cryopreservation techniques to store reproductive material
- ④ Use of in vitro fertilisation for breeding purposes  
by Pande conservation

## Pollution Control

- ① Use of oil sapper - oil spill cleaning
- ② Geobacter bacteria  
use in air pollution, radioactive material pollution

Biotechnology thus can revolutionise our life in multifarious ways.

**Feedback**  
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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)

A) Semi cryogenic engine

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)

One Sun One World One Grid (OSOWOG) is an important aspect of India's agenda to lead the developing world in the arena of climate change action and sustainable development agenda.

It is to actively implement the ISA alliance goal of solar based energy universalisation by targeting the primary hurdle of grid connectivity and storage of solar energy.

OSOWOG will lead to transportation and sharing of solar energy between energy surplus and deficit regions by focussing on grid infrastructure creation and

interconnectivity — leading to reduction in cost and enhancing access to more areas — even beyond the Tropics.

### Challenges

- ① Difficulty in coordination between countries regarding ensuring primacy of solar energy.
- ② Major logistical challenges — organising funding for large scale infrastructure creation.
- ③ Problem of raw materials — Solar photovoltaic cells — need for lithium (concentrated in China, Australia) — single country dependence.
- ④ Technology deficit : Storage and grid connection of solar energy not an easy task!
- ⑤ Seasonality of solar power — targeting reduction of coal and traditional energy usage is very difficult (currently 71% of India's electricity)



② leadership of India needs to be backed by adequate monetary support and technology for effective adoption of project with equal enthusiasm in the rest of the world — and not remain merely on paper

## Significance

① Extremely important in light of Glasgow Summit

② Global aim of net zero targets and reducing ~~the~~ temperature rise to 1.5°C - 2°C

③ India's commitments of 'Panchamta' and increasing renewable energy capacity to 500 GW by 2030.

④ will establish India's leadership on the world stage.

⑤ Important in extending spread of solar energy in India's neighbourhood (Neighbourhood First Policy)

USO2WOG can be an important step in the world's march to achieve SDG 13 (Limiting climate change)

### Feedback

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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)

The recent Glasgow Summit highlighted the multiple generational and current environmental issues with coal as an energy resource — yet the final document talked of a 'phasing down' and not 'phasing out' of coal.

This needs explanation

Multiple problems:

(I) Coal as a resource

- 1) Non renewable resource — rapidly depleting — not sustainable
- 2) Restricted in certain areas
- 3) High pollution potential
- 4) Indian coal — Peculiar problem
  - ⊛ High ash content — low calorific value
  - ⊛ Subject to 'wetting' — during monsoon season (poor storage)

## ① Coal as a sector

- 1) Highly inefficient coal plants  
Many 'zombie' plants - 30-35% efficiency.
- 2) Highly polluting  
50-60% of global emissions from energy sector
- 3) Currently financially of many plants in dire state - due to high taxation and penalisation
- 4) Non modernisation  
↳ Clean technologies not been adopted  
    ↳ FGD (SO<sub>2</sub>)  
    ↳ SCR (NO<sub>x</sub>)

Yet they cannot be completely 'eliminated' at one go:

- ① Demands of developing countries:  
Our historic low emissions (45% of carbon budget) have been due to poverty  
↳ need for cheap energy (much lower rate than renewable energy) for meeting development needs
- ② Current capacity very high —

53% of installed capacity and 71% of current electricity demand is met by coal. Very difficult to immediately replace this.

- ③ Very variable and seasonal nature of renewable energy → Grid and storage technology not yet well developed.
- ④ 'Green finance' by developed countries to facilitate clean technologies has been slow to arrive - will need time to ~~est~~ transfer and build technology

Yet, it is in the interest of our sustainable development (SDG 13) and Panchamite principles (decreasing carbon emissions by 45% by 2030) - that carbon output should be decreased by 22% by 2030.

- WAY FORWARD
- ① Use of flue gas desulphurisation and selective Catalytic Reduction in coal plants - High efficiency Low Emission power plants
  - ② Slow shift to renewable energy (ODOWOG) → one such step.

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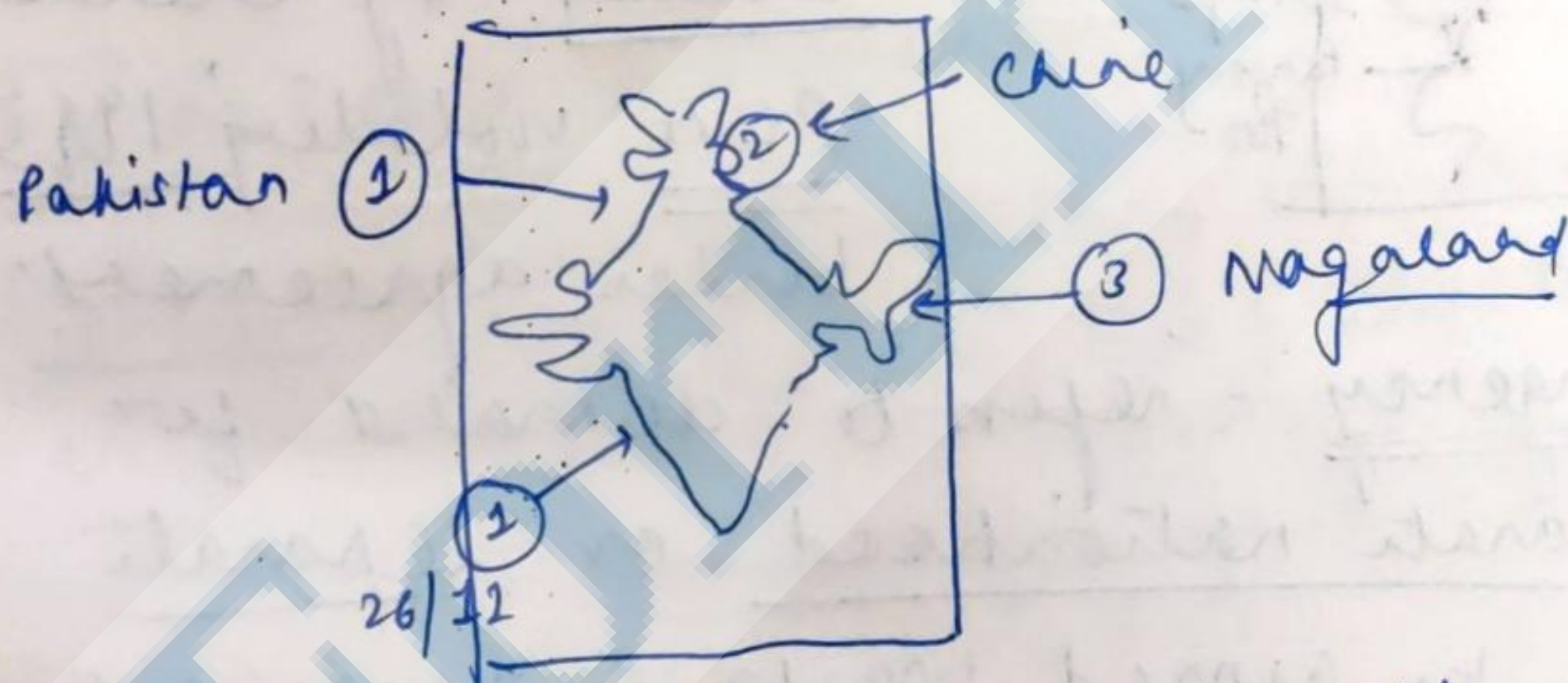
Q.19) Border management and security of frontier regions revolve around controlling infiltration, incursion and insurgency. Differentiating between infiltration, incursion and insurgency, elucidate reasons for continued existence of these security challenges and recommend steps for their effective management.

(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 has a land border of 15,000 km with 17 states and a 7500 km coastline with 13 states - leading to a wide plethora of security challenges.



① Infiltration : refers to entry of foreigners through secret and illegal means in a surreptitious manner to increase strife and after plan terror attacks or create unrest. 1947 - Infiltration in Kashmir.

1999 - Kargil War - Startling proxy warfare  
26/11 Attack - Infiltration through  
sea route

② Incursion : refers to outright entry  
into domestic territory - often  
violating sovereignty and territorial  
integrity of the country



Incursion into  
Ladakh by Chinese  
PLA violating 1983  
border agreement

③ Insurgency - refers to demand for  
separate nationhood or separate  
identity by armed warfare against the  
nation state

↳ Kashmiri insurgency  
in the 1990s

↳ Naga Insurgency under  
NSCN-IM and NSCN-IM

↳ ULFA → Role in Assam

Reasons for continued persistence of  
 these challenges :

- I Social
  - ① Existence of separate ethnic identities eg Naga - demand for nationhood.
- II Political
  - ① Support by foreign powers
    - eg Maoism - support by China ULFA training
    - eg Pakistan - Kashmir insurgency monetary & training support
- III Geographical
  - ① Contiguous border - marked by rivers, mountains of Bangladesh
    - ↳ very difficult to monitor.

**STOPS** needed to tackle.

- ① Strengthening of military infrastructure in border areas
  - eg Use of Shan Dham corridor to transport equipment to border
- ② Use of technology
  - eg BOLD-QIT (Bangladesh border) for better patrolling (Night vision radars)
- ③ Better intelligence gathering by building confidence among local people
  - ↳ confidence building measures to be taken.

**Feedback**  
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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)

with cyberspace emerging as the 5<sup>th</sup> frontier of warfare, social media has developed as its most effective weapon

Threat of social media to Internal security

① Increasing communal violence :  
 \* Role of fake news and rumours spreading during North East Delhi riots (2020)

② Radicalization of youth through extremist propaganda  
 leading to recruitment in terror organisations like Mehdi Khan in ISIS



③ Extracting of useful information - major threat to security

↳ Honey trapping case through social media (Sejal Kapoor fake name)  
 ↳ crucial information about missiles.

④ Left wing extremism - creation and spread of 'echo chambers' and propaganda. Through front organisations

⑤ Emergence of 'cognitive hacking' - completely brainwashing recipient - to increase hatred and violence in society

↳ Tripura - radicalization of people by using fake news of child kidnapping leading to riots.

## STRATEGIES TO COUNTER

① Use of social media effectively by security agencies to 'de-radicalise'  
 ↳ Twitter - 'Fake News' tag used  
 ↳ Use of Twitter by Mumbai Police

during corona pandemic

Ex Use of whatsapp to counter fake news during north east delhi riot by delhi police

② workshops among citizens to make them aware of perils of excessive social media use.

Ex Use of mohalla samitis (delhi)

③ IT Intermediary Guidelines (Legal response to growing threat)

① Necessary labelling of information

② Provision to trace first originator of message by message intermediaries on insistence of police/court

③ Greater responsibility of significant intermediaries - to establish grievance redressal mechanism.

④ Removal of content can be mandated by govt - to be taken down in 36 hrs

Yet, a balance needs to be made between national security interests and Art 19 guaranteed in Constitution - through soft touch regulations