

TEST CODE 8 1 3 4 1 5

MGP 2025

Time Allowed : Three Hours
समय : तीन घंटे

Forum IAS

Maximum Marks : 250
अधिकतम अंक : 250

GENERAL STUDIES / सामान्य अध्ययन

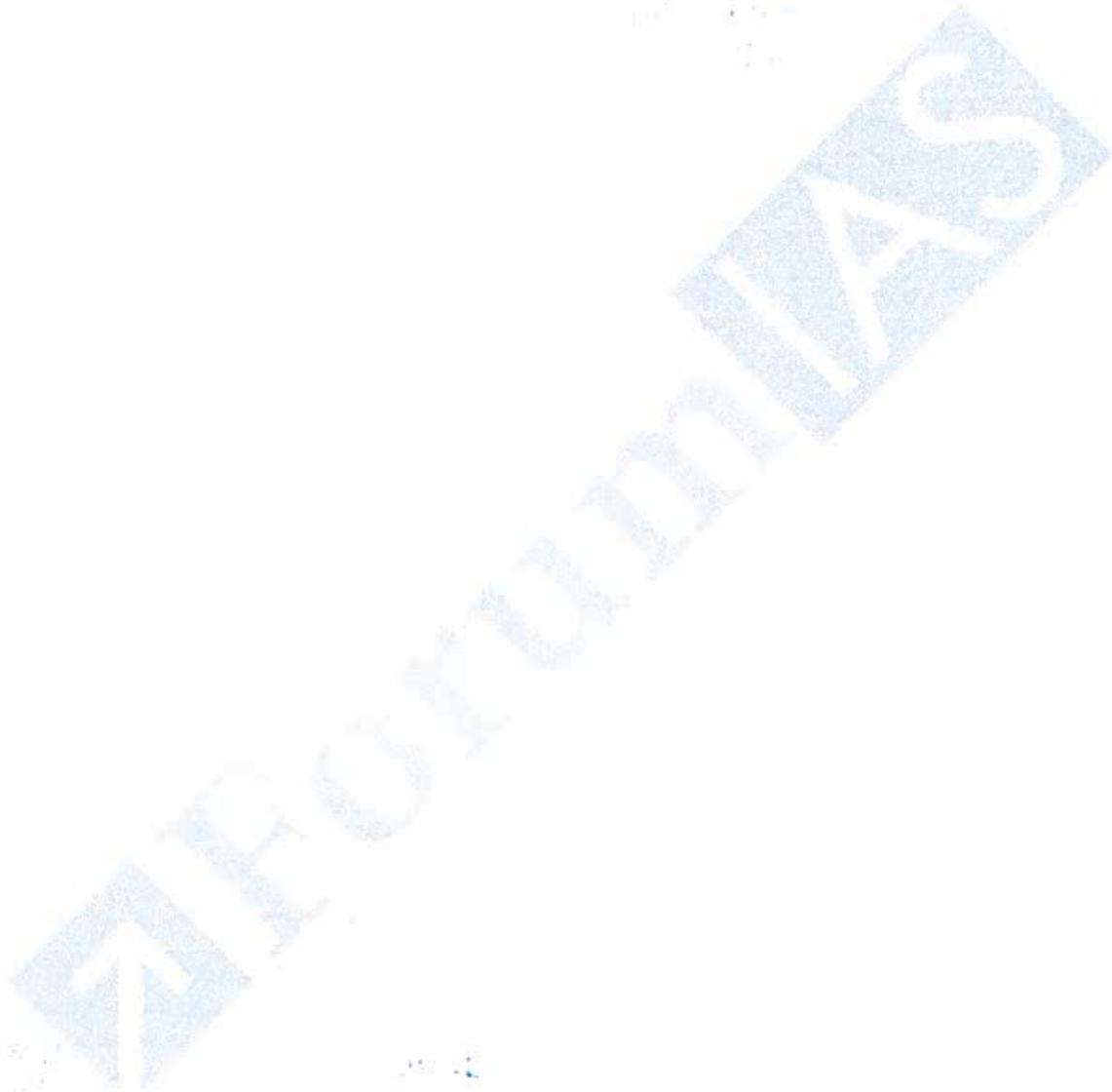
Name Of Candidate परीक्षार्थी का नाम	Saniiksha Dwivedi		
Roll No./अनुक्रमांक	1910128917	Medium/माध्यम	English <input checked="" type="checkbox"/> हिंदी <input type="checkbox"/>
Center Code/परीक्षा केंद्र	1900	Date/दिनांक	

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

INDEX TABLE / अनुक्रमणिका			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 भरें।	
1			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।	
2			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।	
3			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 (क्यूसीए) पुस्तिका के कवर पर स्पष्ट रूप से लिखा जाना चाहिए।	
4			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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Total/कुल अंक	250		For Student Only / केवल परीक्षार्थी प्रयोग हेतु	
Examiner's Discretion/मूल्यांकन कर्ता का विवेक :			Start Time/प्रारंभ करने का समय :	End Time/समाप्त करने का समय :
			1 pm	4 pm
Total Marks/कुल अंक :			Mode Of Examination/ परीक्षा की विधि :	Online/ऑनलाइन <input checked="" type="checkbox"/> Offline/ऑफलाइन <input type="checkbox"/>
*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 लिखावट, 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) Explain the significance of the recent changes made to the Periodic Labour Force Survey (PLFS) with respect to labour market data estimation in the country. (10 Marks, 150 Words)

देश में श्रम बाजार डेटा आकलन के संबंध में आवधिक श्रम बल सर्वेक्षण (PLFS) में किए गए हाल के परिवर्तनों के महत्व को समझाइए। (10 अंक, 150 शब्द)

Periodic Labour force Survey by NSO has emerged as key statistics for gauging employment situation in India

Recent changes in PLFS

• Monthly Bulletin regarding urban employment analysis

• Regular review of rural employment from previous yearly analysis to quarterly

• Methodology use both current weekly estimation and uniform annual method.

Significance of recent changes

• Regular statistics

regarding employment trends

- Policy Making regarding human capital utilisation. of latest PFS - 30% of unemployment with educated individuals

- Fluidity in employment shift from formal/regular to casual & self employment

- Comparison of rural & urban employment

2) women LFPR - need atleast 50% for Vikant Bharel - 2047

However, PFS requires more clarity in methodology, particularly in self employment - paid/unpaid, focus on informal & unorganised economy (inaccuracy of extrapolation) etc. for better results.

Feedback

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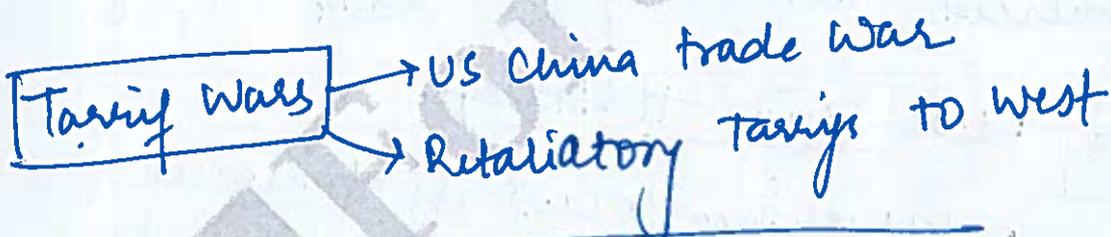
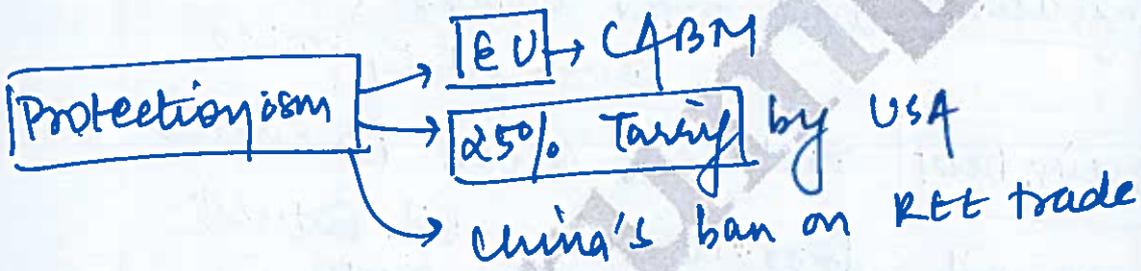
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Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			



Q.2) Discuss the implications of the rising trend of protectionism and tariff wars in global trade for India's macroeconomic stability. (10 marks, 150 words)

वैश्विक व्यापार में संरक्षणवाद और टैरिफ युद्ध की बढ़ती प्रवृत्ति के भारत की व्यापक आर्थिक स्थिरता पर पड़ने वाले प्रभावों पर चर्चा कीजिए। (10 अंक, 150 शब्द)

The 'Tariff Diplomacy' of President Donald Trump and rising protectionist tendencies with non tariff barriers has created instability in global economy.



Implications for India's Macro-

Negative - economic stability

- Exchange Rate Cause depreciation

₹87 for \$1 in 2024

- Exports reduce exports due to non

tariff barriers → CBAM against polluting industry - Indian steel

• Economic Growth affect export led economic growth
(reducing growth rate → 6% in 2024-25)

• Imported inflation due to oil price volatility and price shocks to commodity prices

• Foreign Debt reduced access to external Commercial Borrowing. High interest rate

Positive

- Use China +1 strategy
- Self reliance focus on domestic market (defense)

As per Economic Survey 2025-26, the promise of global economy can not be utilized in present circumstances, thus India should focus on domestic economy for growth.

Feedback

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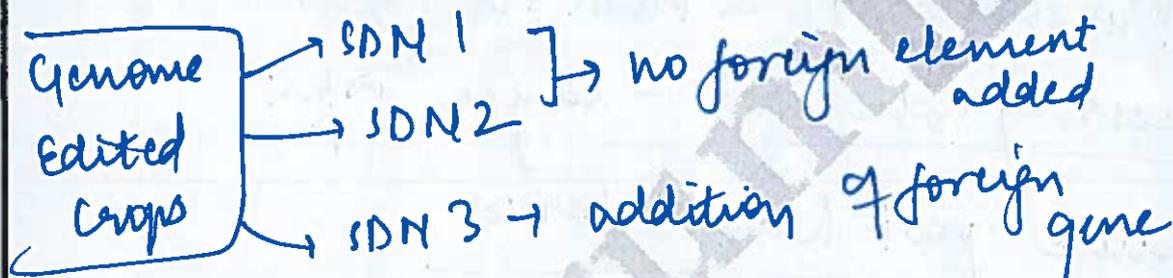


Q.3) "Genome-edited crops have the potential to strengthen food and nutritional security in the country." Examine. (10 Marks, 150 Words)

"जीनोम-संपादित फसलों में देश में खाद्य और पोषण सुरक्षा को सशक्त करने की क्षमता है।" परीक्षण कीजिए।

(10 अंक, 150 शब्द)

Genome-Edited crops involve the genetic modification in crops to improve their characteristics like shelf life, yield, taste etc.



Genome Edited Crop - Food & Nutritional Security

• Biofortification (eg) golden rice

for vitamin A

Addition of genes to create desirable nutrients

• Increase yield (eg) DMH-11 Mustard

have higher genetic variation (variance & early harvest)

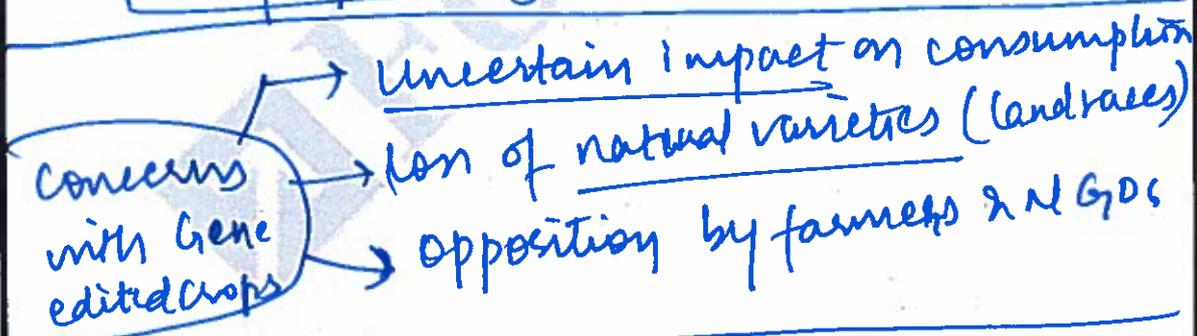
and increase yield - H4V seeds

• Pest Resistance By crops like Bt Brinjal

• Improve taste use of genetic modification for desirability

• Processability - Push to Food Processing industries - lower input
 , reduce post harvest losses

• Shelf life higher storage in buffer stock



The genetically edited crops can be supported on pilot basis, with higher research & support under Rules 1984 to benefit both consumers & farmers.

• **Feedback**
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TOTAL MARKS			



Q.4) Assess the role of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) in expanding irrigation coverage and improving on-farm water use efficiency. (10 Marks, 150 Words)

सिंचित क्षेत्र का विस्तार करने और खेत पर जल उपयोग दक्षता में सुधार करने में प्रधानमंत्री कृषि सिंचाई योजना (PMKSY) की भूमिका का आकलन करें। (10 अंक, 150 शब्द)

Pradhan Mantri Krishi Sinchayee Yojana aimed to expand the net sown area irrigated beyond 51% and improve water use efficiency.

PMKSY for expanding irrigation coverage

→ Micro watershed management

creating micro watershed with <1000 ha. for planning & developing irrigation infrastructure

→ Acceleration Irrigation Benefit Scheme

To expand irrigation coverage in un-irrigated areas

→ Har Khet Ko Pan - ensuring a reliable

water supply to every field.

PMKSY in water use efficiency

→ Per Drop More Crop aims to expand

coverage of microirrigation like drop & sprinkler having 70-90% water efficiency use

Concerns with PMKSY

→ Dominance of flood irrigation

10 mHa implemented opposed to 70 mHa potential for microirrigation

→ found 50% rain dependent farming (western India)

→ India as largest groundwater extractor (25% - UN water report)

PMKSY requires regional emphasis in low irrigated areas, expansion of micro-irrigation and provide outcome/incentive based funding for achieving SDG-6 in agriculture

Feedback

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TOTAL MARKS			



Q.5) Starlink, a satellite internet service provider, has recently been granted a license to operate in India. What is satellite internet? How does it work? What are its advantages and limitations?

(10 Marks, 150 Words)

सैटेलाइट इंटरनेट सेवा प्रदाता, स्टारलिनक को हाल ही में भारत में परिचालन का लाइसेंस मिला है। सैटेलाइट इंटरनेट क्या है? यह कैसे काम करता है? इसके क्या लाभ और सीमाएँ हैं? (10 अंक, 150 शब्द)

Starlink, by space X seeks to provide satellite internet like "One Web" by Bharti Airtel etc.

Satellite Internet use of low Earth orbit satellite constellation for internet access.

working of satellite internet

① satellite constellation placed on LEO → each part of earth covered by revolving satellites

② Starlink device installed to provide connectivity to satellites & mobile

③ Sent signal for information, received by



by satellite, responds back which is retransmitted to mobile device

Merit

- ① Connectivity to remote locations (hilly areas)
- ② less infrastructure cost for installation
- ③ useful in disaster management
- ④ faster than GeoSat-ellite
- ⑤ Expand internet access and tele-density
- ⑥ rural tele-density 55%

Demerit

- ① Expensive than wifi
- ② High latency
- ③ Affected by weather-rain, storm
- ④ Cause space crowding (Kessler syndrome)
- ⑤ National security
- ⑥ Starlink founder in Manipal

Satellite internet has potential of improving digital legibility in India but concerns of security, space waste/crowding & connectivity bc address

Feedback

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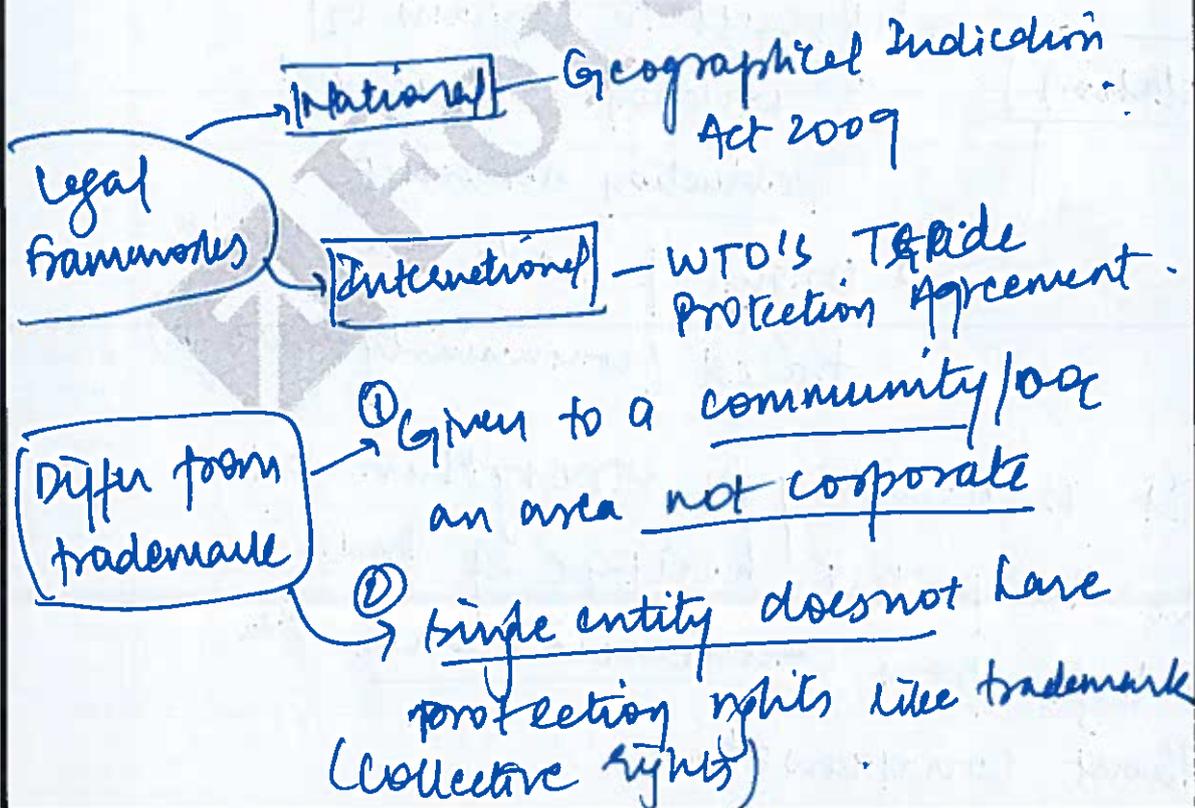


Q.6) What is a Geographical Indication (GI)? What are the legal frameworks governing it? How does it differ from a trademark? How can GI infringement be tackled? (10 Marks, 150 Words)

भौगोलिक संकेतक (GI) से क्या अभिप्राय है? इसे नियंत्रित करने वाले विधिक ढाँचे को स्पष्ट करें? यह ट्रेडमार्क से कैसे भिन्न है? GI उल्लंघन से कैसे निपटा जा सकता है? (10 अंक, 150 शब्द)

Geographical Indication refers to geographic specialisation of product, given to protect rights of residents for commercial production & provide protection against appropriation by private entities

eg Prada's appropriation of Kolar Chippal



Ⓐ

GI infringement can be tackled

→ Judicial discourse case in High Court /

appeal to Supreme Court for GI Act violation, IP Act violation

→ WTO — approach WTO's dispute settlement body (nations against other nation)

Limitation

→ Difficult to confirm GI violation — method of production not secret

→ Origin of trade cannot be traced (community knowledge)

It is necessary to strengthen GI regime to protect heritage of Indian knowledge from commercialisation without compensation

Feedback

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TOTAL MARKS			



Q.7) What are the salient features of Mission Mausam launched by the Government of India? Why is such a mission needed? What are the likely challenges in its effective implementation?

(10 marks, 150 words)

भारत सरकार द्वारा शुरू किए गए मिशन मौसम की मुख्य विशेषताएँ क्या हैं? ऐसे मिशन की आवश्यकता क्यों है? इसके प्रभावी कार्यान्वयन में संभावित चुनौतियों का वर्णन करें।

(10 अंक, 150 शब्द)

Mission Mausam launched by
IMD seeks to explore monsoon
patterns in Sehore, MP

Salient feature of Mission Monsoon

- Installed high quality doppler
radars for data collection
- Explore the changing pattern in
monsoon
- Make India centric model for
weather forecasting

Need of Mission Mausam

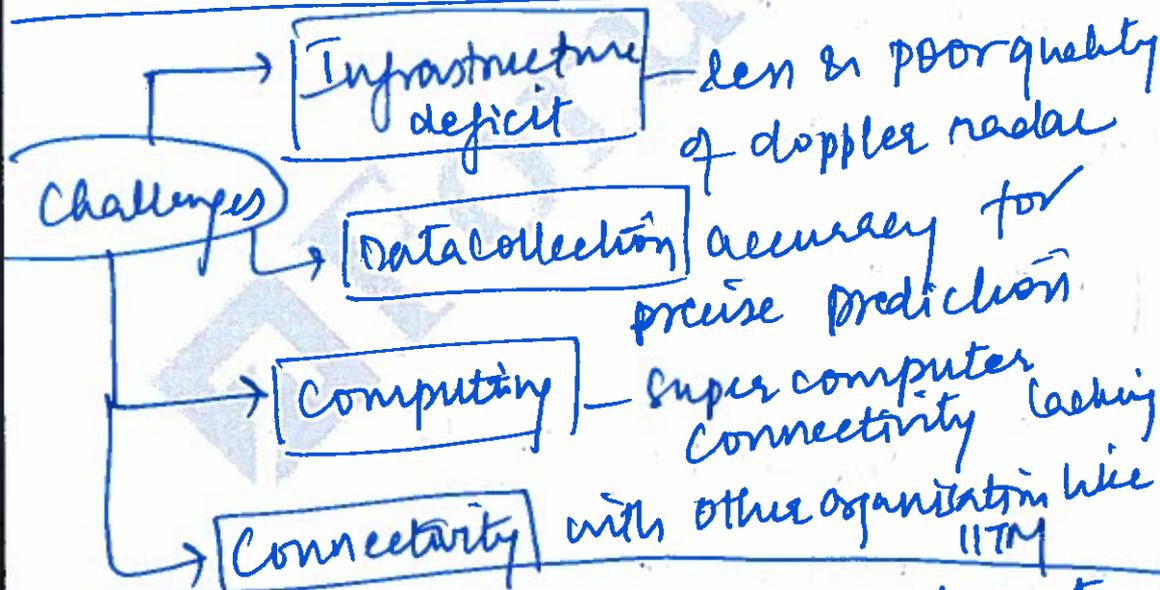
→ Variation in Monsoon - late in 2024 &

two weeks early in 2015

→ Impact of Climate Change — Affecting weather patterns

→ Impact of Indian Ocean Dipole, ENSO & Madden Julian Oscillation

→ Western Climate Models provide inefficient forecast, affecting farmers & people.



Mission Mausam needs adequate investment, expertise, advanced infrastructure (Doppler radar) to provide accurate results.

Feedback

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TOTAL MARKS			



Q.8) Highlight the key provisions of the Disaster Management (Amendment) Act, 2025. How would the amendment help strengthen the disaster management framework in the country?

(10 Marks, 150 Words)

आपदा प्रबंधन (संशोधन) अधिनियम, 2025 के प्रमुख प्रावधानों पर प्रकाश डालिए। यह संशोधन देश में आपदा प्रबंधन ढाँचे को सुदृढ़ करने में किस प्रकार सहायक होगा? (10 अंक, 150 शब्द)

Disaster Management (Amendment) Act 2025 seeks to address lacunae in DMA 2004 with following provision :-

- Disaster Management Plan Power to DMA & SDMA opposed to NEC, etc

- New authorities - Urban Disaster

Management Agency under DM

- 2) High level committee given statutory status
- 3) State Disaster Response Force

- Disaster Management Database TO understand disaster vulnerability regionally

- Penalty & Punishment for weak disaster response to concerned officials

How would it help in improving Disaster Management framework

→ **Database** → policy making
 → planning & mitigation
 → Disaster insurance penetration

→ **State response** → Autonomy in planning
 → Localised efforts with SDRF

→ **Planning** ended dual centre of control (NCC / NDMA)
 → State can take actions

→ **Urban DMA** — support localised effort — promote decentralisation

Concerns → notified disaster not extended — Heatwaves
 → Not in Constitution VII schedule
 → Intrusion in state power — delay in finance
 → HCC & Database

Disaster Management (Amendment) Act
 □ an advancement but needs more improvement to be holistic

Feedback

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TOTAL MARKS			



Q.9) 'Operation Sindoor' signals a strategic evolution in India's approach to cross-border terrorism. Analyze. (10 Marks, 150 Words)

'ऑपरेशन सिंदूर' सीमा पार आतंकवाद के प्रति भारत के दृष्टिकोण में एक रणनीतिक बदलाव का संकेत देता है। विश्लेषण करें। (10 अंक, 150 शब्द)

"Operation Sindoor" was action against Pahalgam attack by Pakistan sponsored "The Resistance Force" to address cross border terrorism.

Operation Sindoor - a strategic evolution

→ Changed Approach "Terror and Trade/Talk cannot go together, water & flood cannot flow together" - suspended IWT

→ Striking heart of Pakistan - precision strikes in terror camps in Pakistan

Not only in border but inside heart of Pakistan (location)

Chak - ^{Muzaffargarh} _{Sidki Kot}
Bahawalpur
E

Strikes by India

→ Diplomacy Diplomatic outreach by

multiparty envoys to spread India's

stance - Bahrain, Egypt, Indonesia supported India

→ Degrade nuclear blackmail

Action against Pakistan even if it is a nuclear state (uses as bargain)

→ Effectiveness of India's response

with Kamikaze Drone, Brahmos & Akashtrishul missile

→ Pakistan as party

Terrorist is not only the perpetrator but also sponsor, India will respond accordingly.

Thus, India's strategic evolution is "disproportionate as new proportionate" to end terror attacks by Pakistan and continue Operation Sindoor till terror free India is achieved.

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Q.10) 'Cyberspace has emerged as a distinct domain of warfare, posing serious threats to national security.' Discuss this statement and suggest counter-measures. (10 Marks, 150 Words)

'साइबरस्पेस युद्ध के एक विशिष्ट क्षेत्र के रूप में उभरा है, जो राष्ट्रीय सुरक्षा के लिए गंभीर खतरा पैदा कर रहा है।' इस कथन पर चर्चा करें और सुरक्षात्मक उपाय सुझाएँ। (10 अंक, 150 शब्द)

Cyberwarfare has emerged as 5th theatre of warfare with use to bring a nation to standstill. Eg USA 'Stuxnet' attack on Iran nuclear facility.

Cyberspace as distinct domain of warfare

→ Critical Infrastructure risk to banks,

telecom, transport & satellite

Eg Red Echo attack on power grid in Mumbai

→ Radicalisation and Disinformation use paid & fake news to spread Anti-India narrative

Eg allegation of Chinese financing

→ Deepfakes & Synthetic media To create political instability and crisis

→ **Frauds** — use of online frauds & finance scams (eg) Chinese sponsored fraud company in Cambodia

Counter-Measures against Cyberwarfare

→ **Global Cooperation** to address transnational nature of cybercrime & bind lax states

→ **Cyber Policy** Revise Cyber Security Policy 2013 adherence to present challenges

→ **Cyber Security Measures** → strengthen CERT-IN, appoint cyber security experts
→ update legacy software in critical infrastructure

→ **Regulation** against deepfakes & detection

→ **Strengthen** intelligence & investigation paradigm
The latest UN convention on cybercrime provides background against cyberwarfare but need strict enforcement for ensuring cyberpeace.

Feedback

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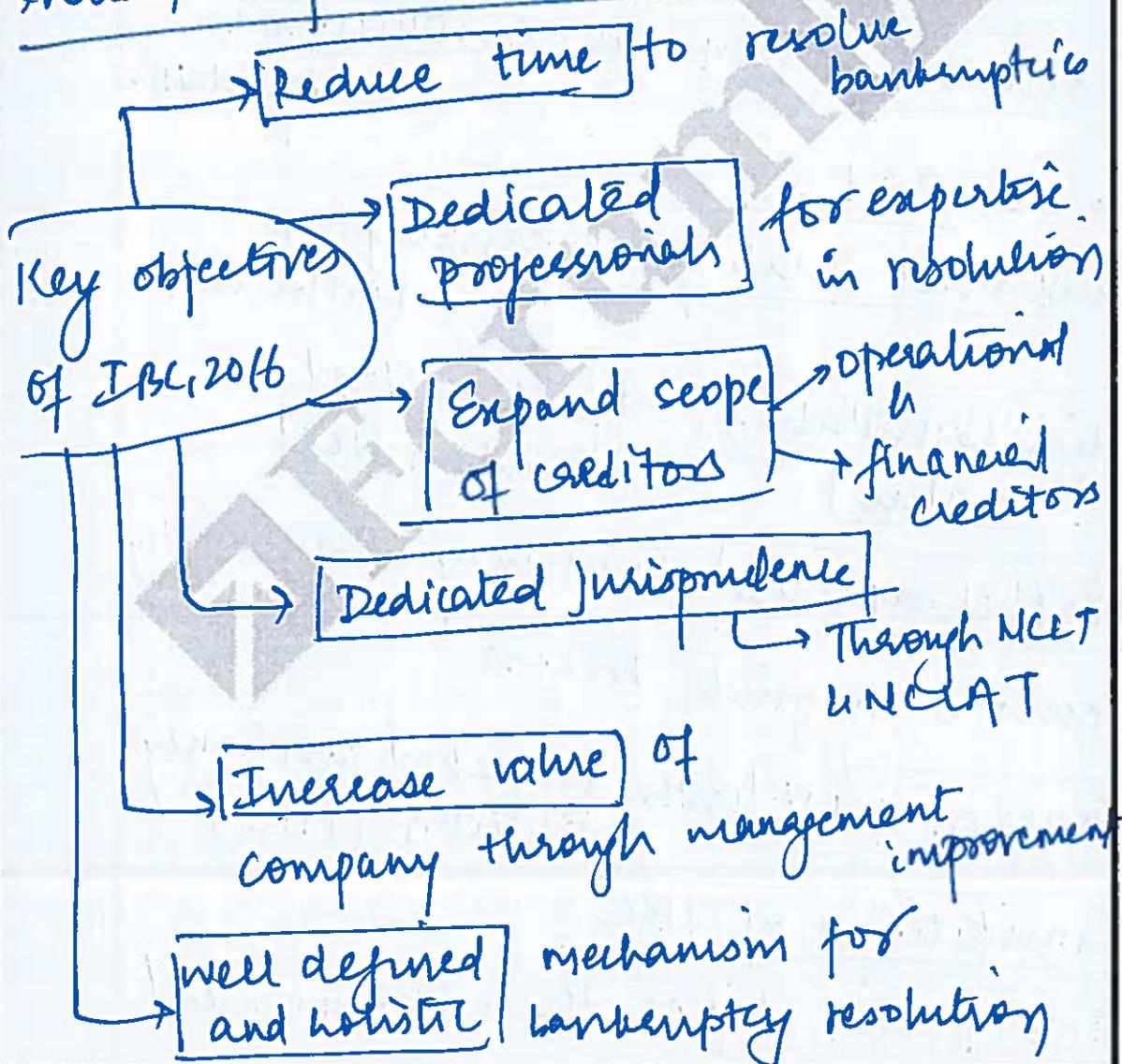
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TOTAL MARKS			



Q.11) What are the key objectives of the Insolvency and Bankruptcy Code (IBC), 2016 ? To what extent has it been successful in achieving them? (15 Marks, 250 Words)

दिवाला और शोधन अक्षमता संहिता (IBC), 2016 के प्रमुख उद्देश्य क्या हैं? यह उन्हें प्राप्त करने में किस हद तक सफल रहा है? (15 अंक, 250 शब्द)

The Insolvency and Bankruptcy Code, 2016 was introduced to improve the 'ease of exit' and faster resolution for Indian corporates.



Success of IBC, 2016

→ Increased resolution IBC has been more successful than its predecessors (SARFAESI, DRT etc.)

→ Reduced Time between 180-330 days

→ Resolution 2024 saw Resolution: Liquidation

ratio as 2:1.

Improved quality of Bankruptcy resolution

→ High liquidation value (Eg) Essar Steel
Bhushan Steel

→ Pool of expertise Insolvency & Bankruptcy professions to guide process

→ Focus on MSME with prepackaged insolvency resolution (PIRP)

Limitations of IBC

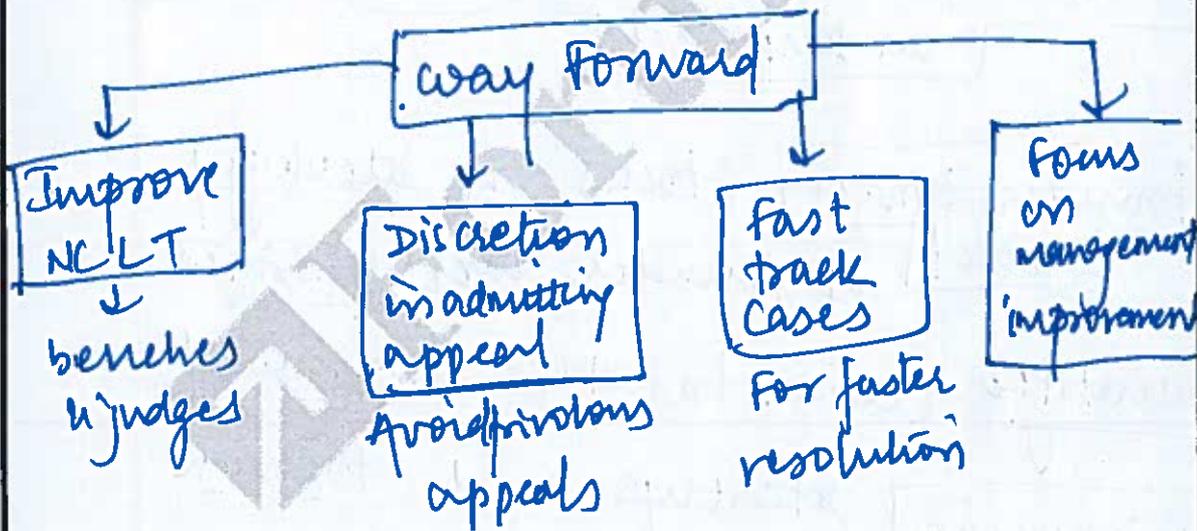
→ Time still higher than recommended

330 days. On Average - around 600

→ Liquidation most cases resolved by liquidation over management change

→ High Pendency and NCLT lack of requisite benches & judges

→ Final resolution large appeals to NCLAT and Supreme Court → delays.



IBC is necessary to resolve Chakravarty challenge for corporates & needs reforms to balance moral hazard and 'ease of doing business'

Feedback

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TOTAL MARKS			



Q.12) Despite phenomenal growth in recent years, India's startup ecosystem lags in innovation across strategic sectors. Identify the factors responsible for this inadequate focus on deep-tech and suggest strategies to bridge this gap. (15 Marks, 250 Words)

हाल के वर्षों में अभूतपूर्व वृद्धि के बावजूद, भारत का स्टार्टअप पारितंत्र रणनीतिक क्षेत्रों में नवाचार के मामले में पिछड़ रहा है। डीप-टेक पर इस अपर्याप्त ध्यान के लिए उत्तरदायी कारकों की पहचान करें और इस अंतर को पाटने के लिए रणनीतियाँ सुझाएँ। (15 अंक, 250 शब्द)

India is third largest startup ecosystem in world with more than 100 unicorns, yet it lags in innovation in deep tech.

Factors for Inadequate focus on Deep-Tech

→ Founder Driven Model Focus on ideology of founder over priorities of countries (China has state driven model)

→ Financing Startups need to secure financing themselves. venture capitalists prefer 'get rich fast projects' with higher return.
eg e-commerce.

→ Skill Set India lacks necessary skillset to provide manpower for deeptech sectors (51% Indians directly employable - India Skill Report 2024)

→ Investment in research - Poor investment & development. Focus on low risk high return sector

→ Infrastructure Basic infrastructure to develop deeptech
Eq GPUs for AI, strong data centre & power for Blockchain missing in India

Strategies to Bridge the Gap

• State led Start ups Indian govt should provide patient financing and infrastructure support to start-ups for deeptech.

• Industry-Academic Connect For collaborative research and marketisation / commercialisation of prototype

• Scheme Based Incentives Expand Startup India for sector-specific challenges

• Skill Development - for improving human capital

• Pilot projects in PSU - Contract based support by PSUs to startups

Steps By government → Startup support by Gujarat (State venture capitals)
 → Tamil Nadu Model for deep tech

Startups can support India's technological advancement for Atmanirbharata with necessary finance & handholding support.

Feedback

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Q.13) What is floriculture? How is it helpful in enhancing farm income and boosting agri-exports?
(15 Marks, 250 Words)

फूलों की खेती क्या है? यह कृषि आय बढ़ाने और कृषि निर्यात को बढ़ावा देने में कैसे सहायक है? (15 अंक, 250 शब्द)

Floriculture refers to practice
of growing flowers for commercial
purposes. It is part of horticulture ~~ref~~
initiated by India.

Significance of Floriculture

→ Enhancing Farm Income

- Provide higher return than cereals
and food crop

- Shorter agricultural cycle - allow
multiple rounds of output per year

- Regional specialisation - lavender

Revolution in Jammu & Kashmir

- Year round market demand for variety of flowers in banquets, wedding functions etc.
- Ease of cultivation lower capital needs than pomoculture & olei-culture particularly for women
- Boost Agri-Exports
- Diversify from primary edible exports
 - ⊆ marine fisheries, bovine meat
- Explore different export destinations
 - ⊆ western Europe - Tropical flowers
- Thrive Agri-Export Policy Goal
 - Double exports → 4% of Global export
 - \$100 million Agri export target

Concerns in Floriculture

- Farming structure → Fragmented with 80% small & marginal farmers
- ↳ Lack of awareness → subistence farming
- ↳ Poor aggregation of produce
- Cold storage & preservation — only 2000 refrigerators & 60% of cold storage in Bihar/UP.
- Poor extension facilities — for farmers to explore
- Diversification focus on Indian varieties of Hibiscus.

Floriculture can help in 'Doubling farmer's income' by creating FPOs (Kashmir model), providing diverse varieties, exploring new markets and providing infrastructure, capital & extension support

Feedback

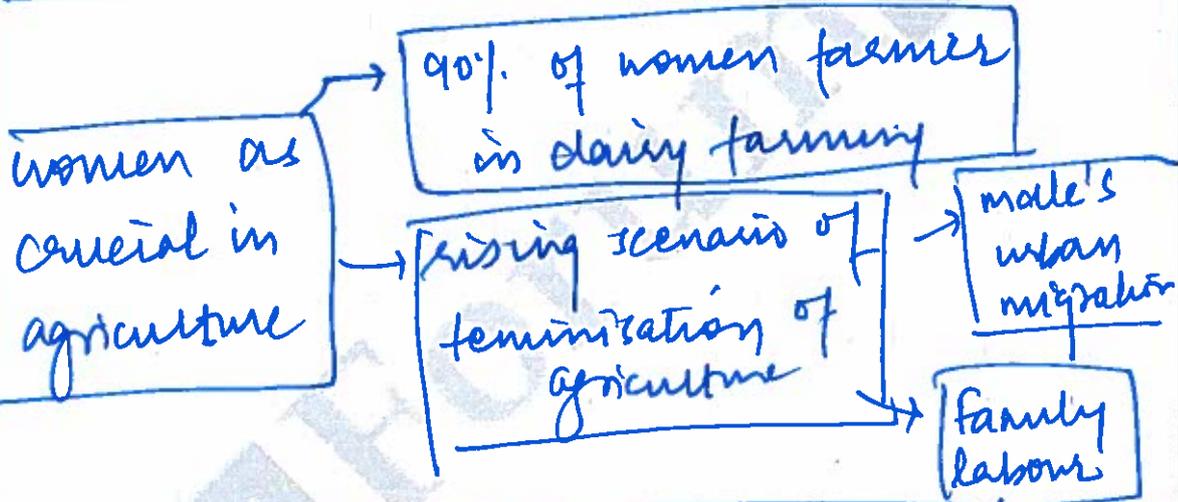
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Q.14) "Women play a crucial role in Indian agriculture, yet continue to face systemic exclusion." Discuss with reference to land ownership, access to credit, and agri-extension services. What initiatives has the government taken in this regard? (15 Marks, 250 Words)

"महिलाएँ भारतीय कृषि में महत्वपूर्ण भूमिका निभाती हैं, फिर भी उन्हें व्यवस्थागत बहिष्कार का सामना करना पड़ता है।" भूमि स्वामित्व, ऋण तक पहुँच और कृषि-विस्तार सेवाओं के संदर्भ में चर्चा कीजिए। सरकार ने इस संबंध में क्या पहल की है? (15 अंक, 250 शब्द)

Around 70% of women are engaged in various activities of agriculture (PLFS - 2024), yet are most marginalised section in Indian agriculture.



Systematic Exclusion of women in Agriculture

→ Land Ownership

• only 30% women have land ownership

• Most of the women land owners
are small & marginal farmers

• unable to access govt scheme without
land ownership (eg) PM Kisan

→ Access to Credit

• Poor collateral availability for
obtaining credit

• Dependence on informal sources
(around 30% of lending informal)

→ Extension services

• Mechanisation mainly aligned to
male needs

• Lack of digital access only 30% of
women have smartphones (NFHS-5)

Poor digital infrastructure in rural areas
(slow Bharatnet)

Government Initiatives

① Mahila Sashaktikaran Pariyojana

To provide loans & support to women farmers

② Kisan Sakhis - Training and employing

women SHGs to support modern farming initiatives

③ Drone Didi Training women with

drone usage in farming (under Lakshmi Didi)

Further steps

→ Priority sector lending for women farmers

→ Reduce digital divide

→ Women friendly mechanism

→ Land ownership - vacant govt land parcels

with 2026 as year of women farmers

a revolutionary approach is needed to make agriculture gender inclusive & empowering

Feedback

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Q.15) Launched on 25th June 2025, the Axiom-4 (Ax-04) mission has been much in the news since then. What are the key features of the mission? What significance does it hold for the Gaganvaan project and India's long-term space ambitions? (15 Marks, 250 Words)

25 जून 2025 को लॉन्च होने वाला एक्सिओम-4 (Axiom-4; Ax-04) मिशन तब से ही काफी चर्चा में है। इस मिशन की मुख्य विशेषताएँ क्या हैं? गगनयान परियोजना और भारत की दीर्घकालिक अंतरिक्ष महत्वाकांक्षाओं के लिए इसका क्या महत्व है? (15 अंक, 250 शब्द)

Axiom-4 was a monumental moment for India as second Indian Shubhankar Shukla visited space to advance India's space interests.

Key features of Axiom-4

- Multinational Human mission by NASA to International Space Centre
- Undertake microgravity related research — on chick peas, tardigrades (microscopic organisms)
- International space collaboration
↳ Knowledge sharing & research

Significance for India for Gaganyaan

→ First Hand Knowledge - Guided human space mission experience with experts.

→ Training needs For Gaganyaan crew members for safe journey and stay in space

→ Research vitals and health of Mr. Shukla on his return for better understanding impact of space

→ Necessary precautions for conducting experiments & preserving results.

Significance for India's space ambitions

→ More Global Collaboration for space missions

Ex Artemis - Gaganyaan Collaboration

→ Bharat Antariksh Space Station | step
towards launching own space station

→ Space Exploration → Space mining
in moon, return of samples

→ Advance space Economy realise potential of
\$44 billion (beyond
present 1% of space economy)

→ Protection of critical space assets

→ Commercialisation entry of private sector
space tourism.

However, the space sector needs
more investment, manpower and expensive

to realise above goals.

But, beginning of Arion-4 has put
India as critical player in space sector
advancing further with ISRO's ambitious plans

Feedback

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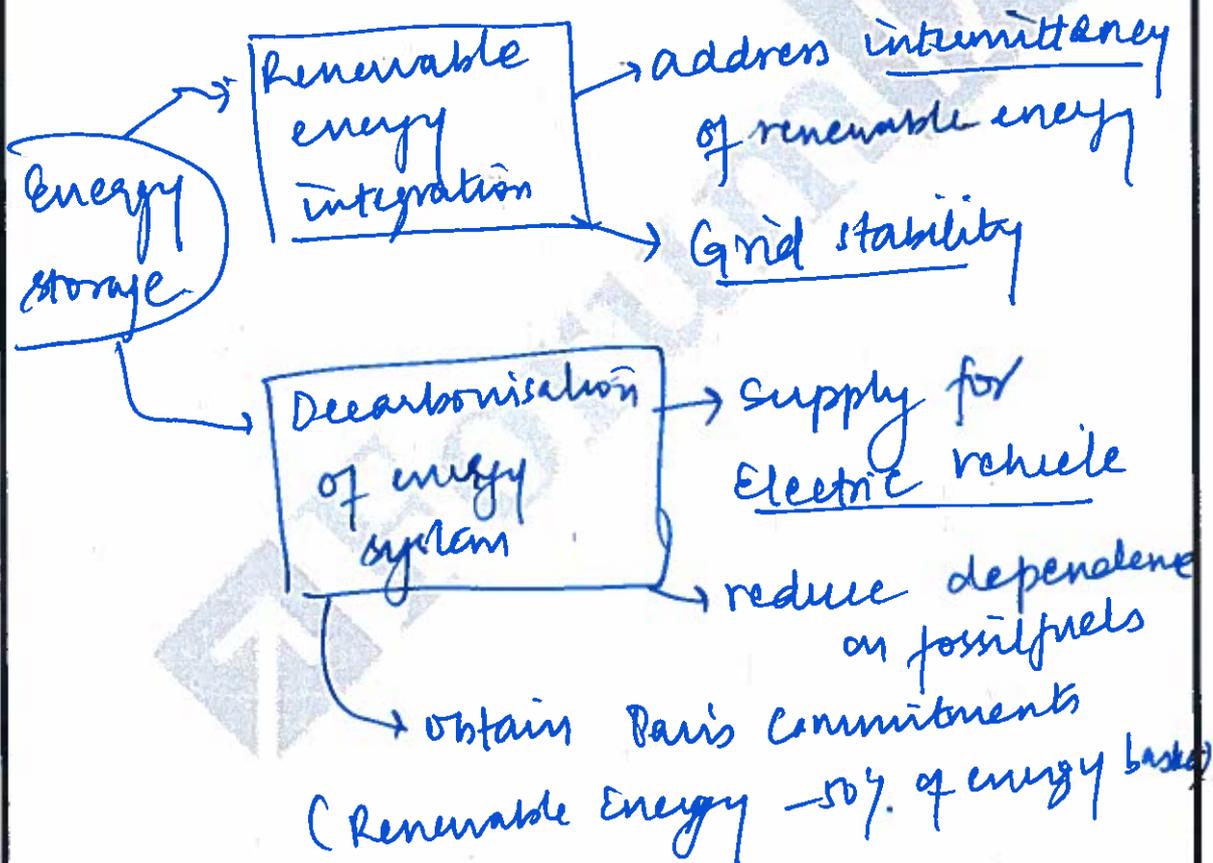
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Q.16) Energy storage technology is one of the major components of renewable energy integration and decarbonization of world energy systems. Briefly discuss any three such technologies, citing their key merits and demerits. (15 Marks, 250 Words)

ऊर्जा भंडारण तकनीक, विश्व ऊर्जा प्रणालियों के नवीकरणीय ऊर्जा एकीकरण और कार्बन-मुक्तिकरण के प्रमुख घटकों में से एक है। ऐसी किन्हीं तीन तकनीकों की संक्षेप में चर्चा कीजिए और उनके प्रमुख गुण-दोषों का उल्लेख कीजिए। (15 अंक, 250 शब्द)

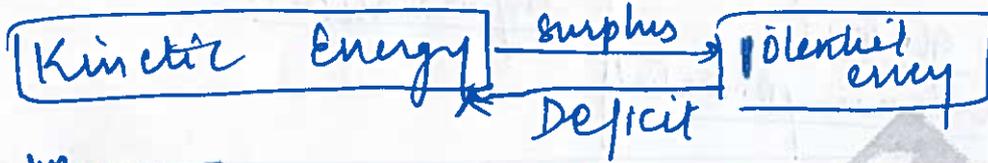
Energy storage involves a buffer mechanism to store power from renewable energy sources to empower green economy.



Energy Storage Technology

① → Pumped Hydro storage use of renewable

energy to pump water at larger height and release on need.



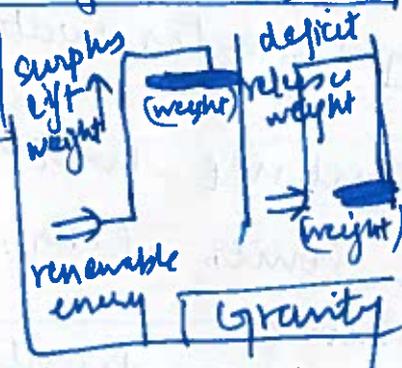
Merit

- low GHG release
- Decentralisation of energy storage
- cheaper

Demerit

- difficult to scale
- Affect water security & local ecology
- infrastructure creation

② → **Gravity Storage System**
 use surplus to lift a weight upto height than release in case of energy deficit



Merit

- local energy storage

Demerit

- limited energy storage → weight dependent

Merit

- low pollution and global warming potential

Demerit

- Limitation in infrastructure

③ → Hydrogen use of renewable energy to generate hydrogen & then reconvert to water (e.g. Lancaster, USA)

Merit

- NO pollution & GHG → creates water
- combine with other sources → CNG, Ammonia
- High energy density

Demerit

- Import dependence for electrolyser
- difficulty in storage & transportation
- Expensive to make GH₂

The COP29 has committed to double energy storage solutions (Capacity), hence above methods can be used to fulfil it

Feedback

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Q.17) Global Pandemic Agreement (2025) recognizes the 'One Health' approach as critical to pandemic prevention, preparedness, and response. Highlight the key features of the agreement, and elaborate on how the One Health approach can help in preventing future pandemics. What steps are needed to integrate this approach into India's environmental and health governance?

(15 marks, 250 words)

वैश्विक महामारी समझौता (ग्लोबल पैंडेमिक एग्रीमेंट; 2025) महामारी की रोकथाम, तैयारी और प्रतिक्रिया के लिए 'वन हेल्थ' दृष्टिकोण को महत्वपूर्ण मानता है। इस समझौते की प्रमुख विशेषताओं पर प्रकाश डालिए और विस्तार से बताइए कि वन हेल्थ दृष्टिकोण भविष्य की महामारियों को रोकने में कैसे मदद कर सकता है। भारत के पर्यावरण और स्वास्थ्य प्रशासन में इस दृष्टिकोण को एकीकृत करने के लिए क्या कदम उठाने की आवश्यकता है?

(15 अंक, 250 शब्द)

Global Pandemic Agreement under WHO is result of COVID19 crisis and aims to address lacunae in pandemic preparation & response in future ..

Key features of Global Pandemic Agreement

- Pandemic Fund
- Global cooperation for knowledge & information sharing
- Early alerts in case of disease
- epidemiology cooperation in drugs & medicine, vaccine against pandemic.

One Health Approach

Focus on interconnection of human health with other biological elements like animals, microorganisms & flora.

Significance of one health in preventing future pandemics

→ Early detection of potentially hazardous microbes

→ Potential of animal carriers (eg) Bats are risky

→ Limit consumption of potential carriers

→ Anti Microbial Resistance Tackle and

develop remedy against AMR

(eg) GLASS, Red line Campaign

→ Develop therapeutics against potential pandemics. Support developing nations on Neglected Tropical Disease etc.

India's need for one Health

→ Ecosystem Pristinity reduce Human-animal conflict & contact to reduce impact (Eg) western Ghats

→ Research & Development on potential pandemic causing elements.

→ Sustain AMR efforts (Eg) National AMR programme

→ Improve Public Health infrastructure → expenditure to 2.5% of GDP
 → veterinary care emphasized.

- 'One Health' shows vulnerability of humans to environmental hazards, need for global cooperation to protect against another world

Feedback

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Q.18) The frequency and intensity of heatwaves, particularly in urban centres, have increased in recent years. Describe the various causes and effects of heatwaves. What policies and frameworks have been adopted in India towards extreme heat risk management? (15 Marks, 250 Words)

हाल के वर्षों में, विशेष रूप से शहरी क्षेत्रों में, हीटवेव की आवृत्ति और तीव्रता में वृद्धि हुई है। हीटवेव के विभिन्न कारणों और प्रभावों का वर्णन कीजिए। भारत में अत्यधिक ऊष्मा के जोखिम प्रबंधन के लिए कौन सी नीतियाँ और ढाँचे (फ्रेमवर्क) अपनाए गए हैं? (15 अंक, 250 शब्द)

Heatwaves are defined by IMD as above 4.5°C rise from normal temperature range, with $>6.4^{\circ}\text{C}$ is super heatwave

Heatwaves in urban areas

- IPCC AR6 highlighted risk of heatwaves for India
- 2024 Hottest / second Hottest year
- 2023 Heatwave attacks eg Ballia UP

Causes of Heatwaves

→ Rising Temperature — India with 0.7°C rise, Indian Ocean as fastest warming ocean.

→ Urban Heat Islands creation of urban heat dome

- closely spaced building → waste heat
- Heat absorbing material - asbestos
(Urban Canyon effect)

→ Loss of Green spaces deforestation and greenery loss → reduced moisture & evapotranspiration

→ Climatic Changes → El Niño Southern Oscillation
warm air from west side,
adiabatic heating in Northwest

Effect of Heatwaves

→ Health - cause heatstrokes & heatcramps
↳ infection to women (UTI)

→ Vulnerable sections • Apparante Non Communicable diseases in junior citizens
• Higher burden of care work - 90min increase
(Scorching Dinderepot)

→ **Agriculture** - cause crop failures
 eg) wheat yield reduced by 7% (Mexico)

→ **Productivity** loss of labour productivity

Construction workers - around 7%.

Economic loss to India - 4%.

→ **Cooling Needs** will increase, cause further climate change

Steps by India

• **Disaster** - Tamil Nadu declared it State Specific Disaster

• **NDMA Guidelines** against Heatwaves

• **State Specific Measure** - "Cool Roofs" by Telangana for heat reflecting material

• **Cooling Action Plan** By India to fulfil cooling needs by 2030

Heatwave has emerged as a multi-dimensional threat, should be tackled with greenery initiative & protection to vulnerable.

Feedback
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Q.19) Discuss how emerging technologies and globalization contribute to terror financing. Elaborate measures to tackle the menace of terror financing both at national and international levels.

(15 marks, 250 words)

चर्चा कीजिए कि उभरती प्रौद्योगिकियाँ और वैश्वीकरण किस प्रकार आतंकवाद के वित्तपोषण में योगदान करते हैं। राष्ट्रीय और अंतर्राष्ट्रीय दोनों स्तरों पर आतंकवाद के वित्तपोषण के खतरे से निपटने के उपायों पर विस्तार से चर्चा कीजिए।

(15 अंक, 250 शब्द)

Terror financing refers to fund raised by terror organisation to undertake activities of recruitment, planning & implementation of terror activities.

Role of emerging technologies in Terror financing

→ Darkweb - use darkweb to connect with financiers (Eg) state, NGOs (Pakistan)

→ cryptocurrency - unregulated and allows anonymous transaction

→ Social Media - to expand radicalisation and seek 'peer-to-peer' funding.

Role of Globalisation in Terror Financing

→ Hawala-Cryptography Nexus allow
hawala transactions using cryptocurrency
transfers

→ Shell companies in tax havens
to provide covert funding

→ State sponsored terrorism By rival state
(Eg) Iran for Hamas

→ NGOs — From Islamic nation
using Zakat to fund terror groups
(Eg) Kerala Diaspora in West Asia)
PFI-SIMI

Measures to tackle Terror Financing

National
Level

① Anti Money Laundering Act
Prevention of Money Laundering Act

to punish custody & use of illegal funds

② FCRA - To control use of NGOs for anti India activities

③ Control on virtual digital asset part of AML to reduce misuse by terrorist

International - ① FATF to provide guidelines (40+9) & rating on countries AML regime

② Egmont Group to share information on illegal financing

③ BIMSTEC & Asia Pacific subgroups

④ Cryptocurrency Regulatory Action Framework for G20.

Terror financing controls need global cooperation on regulating emerging technology and realtime information exchange to end scourge of "Terrorism" for world peace

Feedback

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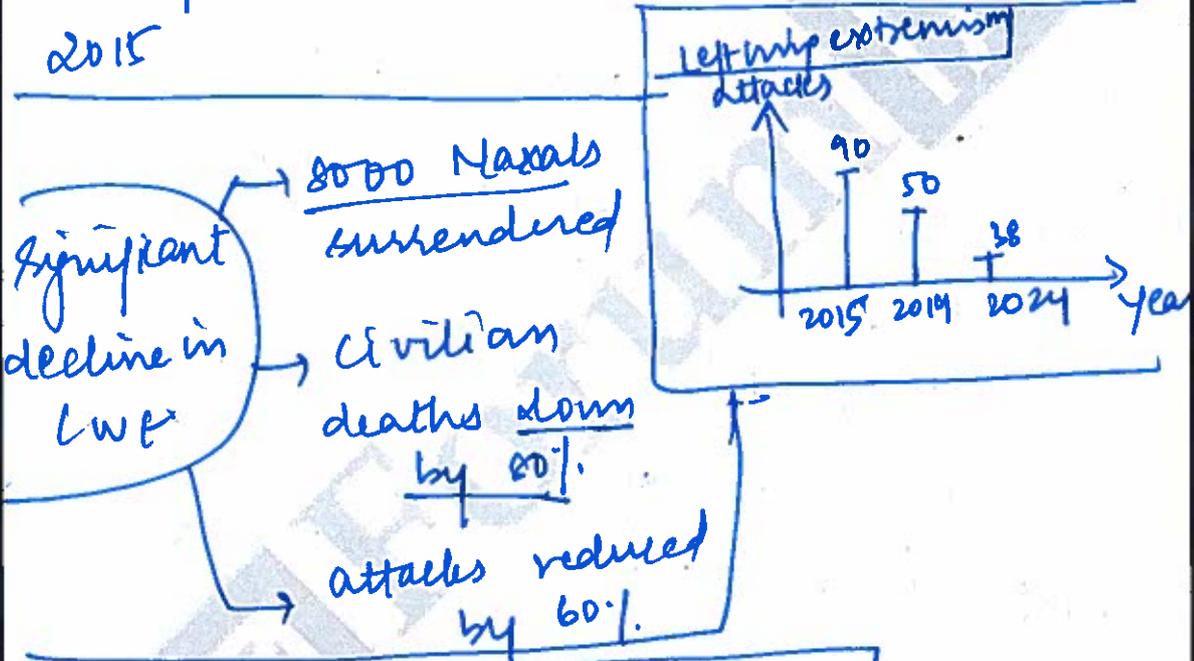
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Q.20) Explain the key components of the National Policy and Action Plan (2015) that have contributed to the significant decline of Left-Wing Extremism (LWE). What additional steps would you suggest to eliminate LWE in the near future? (15 Marks, 250 Words)

राष्ट्रीय नीति एवं कार्य योजना (2015) के उन प्रमुख घटकों का वर्णन कीजिए जिन्होंने वामपंथी उग्रवाद (LWE) में उल्लेखनीय गिरावट में योगदान दिया है। निकट भविष्य में वामपंथी उग्रवाद को समाप्त करने के लिए आप कौन से अतिरिक्त कदम सुझाएंगे? (15 अंक, 250 शब्द)

National Policy & Action Plan 2015

aimed to attack on left wing Extremism that affected around 90-100 districts in 2015



Components of NPAP 2015

- Security • Modernisation of Police forces
- Improved equipments and facilities to tackle Naxal attacks

• Intelligence Through Multiagency
coordination, intelligence sharing (NATGRID)

• State Police
Coordination sharing real time
information to destroy
interstate movement & camps

• Infrastructure - Special Infrastructure
scheme - improve security infrastructure in
LWE areas

• Forward Operating Bases - faster
mobilisation against Marxist attacks

→ Development • Increased penetration
of welfare scheme (saturation)

• Connectivity - expand PM G & Y, Bharat
net
(3C approach) - physical, information & telecom
connectivity

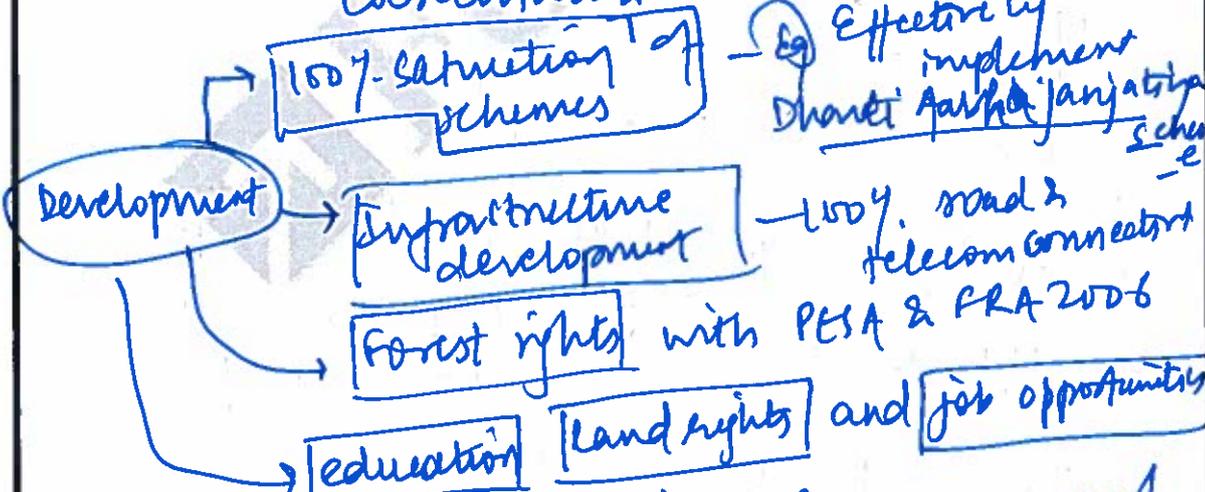
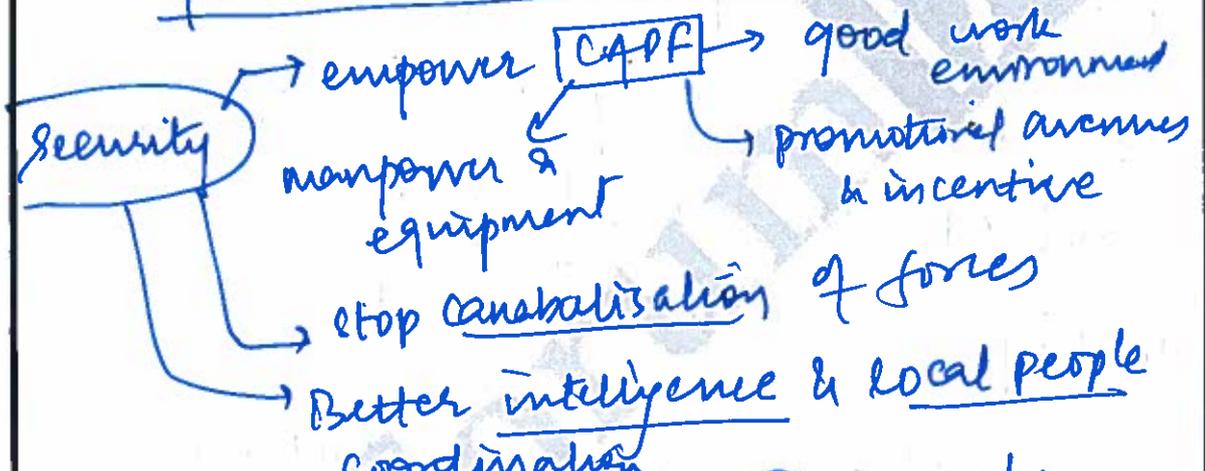
• Education - EkLavya school

• Trust Building - civic Action Plans with

confidence building with Armed Forces

- Surrender Policy - Rehabilitation of willing Naxalites
- SAMADHAN strategy for holistic development & collaboration

Additional steps to eliminate LWE



As PM Modi said "tribal areas need

education & opportunity so they do not choose extremism

Feedback
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