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MGP 2025

TEST CODE 8 1 4 4 1 2

Time Allowed : Three Hours  
समय तीन घंटे

ForumIAS

Maximum Marks : 250  
अधिकतम अंक 250

## GENERAL STUDIES / सामान्य अध्ययन

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

\*Center Code : For Online - 1900 / Delhi : Karol bagh - 1901, ORN - 1902, Mukharji Nagar - 1903 / Patna : Boring Rd. - 2001 / Hyderabad : Jawahar Nagar - 2002

INDEX TABLE / अनुक्रमणिका			INSTRUCTION / अनुदेश
Q. No. प्र. सं.	Max. Marks अधिकतम अंक	Marks Obtained प्राप्तांक	<p>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।</p> <p>2. There are TWELVE questions printed in ENGLISH &amp; HINDI. All questions are compulsory. उत्तर पुस्तिका में अंग्रेजी/हिंदी में बारह प्रश्न दिए गए हैं, सभी प्रश्न अनिवार्य हैं।</p> <p>3. The number of marks carried by a question/part is indicated against each question/part. Please mark the correct answer in the space provided. प्रत्येक प्रश्न/भाग के लिए निर्धारित अंक उसके सामने अंकित किए गए हैं।</p> <p>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।</p> <p>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 जाना चाहिए। प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गये किसी भी पृष्ठ या पृष्ठ के को स्पष्ट रूप से काट दें।</p>
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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 : 9 AM	End Time/समाप्त करने का समय : 12 PM (15 mins extra)
Total Marks/कुल अंक :	Mode Of Examination/ परीक्षा की विधि :	Online/ऑनलाइन <input checked="" type="checkbox"/> Offline/ऑफलाइन <input type="checkbox"/>

## For Office Use Only / केवल कार्यालय प्रयोग हेतु

*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 इन्हें तक सीमित नहीं) पर दिए गए अंक हैं।	ECN CODE/ ईसीएन कोड :	EG/ईजी : ① ② ③ ④ ⑤	Evaluation Date मूल्यांकन तिथि :
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Not 381093\_813411\_1910101046\_(2025-07-21 23:28:42) provided in the answers. Discussion of the tests are also available online in your portal to aid in your preparation. Further, students are requested to review 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. A W I S - Answered What is Asked** - This means whether you have addressed the core demand of the question or not. Addressing the core demand of a 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. Answer writing, sometimes missing the core demand, may fetch very high or very low scores, and expose your answer to the subjective opportunity of assessment.
- 2. C D & V A - Content Density & Value Addition** - Examiners will evaluate the quality and quantity of your content in the answer. In the same word limit space, how far have you written what is asked (b) gone beyond what is asked (c) enriched answers through combination of (1 but not all!) analogies, 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 is subjective opportunity of assessment.

Q.1) The Union Budget 2025-26 outlines a shift towards the 'debt-to-GDP ratio' as the fiscal anchor starting from FY 2026-27. Discuss the rationale behind this shift. (10 marks, 150 words)

केंद्रीय बजट 2025-26 में वित्त वर्ष 2026-27 से राजकोषीय आधार के रूप में 'ऋण-से-जीडीपी अनुपात' की ओर बदलाव की रूपरेखा तैयार की गई है। इस बदलाव के पीछे के तर्क पर चर्चा करें। (10 अंक, 150 शब्द)

India's debt-to-GDP ratio is around 80% of its GDP and still less than many emerging economies.

Budget outlines shift to debt to GDP →

- 1) Optimum utilization of macro-economic potential
- 2) fiscal deficit's strict targetting (4.5%) under FRBM leads to low borrowing
- 3) Lower debt-to-GDP allows more 'fiscal space' for the government.
- 4) Ensure more funds per capital expenditure without any restrictions.
- 5) Serves as ideal anchor based on global best practices.

- 5) Allows for 'crowding-in' of private sector due to robust fiscal health.
- 6) Ensure 8% growth for High income status and avoid the 'middle income trap'.

However, Challenges persist →

- 1) FRBM act based on India's macro-economic framework → violations hinder economic credentials.
- 2) Unsustainable levels of debt if huge debt created.
- 3) Hedging against global black-swan events difficult

While debt-to-GDP as fiscal anchor would assist government's growth targets, more debate is needed before the switch.

#### Feedback

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AWLS			
CD & VA			
S & F			
P & R			
Please put marks in the appropriate table			
Here G is Good, Average and Poor			
TOTAL MARKS			

Q.2) Why does India need to transition from a 'build to print' to a 'build to design' model in manufacturing? What steps has been taken by the government in this regard? (10 marks, 150 words)

भारत को विनिर्माण में 'अनुसारी निर्माण' (Build to Print) से 'डिजाइन आधारित निर्माण' (Build to Design) मॉडल की ओर संक्रमण की आवश्यकता क्यों है? इस संदर्भ में सरकार द्वारा कौन-से कदम उठाए गए हैं? (10 अंक, 150 शब्द)

India's manufacturing of a 'build to print' which is procedural, assembly based does not add value as compared to 'build to design'.

Need for transition →

- 1) Stagnant manufacturing contribution to GDP → 17%
- 2) Design infrastructure → more earnings as compared to assembly/print.  
 (eg) Japan earns more on cars, USA on iphone as compared to China.
- 3) Utilize 'demographic dividend', talent pool and prevent 'brain drain'.  
 (silicon valley - design engineers)

- 4) Ensures end-to-end Supply Chain and thus more 'export earnings'
- 5) Reduce dependencies on foreign countries
- 6) More competitive exports if design in India (input costs reduced)
- 7) Create huge R&D infrastructure

### Steps by government →

- 1) DLI scheme (Design linked incentive) for promoting sunrise sectors
  - 2) National Anusandhan Research foundation for private sector nudging in R&D
  - 3) Jenicon India programme → Has module for fabrication and design and not just Assembly - taking.
  - 4) Promoting Design schools, foreign universities  
↳ Dean in CITT City.
- 'Design based production' would lead to huge

### Feedback

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Please put marks in the adjacent table	
Here 0 is for Poor, 1 is for Average and 2 is for Good	
TOTAL MARKS	

Q.3) Explain the concept of a nutrition-sensitive food system and suggest strategies to achieve it in the country. (10 marks, 150 words)

पोषण-संवेदनशील खाद्य प्रणाली की अवधारणा को समझाइए तथा देश में इसे प्राप्त करने के लिए रणनीति सुझाइए। (10 अंक, 150 शब्द)

India suffers from paradox of over-food yet hunger and poor nutritional outcomes. NFHS-survey → 56% Anaemic etc. women

- Nutrition Sensitive Food System**
- 1) Balanced diet → consisting of multinutrients (vitamins, protein etc.
  - 2) Targetted interventions to ensure nutrition outcomes  
↳ Disease burden less.
  - 3) Includes essential elements for age-sensitive groups.
  - 4) Fruits, vegetables, poultry, dairy etc for holistic food.
  - 5) Ensure health outcomes and not just decline of hunger  
↳ Reduce stunting.

Strategies to achieve it →

- 1) Food fortification → Rice and folic acid  
Salt and iodine.
  - 2) Residue free farming → to reduce  
pesticide harmful impact on food.
  - 3) Promote balanced diets in foundational  
health → Midday meal scheme → dairy,  
fruits.  
(Kokrajhar model of Assam → locally  
sourced holistic food items in meals)
  - 4) Promote diet specific foods
    - ↳ Vegetarian → Pulses, Tofu, dairy
    - ↳ Non-vegetarian → eggs, meat, fish.
  - 5) Testing laboratories to determine outcomes
  - 6) Multivitamin tablets, Zinc pills etc  
to reduce deficiency via Generic medicine shops.
  - 7) Community healthcare → ASHA, Aanganwadi  
workers.
- Good health by nutrition-sensitive food leads

**Feedback**

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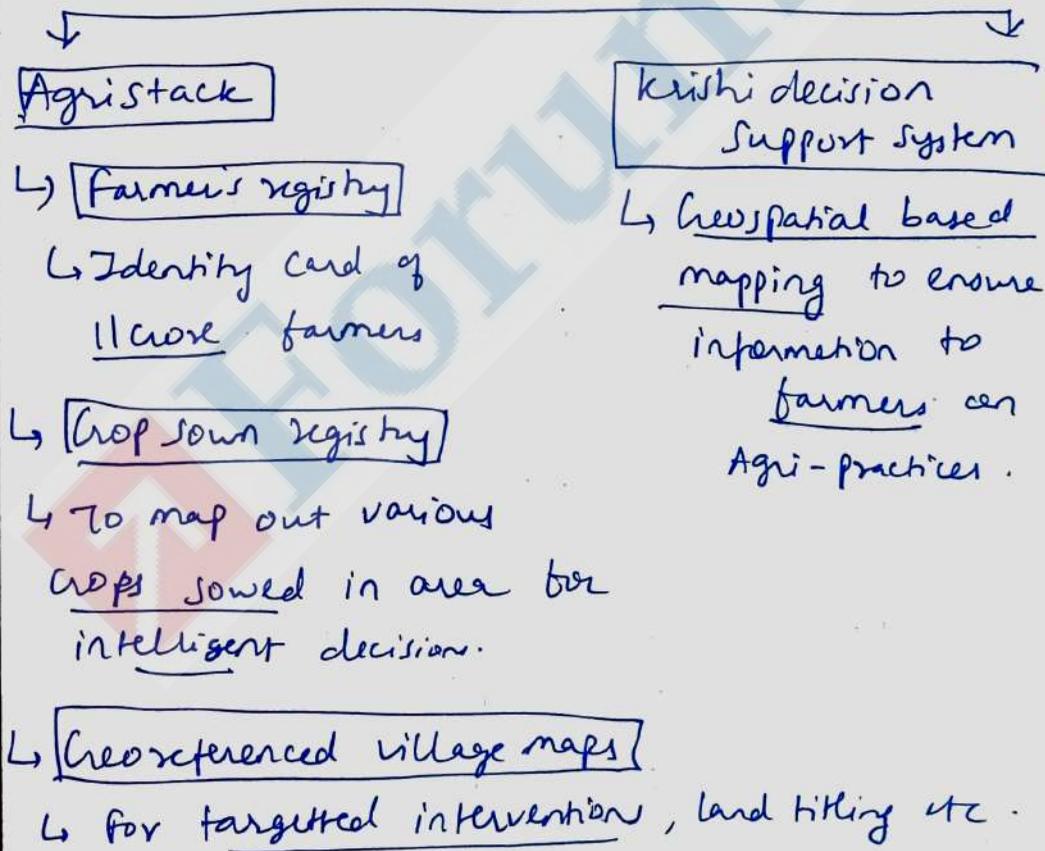
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Please put the marks in the above table			
Here is a scale for Average and Poor			
TOTAL MARKS			

Q.4) Give a brief overview of the 'Digital Agriculture Mission'. How can it benefit the agriculture sector?  
(10 marks, 150 words)

डिजिटल कृषि मिशन का संक्षिप्त विवरण दीजिए। इससे कृषि क्षेत्र को क्या लाभ हो सकता है? (10 अंक, 150 शब्द)

Digital Agriculture Mission launched by the government aims to incorporate 'Digital Public Infrastructure' in farming to ensure high growth.

### Digital Agriculture Mission



## Benefit to Agriculture Sectors

- 1) Technology enabled decision making for farmers  $\Rightarrow$  Climate patterns, Crop information.
- 2) Targetted interventions by government to assist farmers based on region-specific needs.
- 3) Agri-credit to farmers based on KISAN card and farmer Aadhar card.
- 4) Insurance uptake as climate-sensitive information available  $\rightarrow$  PM Fasal Bima Promoted.
- 5) Clear land titling based on geospatial mapping  $\rightarrow$  Reduce judicial disputes.
- 6) Private sector in agriculture  $\rightarrow$  smart mechanization, improved productivity  
 $\Rightarrow$  Bharat Agri Startup.
- 7) Market based crop sowing based on prior estimation  $\rightarrow$  Improve income.

### Feedback

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Please put tick marks in the following table Here G is Good, A is Average and P is Poor	
TOTAL MARKS	

Q.5) Rare earths are not just elements; they are foundational inputs that act like 'seeds of technology'.  
Elaborate (10 marks, 150 words)

दुर्लभ मृदा तत्व (Rare Earths) केवल रासायनिक तत्व नहीं हैं, ये प्रौद्योगिकी के 'बीज-तुल्य' मूलभूत निवेश हैं। सविस्तर वर्णन कीजिए। (10 अंक, 150 शब्द)

Rare earth elements include group of 17 elements like lanthanides on the periodic table. They are rare as their extraction is costly.

Foundational inputs → seeds of technology.

- 1) Used in 'chip making' → semiconductors which are essential in modern technology
  - ↳ Mobile phone operators (motherboard)
  - ↳ Graphic processing unit (GPU)
- 2) Used in solar PVC panels → base of renewable electricity transition (photovoltaic)
- 3) Used in nuclear reactors for creating various modules (e) small modular reactors.

- 4) Essential inputs in Industrial equipment and tools → Platinum used in Chimneys → desulfurization etc.
- 5) Useful in creation of applied tech  
↳ Nanotech → Nano materials etc

- Challenges**
- 1) High cost of extraction
  - 2) China's monopoly → **90%** Processing Capacity
  - 3) Fragmented supply chain  
↳ US vs China Chip wars

### **Way forward**

- ↳ India's exploration of rare-earth via Samudhayan mission
- ↳ Utilize Polymetallic nodules
- ↳ Create indigenous processing capacities
- ↳ Global deals → USA → icet technology transfer

### **Feedback**

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Please put tick marks in the appropriate table.	
Here G is Good, Average and F is Poor.	
TOTAL MARKS	

Q.6) Why retrofitting Electrostatic Precipitators (ESPs) in Indian thermal power plants is a more viable and effective option compared to the installation of flue gas desulfurization (FGD) systems?

(10 marks, 150 words)

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भारतीय तापीय विद्युत संयंत्रों में फ्लू गैस डिस्सल्फ्यूरिजेशन (FGD) प्रणालियाँ लगाने के बजाय विद्युत अवक्षेपकों (ESPs) का पुनर्संयोजन क्यों अधिक व्यवहार्य और कारगर विकल्प है?

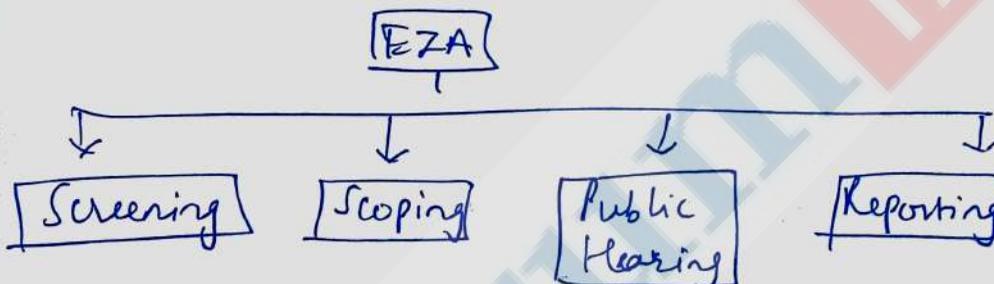
(10 अंक, 150 शब्द)



Q.7) 'The Environmental Impact Assessment (EIA) regime in India remains weak and is often reduced to a procedural formality.' In light of this statement, examine the key challenges in EIA implementation and suggest reforms. (10 marks, 150 words)

'भारत में पर्यावरण प्रभाव आकलन (EIA) व्यवस्था कमजोर बनी हुई है और अक्सर इसे प्रक्रियात्मक औपचारिकता तक सीमित कर दिया जाता है।' इस कथन के आलोक में, EIA कार्यान्वयन में प्रमुख चुनौतियों का परीक्षण करें और सुधारात्मक उपाय सुझाएँ। (10 अंक, 150 शब्द)

EIA mandated under the Environment Protection Act 1986 ensures that development is balanced with sustainability.



Key challenges →

- 1) Rules not followed → Public hearing not done in 80% cases.
- 2) Private sector Consultancy involved in EIA reports → Corruption and biased results.

- 3) Lack of inter-agency verification and auditing of reports.
- 4) Poor State Level EZA for state industries. (No capacity, resources).
- 5) Exemptions leading to misuse of rules and misappropriation.

### Reforms Needed

- 1) Digitize EZA process → with only certification after due process followed.
- 2) Compulsory public hearing on EZA.
- 3) Government empanelled firms, NBOs for EZA process and mandatory audits.
- 4) Review legislative framework → reduce gaps.
- 5) National Green Tribunal → more resources needed.

EZA is necessary for Sustainable development and ensuring inclusive development.

### Feedback

(For OFFICE Use Only)

#	Q1	Q2	Q3	Q4
AWIS				
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Please put tick marks in the empty table.				
Here G is Good, Avg is Average and P is Poor.				
TOTAL MARKS				

Q.8) Plastic pollution is emerging as a serious environmental threat in India. Discuss the various mitigation measures to address this problem and also the government's initiatives in this regard.

(10 marks, 150 words)

प्लास्टिक प्रदूषण भारत में एक गंभीर पर्यावरणीय खतरे के रूप में उभर रहा है। इस समस्या से निपटने के लिए विभिन्न शमन उपायों और इस संबंध में सरकार की पहलों पर चर्चा करें।

(10 अंक, 150 शब्द)

### Plastic pollution → serious threat

- 1) Microplastics → found in ecosystems and food chains.
- 2) Huge landwaste → plastic dumpsites leading to pollution.
- 3) Burning of plastic waste → Carbon monoxide and Volatile organic Compound.
- 4) Leaching in groundwater → heavy metals.
- 5) Informal waste collection → health hazard.

### Mitigation measures

- 1) 3R framework  
'Circular economy'
  - Reduce (Plastic use)
  - Reuse (glass)
  - Recycle (Plastic waste)

- 2) Segregation of waste collection as plastic waste (separate bins) for ease of recycling.
- 3) Generate 'waste-to-energy' by plastic incineration → Create plants and infrastructure.
- 4) Replace 'single-use plastics'
  - Jute bags
  - Paper
  - Glass

### Initiatives taken

- 1) Banning of 'single use plastics' from 2022 (But poor execution)
  - 2) Plastic waste management rules 2017
    - ↳ Polluter pay principle
    - ↳ Extended producer responsibility
  - 3) Plastic Mascot for awareness generation
  - 4) Incineration plants instead of Toxics landfill.
- Reducing Plastic waste important for Mission Life

### Feedback

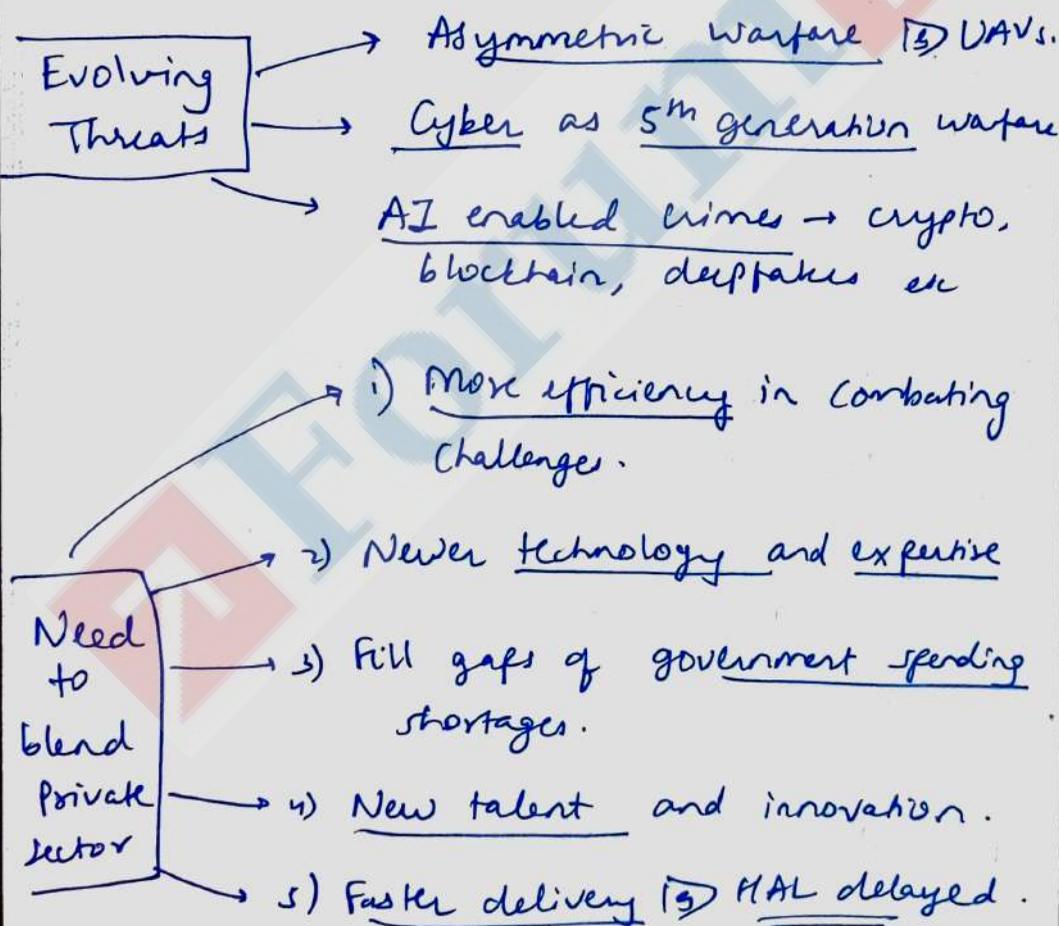
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Here G is Good, Average and P is Poor.	
TOTAL MARKS	

Q.9) Amid evolving threats, there is a need to blend private sector capabilities with India's current internal security architecture. In this context, elaborate on the ways in which the private sector can contribute to strengthening internal security. (10 marks, 150 words)

उभरते खतरों के बीच, भारत की मौजूदा आंतरिक सुरक्षा संरचना के साथ निजी क्षेत्र की क्षमताओं को जोड़ने की आवश्यकता है। इस संदर्भ में, उन तरीकों पर विस्तार से चर्चा करें जिनसे निजी क्षेत्र आंतरिक सुरक्षा को सशक्त करने में योगदान दे सकता है। (10 अंक, 150 शब्द)

India's operation Sindoor along with other challenges like terrorism, insurgency etc reflects a need for more robust internal security capabilities and leveraging private sector



Ways in which private sector can contribute. →

- 1) Creating defense equipments and products of dual-use → UAVs, weapons, vehicles
- 2) Outsourcing of engineering work to private sector → Repair and Overhaul
- 3) Industry-Academia Linkage leading to R&D, more MOUs for technology demonstration → Maya OS (Operating system) for defense personnel.
- 4) Developing Cyber security capabilities with robust network and software infrastructure.  
→ Infosys, Google's tieups.
- 5) Training of talent and enhancing optimum cost returns → Private security forces.
- 6) Peripheral tasks to save government funds.

Robust PPP in internal security can bring much needed strength in India's response.

## Feedback

(For OFFICE use only)

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Please put tick marks in the table.			
Here G is Good, Average and Poor.			
TOTAL MARKS			

Q.10) 'Radicalisation in Jammu and Kashmir is driven as much by socio-economic factors as by external influences.' Discuss how education and youth engagement can play a role in countering radicalisation in J&K. 10M. (10 marks, 150 words)

'जम्मू और कश्मीर में कट्टरपंथ सामाजिक-आर्थिक कारकों के साथ-साथ बाहरी प्रभावों से भी प्रेरित है।' चर्चा करें कि शिक्षा और युवा भागीदारी किस प्रकार जम्मू और कश्मीर में कट्टरपंथ का मुकाबला करने में भूमिका निभा सकती है।

(10 अंक, 150 शब्द)

While Article 370 abrogation aimed at bringing 'new era of peace and development' in Jammu-Kashmir; the problem has not yet resolved as radicalization persists.

Socio-economic factors as drivers →

- 1) Developmental needs → 'Exchange-Entitlement decline (Amartya Sen) → as people not getting enough (Lack of opportunities)
- 2) Decline in Tourist revenues due to climate and other factors (↳ Lack of snowfall).
- 3) Social harmony hampered → Shadow of terrorism and Armed force presence

External Influence →

- 1) Pakistani ideological indoctrination and intervention (↳ Jash-e-Mohd).

- 2) Porous borders between J&K and Pok  
leading to influx of terrorists

### Countering Radicalization →

#### A Education

- 1) Youth in schools → Not on streets  
and hence reduced street feeling.
- 2) Socialization formal and not under  
any influence ⇒ Radicalization in informal  
teachings allegedly Madarasats.
- 3) Bring aspirations → dreams → goals  
⇒ Nai Taleem, marzil schemes

#### B Youth Ingegement

- 1) Youth as rolemodels → leading to positive  
influence ⇒ JAS Athar Amir Khan of J&K  
JAS Shah Faesal of J&K.
- 2) Community outreach → op Sadbhavna and  
WHAM Strategy (Winning hearts and minds).  
J&K will see a new chapter in development  
and become India's crown jewel.

#### Feedback

(For OFFICE use only)

#	Q1	Q2	Q3	Q4
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P & R				
Please put the marks in the corresponding table				
Here G is Good, A is Average and P is Poor.				
TOTAL MARKS				

Q.11) Outlining the key characteristics of the care economy, discuss how India can better integrate the value of unpaid and underpaid care work into its economic framework. (15 marks, 250 words)

देखभाल अर्थव्यवस्था (केयर इकोनॉमी) की प्रमुख विशेषताओं को रेखांकित करते हुए चर्चा कीजिए कि भारत किस प्रकार अवैतनिक और अल्प वेतनिक देखभाल कार्य के मूल्य को अपने आर्थिक ढांचे में बेहतर ढंग से एकीकृत कर सकता है। (15 अंक, 250 शब्द)

Care economy signifies considering of unpaid care into economy which is upto 5% contribution to GDP if counted.

Key characteristics →

- 1) Informal Participation → More than 30% workforce involved.
- 2) Feminization of Care Economy → with women seen as care workers (Pink Economy)
- 3) Social Security integrated into care economy → Better outcomes for 'geriatric care', Child rearing etc.
- 4) Huge potential → silver economy (30% old aged by 2055)
- 5) Has 'social capital' along with economic gains.

- Challenges
- 1) Informalization and feminization
  - 2) Lack of measurement framework
  - 3) Patriarchal society → difficult for reforms.
  - 4) Negative distortions in economy if counted as per scholars.

India → integrating value of unpaid and underpaid care in economic framework

- 1) Arjun Sengupta Committee → Social security beneficiary list to be prepared.
- 2) Spending at least 8% on Care economy as compared to global 15% average. (India only 3%).
- 3) Crig economy for carework → formalization  
 (e) Grandpals app for elderly care.

- 4) Recognize household care work into economy (Lata Wadhwa case → Supreme Court)
- 5) Creating dynamic list and assigning economic values.
- 6) Women empowerment → integrate into formal job roles (labour force participation rate → 38%)
- 7) Creating institutions for care providers  
↳ Reform labour laws
- 8) Bring 'social security law' (eg Karnataka's social security for gig workers → similarly for care workers).

Care economy integrated will not just lead to economic development but also inclusive development and women empowerment fulfilling DPSP's mandate.

**Feedback**

(For OFFICE use only)

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Please put your marks in the above table		
Here 5 is Good, 4 is Average and 3 is Poor		
TOTAL MARKS		

Q.12) 'The rapid advancement of artificial intelligence (AI) presents both unprecedented opportunities and significant challenges for India's labour market.' Examine. Also suggest strategies to align AI adoption with inclusive and resilient labour market outcomes. (15 marks, 250 words)

कृत्रिम बुद्धिमत्ता (AI) की तीव्र प्रगति भारत के श्रम बाजार के लिए अभूतपूर्व अवसर और महत्वपूर्ण चुनौतियाँ प्रस्तुत करती है। परीक्षण करें। साथ ही, समावेशी और तन्वशील श्रम बाजार परिणामों के साथ AI अपनाने को संरेखित करने की रणनीतियाँ भी सुझाएँ। (15 अंक, 250 शब्द)

According to Global Economic Prospects report - 25% of jobs will see disruption due to Artificial intelligence.

- Opportunities →
- 1) Highly skilled workforce demand and India's robust engineering infrastructure.
  - 2) Digital Markets and Gig Economy scope increases (3 million by 2030).
  - 3) High end work requirement and more paying jobs.
  - 4) Rise of allied activities → Repair, Processing etc. (Global capabilities Centres (30,000 in India).
  - 5) India's demography → 23 as median age 'AI garage of world'

## Challenges →

- 1) Mismatch in job roles and India's education  
(5% formally skilled, gaps in AI tech).
- 2) Labour intensive jobs will be wiped away  
(India's - 50% informal jobs in manufacturing).
- 3) Lack of AI infrastructure → 'Behind in race'  
↳ China has deepseek, India no GPT
- 4) Issues → Data privacy, Disinformation -  
→ Copyright violations. ↳ ANZ case
- 5) Jobless growth as AI used in production capabilities.
- 6) Replaces lower level jobs ↳ Assistance, call centres etc.
- 7) Lack of legislative framework

Strategies to align AI adoption with inclusive and resilient labour outcomes.

- 1) ILO's - Humanis command approach of human centric AI adoption.

- 2) Develop AI learning platforms in 'Skill India mission' (eg) FutureSkills Prime by NASSCOM.
- 3) Labour laws to be executed and new framework to deal with AI.
- 4) Digital Literacy and outcomes focused on reducing divide.
- 5) Promoting manufacturing capabilities and employing areas of 'labour intensive sector'  
(eg) Food processing, Textiles etc
- 6) Inclusive AI framework → Available in languages (eg) Bhashini App.
- 7) RAISE framework → Responsible use of AI
- 8) Increase R&D budget from 0.7% to 2%.

AI is the disruption and India must ensure it is ready to deal with it.  
AI adoption is key to Viksit Bharat 2047 vision.

**Feedback**

(For OFFICE use only)

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Please put tick marks in the table		
Here G is Good, Average and Poor.		
TOTAL MARKS		

Q.13) Why does India's agricultural export performance remain weak despite high production levels? What measures would you suggest to improve agri-export competitiveness? (15 marks, 250 words)

उच्च उत्पादन स्तर के बावजूद भारत का कृषि निर्यात प्रदर्शन कमजोर क्यों है? कृषि-निर्यात प्रतिस्पर्धात्मकता में सुधार के लिए आप क्या उपाय सुझाएँगे? (15 अंक, 250 शब्द)

India's share in Agriculture exports is around 2.4% with reaching 100 billion dollars soon. Yet it is not as per its potential.

Weak despite high production levels →

- 1) Lack of value addition in agri products → only 15% value as compared to 35% in China.
- 2) Fragmented logistical supply chain of forward linkages to exporters
- 3) Lack of storage capacity → cold storage only 40% capacity developed.
- 4) Poor standardization, on-farm grading and processing → fruit sizes leading to high cost, poor price realisation.

- 5) Testing infrastructure poor → lack of SPS measures (Sanitary, phytosanitary)  
↳ At port rejection (e.g.) Grapes with pesticide residue.
- 6) State domain → Lack of coherent policy
- 7) Poor extension services → (e.g.) KVK's not effective, awareness poor
- 8) Last mile connectivity, Agro-customs not effective.

### Measures to improve agri-Export Competitiveness

- 1) Private sector participation in Logistics, Processing chains (e.g.) Adani Apple
- 2) Testing and SPS Labs → for residue free export and certification.
- 3) Last mile infrastructure → Ports, roads etc
- 4) Reducing mismatch → 98% via rail for cost effectiveness and not on road transport.

- 5) Agri-export policy 2018 → 'Special zones at customs - 24/7 availability.  
→ Bilateral deals with countries.
- 6) Extension services → Agencies like MANAGE and ATMA to be utilized.
- 7) Leverage best practices and scale up  
 STG's → Honeydew → FPO's → Sahyadri Farms
- 8) Krishi Sakhis → As extension workers
- 9) Private sector startups → Ninjakart, Kisan Agitech etc.
- 10) 'One district one product' → Scaled up with targeting → Kesar mangoes of kurd
- 11) APEDA, MPEDA → assist in Agriculture exports, technical expertise.
- 12) Mahara Board in Bihar → similar for high value crops

Agri exports will lead to doubling farmer's income (Ashok Dalwai committee)

## Feedback

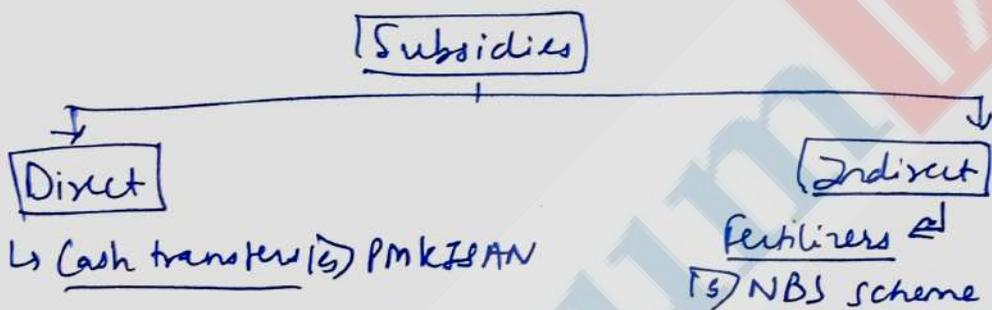
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Here G is Good, A is Average and P is Poor				
TOTAL MARKS				

Q 14) "The agricultural subsidy regime in the country needs reforms to address the distortions it causes." Comment (15 marks, 250 words)

देश में कृषि सब्सिडी व्यवस्था में सुधार की आवश्यकता है ताकि इससे होने वाली विकृतियों को दूर किया जा सके। टिप्पणी करें। (15 अंक, 250 शब्द)

Agriculture is maintained via Subsidies to ensure it is viable. India spends around 3% GDP on Subsidies. 1/4<sup>th</sup> of farm income is Subsidies.



Distortions caused by Subsidy regime. →

(A) Direct Subsidies →

- 1) Poor targeting of beneficiaries → only 60% covered in PM KISAN.
- 2) Sharecroppers do not get amount/inclusion
- 3) Megre amount → 6000 Rs not enough.
- 4) Lack of more direct subsidy options for farmers.

## B Indirect subsidies

- 1) Huge expenditure on state exchequer
- 2) Distorts Nutrition balance → 8:4:1 of NPK instead of 4:2:1 ratio due to cheap urea.
- 3) Pollution, ground water leaching, soil degradation.
- 4) MSP → distorts markets → Cereal centric price cultivation, only 6% benefited (Janta Kurran)
- 5) Farmer's procurement → open ended → leads to wastage, black marketing
- 6) Power subsidies → DISCOM's poor health and over exploited ground water.

## Reforms Needed

- 1) Replacing MSP regime → market distortion  
 ↳ Price deficiency payment scheme (Niti Ayoj)  
 ↳ MP's - Bhuvantar Bhugtan Tojara.

- 2) Solar as 3<sup>rd</sup> crop → (Ashok Gulati) to reduce power subsidies.
- 3) Use Nano-Urea, Organic fertilizers (PM-PRANAM scheme) to reduce Chemical use.
- 4) Micro irrigation and fertigation for proper fertilizer use.
- 5) More direct subsidies (India only 25% vs USA - 105%)
- 6) Better targetting, JAM trinity used.
- 7) Private sector in Agriculture (3 Bills back)
- 8) Utilizing → Cooperatives, FPO's for good management practices.
- 9) Market mechanism for crop pricing and amending Mandi System (APMC).
- 10) E-NAM, integrated mandis
- 11) Commodity derivatives for price market share.

Thus, Agri-Subsidies need to be rationalized to make farming more remunerative.

## Feedback

(For OFFICE use only)

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TOTAL MARKS			

Q.15) How can biomanufacturing transform today's consumptive manufacturing paradigm to the one based on regenerative principles? Also discuss how BioE3 Policy (Biotechnology for Economy, Environment, and Employment) aims to foster biomanufacturing in the country. (15 marks, 250 words)

बायोमैनुफैक्चरिंग आज के उपभोगात्मक विनिर्माण प्रतिमान को पुनर्याजी सिद्धांतों पर आधारित प्रतिमान में कैसे बदल सकता है? यह भी चर्चा करें कि बायोई3 (BioE3) नीति (अर्थव्यवस्था, पर्यावरण और रोजगार के लिए जैव प्रौद्योगिकी) का उद्देश्य देश में बायोमैनुफैक्चरिंग को बढ़ावा देना है। (15 अंक, 250 शब्द)

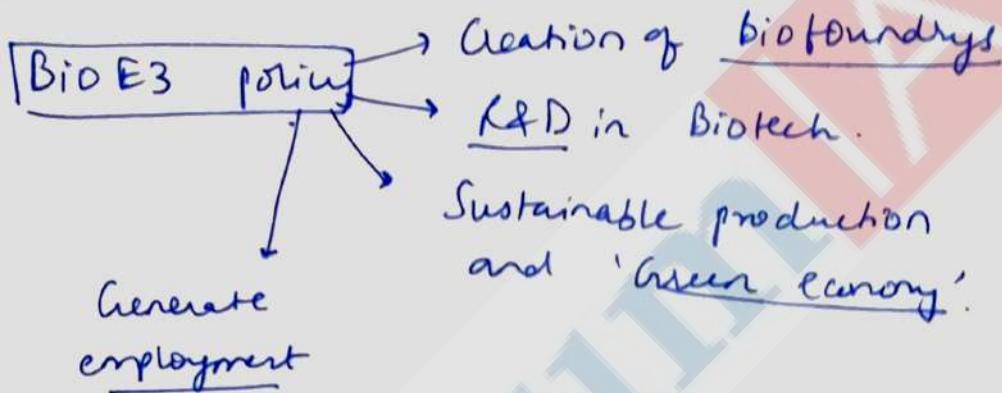
Biomufacturing represents the linkage between biotechnology and manufacturing for more efficient and sustainable production.

Biomufacturing → transform consumptive manufacturing

- 1) Circular economy utilized based on reduce, recycle, repair → Fertilizers based on organic manure.
- 2) Carbon neutral policies by utilizing sustainable materials → Biofuels in vehicles.
- 3) Utilizing research and development for

New products → Biopharma based on  
algae, sea weed etc

4.) Create ecosystem for inclusive and  
participatory approach of all stakeholders.



Bio E3 fostering manufacturing →

1)

Q.16) The future of digital innovation depends on self-reliant, domain-specific AI capabilities. In this context, bring out the key considerations in developing indigenous AI models and tools. Suggest measures to build an enabling ecosystem for AI innovation in India. What initiatives have been taken by the government in this regard? (15 marks, 250 words)

डिजिटल नवाचार का भविष्य आत्मनिर्भर, डोमेन-विशिष्ट AI क्षमताओं पर निर्भर करता है। इस संदर्भ में, स्वदेशी AI मॉडल और उपकरण विकसित करने में प्रमुख विचारों को स्पष्ट करें। भारत में AI नवाचार के लिए एक सक्षम पारितंत्र बनाने के उपाय सुझाएँ। इस संबंध में सरकार द्वारा क्या पहल की गई है? (15 अंक, 250 शब्द)

AI is the biggest disruption and has led to Industry 4.0. Country's economy and security is now linked with its AI Capabilities  $\Rightarrow$  USA - China AI war.

Key considerations in developing indigenous AI models and tools.  $\rightarrow$

- 1) National security to ensure robust deterrence capability  $\Rightarrow$  AI weapons.
- 2) Part of global value chains  $\Rightarrow$  USA restricting High power GPU chips exports.
- 3) linked with critical minerals and rare-earth  $\Rightarrow$  China's 90% monopoly.

- 4) Demographic development  $\Rightarrow$  AI, coding engineers and utilize talent.
- 5) Spillover effects on other industries  
 $\Rightarrow$  Deepseek of China  $\rightarrow$  benefits various sectors.
- 6) Prevent global disruption and display our strength.
- 7) Reduce external dependence  $\Rightarrow$  USA

### Measures to build enabling ecosystem $\rightarrow$

- 1) Future skilling ~~power~~ and training via dedicated institutes  
 $\Rightarrow$  AI hubs as per Kamakhya Committee on AI.
- 2) Legislative framework that promotes innovation and does not disrupt  
 $\Rightarrow$  EU's AZ Act.
- 3) Promote private sector participation in R&D and startups  $\Rightarrow$  OLA-AI
- 4) Capital subsidies and infusion of credit

### Feedback

(For OFFICE use only)

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- 5) Industry - Academia Linkages → Increase R&D budget from 0.7% to 2%.
- 6) Develop Capabilities in Semiconductors, Chips etc

### Initiatives already taken →

- 1) India AI Mission → 10,000 crore
  - ↳ Create our generative AI
  - ↳ Leverage models and tools.
- 2) NASSCOM's Skilling Programme → Future Skill Prime.
- 3) Semicon India Programme → 76k crore for semiconductor plants → Micros, Tata
- 4) Buying GPU's on giving on rental basis to startups.
- 5) Startup India Seed Fund Scheme (SIFFS)
- 6) Removing Angel tax → Blatantly declarations for AZ.

'AZ' will lead to a new era of development and hence critical to leverage

Q.17) Marine oil spills are a form of environmental disaster, with far-reaching consequences for biodiversity and coastal livelihoods; however, India's preparedness to prevent such incidents and mitigate their impact has significant gaps. Analyze. (15 marks, 250 words)

समुद्री तेल रिसाव एक प्रकार की पर्यावरणीय आपदा है, जिसके जैव विविधता और तटीय आजीविका पर दूरगामी परिणाम होते हैं। हालाँकि, ऐसी घटनाओं को रोकने और उनके प्रभाव को कम करने के लिए भारत की तैयारियों में महत्वपूर्ण अंतराल हैं। विश्लेषण करें। (15 अंक, 250 शब्द)

Marine oil spills are 'anthropogenic disasters' that hamper marine ecosystem, biodiversity and coastal livelihood.

eg) Pestang quest oil spill in 2024

Far-reaching consequences →

- 1) Lethal for marine organisms → blocks Sunlight
- 2) Creates toxic layer → ingestion and killing of marine biodiversity.
- 3) Prevents oxygen-CO<sub>2</sub> exchange hampering plant life.
- 4) Oil sludge on coasts → toxicity
- 5) Prevents fishing → hampers livelihood.

- 6) Bioaccumulation of oil and toxic chemicals in marine food chain.
- 7) Carcinogenic impacts.

### Gaps in India's preparedness and mitigation

- 1) Overlap of agencies (e.g.) Navy and Coast Guard.
- 2) Lack of timely information dissemination system to warn fishermen.
- 3) Lack of oil ~~fighting~~ tackling equipments  
(e.g.) Remediation tools like oil zipper, Bregoli etc.
- 4) Lack of Aerial surveillance and Aerial tackling tools (e.g.) Drones to accumulate oil.
- 5) Poor infrastructure and lack of dedicated response team.

## Steps taken →

- 1) Designating Coast Guard as the nodal agency for oil spills.
- 2) GAGAN for fishermen's information and early warning based on NAVIC.
- 3) Surveillance by NAVIC i.e. India's satellite based navigation system.
- 4) Research and development at Marine engineering centres for oil remediation.

## Way forward →

- 1) Proper NDMA guidelines needed.
- 2) Remediation techniques
- 3) White shipping information

Marine oil spills must be prevented and responses needed in alignment with India's commitment to Souhai framework.

### Feedback

(For OFFICE use only)

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TOTAL MARKS				

Q.18) 'The United Nations has declared 2025 as the International Year of Glacier Preservation.' Bring out the ecological and socio-economic significance of glaciers. What are the key challenges in preserving them? What measures have been taken at national and international levels towards preservation of glaciers? (15 marks, 250 words)

'संयुक्त राष्ट्र ने वर्ष 2025 को अंतर्राष्ट्रीय ग्लेशियर संरक्षण वर्ष घोषित किया है।' ग्लेशियरों के पारिस्थितिक और सामाजिक-आर्थिक महत्व को उजागर करें। उन्हें संरक्षित करने में मुख्य चुनौतियाँ क्या हैं? ग्लेशियरों के संरक्षण के लिए राष्ट्रीय और अंतर्राष्ट्रीय स्तर पर क्या उपाय किए गए हैं? (15 अंक, 250 शब्द)

According to IPCC 6<sup>th</sup> Assessment report, 30% rise in climatic disruptions and extreme events will affect India. Glacial melting at the speed of 15% compared to previous decade exacerbates the problem.

### Significance

#### A Ecological

- 1) River water regime by glacial melting.
- 2) Cryosphere preserves many zoonotic parasites causing disease in Siberia.
- 3) Albedo effect to reduce climate warming. (regulates earth temp) crater
- 4) Polar biodiversity preserved in Penguins, sea urchin.

## B Socio-economic

- 1) 3<sup>rd</sup> pole of Himalachal → Rivers like Ganga, Brahmaputra as Lifelines.
- 2) Fresh water storage → 'Water as new oil'
- 3) Polar communities Livelihood → Esquimos

## (Challenges) →

- 1) Global warming led melting → higher pace and decline.
- 2) Natural factors → Atlantic circulation  
→ El-Nino effect.
- 3) Reversal not possible → only prevention and response.
- 4) Isolated and extreme weather conditions
- 5) ~~Common~~ 'Global common problem'  
↳ Antarctic as no one's problem
- 6) Exploitative use → Arctic oil, navigata  
↳ claims of all countries.

## Measures taken →

### A National level

- 1) National Mission on Sustaining the Himalayan ecosystem (NMSHE) by NAPCC (Combating climate change).
- 2) Member of Arctic Council → observer status
- 3) Signed Antarctic treaty → peaceful use.
- 4) Paris deal and Panchajanya principles

### B International level

- 1) Treaty based mechanisms
  - Arctic Council
  - Antarctic treaty
- 2) Glacial re-freezing via interventions  
↳ Canada and Zealand
- 3) Paris climate deal to reduce temperature rise under 2°C
- 4) Montreal Protocol for ozone layer.

Glaciers are the key to earth's Sustainability and hence must be preserved.

#### Feedback

(For OFFICE use only)

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Q.19) What are the determinants of insurgency in the north-eastern region of India? What strategy should the Government of India, civil administration and security forces adopt to counter the threat in the affected areas? (15 marks, 250 words)

भारत के उत्तर-पूर्वी क्षेत्र में उग्रवाद के निर्धारक तत्व क्या हैं? प्रभावित क्षेत्रों में खतरे का मुकाबला करने के लिए भारत सरकार, नागरिक प्रशासन और सुरक्षा बलों को क्या रणनीति अपनानी चाहिए? (15 अंक, 250 शब्द)

2nd ARC notes that North East is in a state of 'stable anarchy' due to the insurgencies seen in the region. With 3.6% land, 7% population and 400+ ethnic groups, the region is complex.

### Determinants of Insurgency

#### (A) Colonial legacy →

- 1) Artificial borders and Segregation → NEFA (North East frontier agency).



- 2) Divide and Rule policy → of utilizing various tribes and communities for economic gains.

#### (B) Developmental Deficit →

- 1) Ignored by mainland due to geographical

distance . 2) lack of self governance

3) Corruption and leakages in scheme implement-  
ation and execution

### C) Ethnic factors

1) Division on basis of tribes, religion, ethnicity  
Seen as zero sum  $\Rightarrow$  kuki-meitei

2) Influx of immigrants  $\rightarrow$  Major cause of  
hostilities  $\Rightarrow$  Assam Student Union's  
movement against Bangladeshi immigrants.

D) International Support  $\rightarrow$   $\Rightarrow$  China, Myanmar  
proximity, arms and training etc.

Strategy to adopt to counter threat  $\rightarrow$

### A) Government of India $\rightarrow$

1) Peace treaties by Dialogue  $\Rightarrow$  Bodoland  
Peace Treaty.

2) WHAM  $\rightarrow$  winning hearts and mind strategy  
through genuine interventions.

- 3) Stopping influx of immigrants → Bilateral treaties.
- 4) Developmental special economic package  
↳ North East Council.

### B Civil Administration →

- 1) Recognizing local self governance powers  
↳ Autonomous district Council (8<sup>th</sup> Schedule)
- 2) Ensuring implementation of schemes, benefits on grounds (Development as solution).
- 3) Stopping of ideological indoctrination.

### C Security forces →

- 1) Balance use of force and intelligence  
↳ Sundergarh cum shab strategy
- 2) Curb influx of immigrants, external influence  
↳ Golden Δ of drugs.
- 3) Prevent excessive force in AFSPA areas.  
(Mauli Marohar Joshi Committee).

Insurgency is a threat of the genuine concerns in the region. The road to new India must pass through North East.

#### Feedback

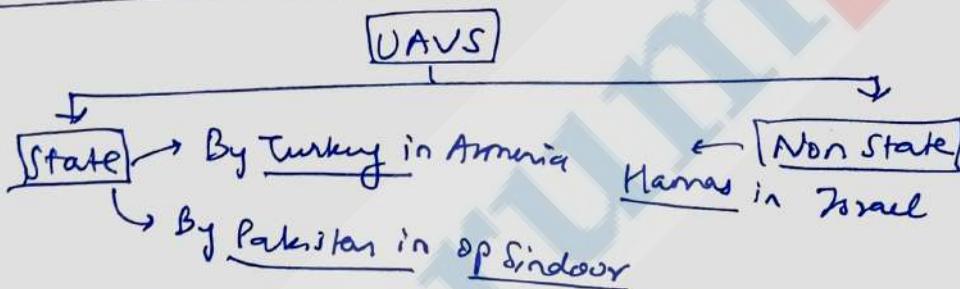
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TOTAL MARKS		

Q.20) Unmanned Aerial Vehicles (UAVs) have become an integral aspect of modern conflict and warfare, employed by both state and non-state actors. Discuss its implications for India's security architecture and state the measures being taken to address them. Also suggest other steps to tackle the threats emanating from UAVs. (15 marks, 250 words)

मानव रहित हवाई वाहन (UAVs) आधुनिक संघर्ष और युद्ध का अभिन्न अंग बन गए हैं, जिनका उपयोग राज्य और गैर-राज्य दोनों ही प्रकार के अभिकर्ता करते हैं। भारत की सुरक्षा संरचना के लिए इसके निहितार्थों पर चर्चा करें और उन्हें संबोधित करने के लिए किए जा रहे उपायों का वर्णन करें। UAVs से उत्पन्न होने वाले खतरों से निपटने के लिए अन्य कदम भी सुझाएँ। (15 अंक, 250 शब्द)

Operation Spider Web seen in Ukraine -  
Russia conflict of 130 FPV (first person view)  
drones reflect the emergence of UAV's in  
asymmetric next generation warfare



Implications for India's Security architecture

- 1) Rise of 'Denial of Aerial space' war strategy where huge swarms of drones can attack
- 2) Overwhelming India's Airpower through locust drones, swarm drones → 5400 can

not detect if hundreds of drone attack followed by missile.

- 3) Surveillance increases especially in border areas (e.g.) Sir Creek drones spotted.
- 4) Rising cost of warfare → huge risk and huge cost to detect but low cost to attack.
- 5) Use by non state actors → Terrorists for surveillance, attacks etc.
- 6) Use on critical infrastructure (e.g.) Nuclear plants

Measures taken to address them →

- 1) Indigenous UAV capability built (e.g.) India's [custom] series of drones.
- 2) Anti drone attack capabilities developed  
↳ Akashtr, Bhargavastri, Indrajal for denial of attacks.
- 3) foreign deals → MQ9-B Reaper drones of USA.  
→ Harkop of Israel.

- 4) Defence capabilities via DRDO and NEST (New emerging strategic technology).
- 5) Development of UAV tackling doctrines and code of procedure during asymmetric warfare.
- 6) Public-Private Partnerships (e.g.) Indiaforge, Dynamatic Technologies etc.

### Other steps to tackle →

- 1) Full spectrum deterrence capabilities to be developed (e.g.) S400, Nuclear triad etc.
- 2) Foreign collaborations and technology transfer (e.g.) TRUST initiative with USA
- 3) Financing indigenous defence capabilities with increased R&D in defence budget.
- 4) Nurturing defence startups (e.g.) Indiaforge.

UAV's are the new reality in warfare and India must evolve to ensure its sovereignty and integrity is not violated.

Feedback  
(For OFFICE)

#	①
AWIS	
CD & VA	
S & F	
P & R	
Please put the marks in the table	
Here G is Good, Average and Poor.	
TOTAL MARKS	