

TEST CODE 8 1 3 4 1 1

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	RISHABH SHARMA		
Roll No./अनुक्रमांक	1910/75494	Medium/माध्यम	English <input checked="" type="checkbox"/> हिंदी <input type="checkbox"/>
Center Code/परीक्षा केंद्र	-	Date/दिनांक	19/07/25

\*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 <b>TWENTY</b> 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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Examiner's Discretion/मूल्यांकन कर्ता का विवेक :			Start Time/प्रारंभ करने का समय :	End Time/समाप्त करने का समय :	
Total Marks/कुल अंक :			Mode Of Examination/ परीक्षा की विधि :	Online/ऑनलाइन <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, प्रतीकचित्र, तथ्यों और आकड़ों 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।			<b>For Office Use Only / केवल कार्यालय प्रयोग हेतु</b>		
			ECN CODE/ ईसीएन कोड :	EG/ईजी :	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

Roll No. / Roll Number		Date / Date	
Center Code / Center Code		Medium / Medium	
English / English		11/04/22	

Q. No.	Mark	Answer
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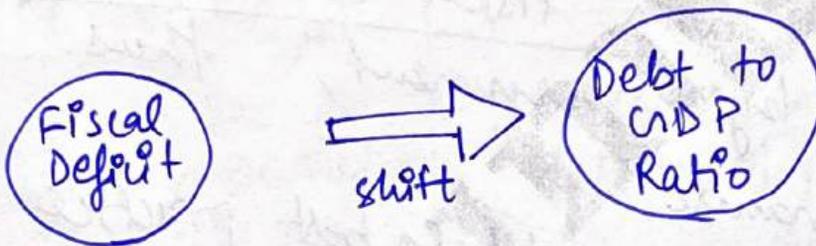
#### CRITERIA FOR THE FEEDBACK SECTION AT THE END OF EACH QUESTION

- 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.
- 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.
- 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.
- 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) 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)

Budget 2025-26 advocates for a shift towards debt-to-GDP ratio as fiscal anchor in order to promote fiscal consolidation and measure debt from a broader angle



Rationale behind shift to debt to GDP ratio

- ① Fiscal deficit does not represent the proportion in relation to GDP
- ② Old method accounts for the deficit of current financial year only

- ③ Difficulty in maintaining strict FRBM limits while fulfilling the welfare obligations
- ④ Debt represents broader and holistic borrowings vis-a-vis fiscal deficit
- ⑤ Debt-to-GDP ratio will be reduced with fiscal consolidation efforts by government, thus is dynamic
- ⑥ In line with global best practices like developed countries.
- ⑦ will lead to co-operative efforts of states and centre for reducing debt.

Shift to a good debt-to-GDP ratio represents prudence and targetted budgeting towards fiscal

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 lags in the manufacturing sector and is still stuck with assembly of goods rather than design, research and innovation.

### Build to Print

- create copies through assembly
- mass manufacture of generic products
- Ex - India

### Build to Design

- create new design of products
- involves research and innovation
- Ex - Taiwan, South Korea

### Need of transitioning from 'Build to Print' to 'Build to Design'

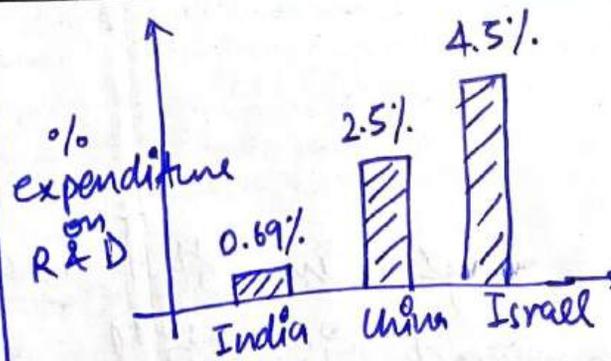
- ① Tap full potential of India's skilled manpower and industries

Feedb

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Here G is Good, Average and Poor.	
TOTAL MARKS	

② Encourage research and development in design.



③ Promote new and innovative university courses

Ex. B. Design in IIT Guwahati

④ Achieve export competitiveness

⑤ Tap 'China plus one' amicably

## Steps by Government

- ① Establishing Research fund for funding design Amusandhan National
- ② Industry - Academia linkage
- ③ PM Kaushal Vikas Yojana 4.0 for skilling in design courses
- ④ collaboration with private sector.

Manufacturing sector possess the potential of ending the problem of high unemployment while boosting exports and GDP.

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)

A nutrition sensitive food system refers to the foods that contain adequate nutrients and essential nutrients for a healthy life.

## Nutrition sensitive food systems

- ① Address the basic nutrient requirements for growth through high protein Ex - Makhane
- ② Enough fibre content and low glycaemic index Ex - Millet
- ③ Neglected & under-utilised species like Jackfruit, Amaranth, small millets, buckwheat etc.
- ④ Used as raw material in making nutraceuticals

- ⑤ organic foods that possess natural nutrients and low/nil pesticide residues.

Strategies to achieve Nutrition sensitive food system

- ① Promotion of organic farming and zero budget natural farming
- ② Certification of foods for better market visibility.  
Ex - NPOP certification
- ③ Subsidies and MSP for nutrient dense crops  
Ex - National mission for sustainable agriculture promotes millets
- ④ Awareness among people
- ⑤ Biofortification of rice

Nutrition is a key pillar of SDG-3 and is crucial for the rise of India.

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 is an umbrella project that uses e-technology for the aid of farmers and is crucial for doubling the farmers' income (Ashok Dalwai Panel)

## Key components of Digital Agricultural Mission

① AgriStack - a repository of 3 datasets → village maps, farmers, land records which can be used for targetted delivery of services.

② WINDS portal by Ministry of Agriculture & Farmer welfare for weather forecasting.

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Here G is for Average and Poor.
TOTAL MARKS

- ③ YESTECH and CROPIc under PM Fasal Bima Yojana for yield estimation and insurance verification
- ④ Linking the POS machines at fertiliser shops to AgriStack for precision subsidy.
- ⑤ Use of AI and remote sensing

How can it benefit Agriculture?

- ① Doubling farmer's income and reducing the physical barriers
- ② Targetted delivery of schemes
- ③ Dissemination of early warning and weather forecast
- ④ Extend Extension services  
Ex - mKrishi APP
- ⑤ land record digitization Ex - DILRMP

Digital Agricultural Mission can revolutionise the agricultural sector and turn farmers into agripreneurs

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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 (REE) are a group of 17 critical minerals that are essential for development of machines, communication technology and electronics, thus called seeds of technology.

Significance of Rare Earth Elements

- ① Key to green transition, as used in photovoltaics.  
Ex - Germanium used in solar panels
- ② Used in magnets, turbines  
Ex - Dysprosium, Neodymium  
crucial for Wind Turbines
- ③ Backbone of electronics and semiconductor industry.
- ④ Used in manufacture of science equipments and research.

- ⑤ used in creating components of communication systems.  
 Ex - cables, wireless systems

### Issues related to access of REE

- ① Dominance of China in reserves of REE
- ② Restriction of import and arbitrary duties on import of REE.
- ③ High cost of REE
- ④ Limited technological know-how for enrichment of REEs

### Measures

- ① Diversify import basket  
 ↳ reserves found in Scandinavia
- ② explore alternatives
- ③ Recover from e-waste

REEs are the seeds of technology that will turn into trees of progress and aid India's rise in science and technology.

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)

भारतीय तापीय विद्युत संयंत्रों में फ्लू गैस डिसल्फ्युराइजेशन (FGD) प्रणालियाँ लगाने के बजाय विद्युत-अवक्षेपकों (ESPs) का पुनर्संयोजन क्यों अधिक व्यवहार्य और कारगर विकल्प है? (10 अंक, 150 शब्द)

Recently government exempted 78% of thermal power plants (TPP) from installing mandatory flue gas desulfurization systems (FGDs). This calls for using Electrostatic Precipitators instead (ESPs)

ESPs more viable than FGDs

- ① Easier to install and operate than FGDs
- ② Less expensive than FGDs so plants can focus on core function → thus effective
- ③ Easier maintenance as the sulphurous residue can be scraped off → effectiveness
- ④ FGDs require longer times for installation

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- ⑤ Ensures the energy security of India is not hindered
- ⑥ FCRDs can be made mandatory only on critically polluted areas.

## Compartmentalised Approach to FCRD Installation

Government notified that

- ① FCRD mandatory for 11% of TPPs around Delhi NCR
- ② FCRD optional for 11% of TPPs near non-attainment cities.
- ③ FCRD exempted for rest 78% of TPPs

This approach balances India's goal of controlling pollution and ensuring seamless energy security for a power hungry developing India. This is line with SDG-7 of Clean & Affordable energy.

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)

Environmental Impact Assessment  
(EIA) is a tool to anticipate the environmental impacts of a proposed project and suggest mitigation measures.

## Challenges in EIA Implementation

- ① Regarded as a tokenistic tool and a procedural formality
- ② Weak enforcement of EIA due to low awareness and will.  
Ex - Great Nicobar Project involves many vulnerabilities
- ③ Long list of exemptions reduce the applicability of EIA  
Ex - Linear projects near international border exempt
- ④ Ecologically diverse & fragile regions are virtually

out of EIA's ambit.

Ex - entire North east mostly exempted due to proximity to international borders

- ⑤ hiring private consultants for preparation of Environment Management Plans (EMPs) who run solely on profit motives.

## Suggested Reforms

- ① Prune the exemption list
- ② Involve the local communities during scoping stage.
- ③ Create a regulating body for organisations that prepare EIAs
- ④ standardise the EIA procedure
- ⑤ Apply global best practices  
Ex - Brazil → indigenous people involved in EIA.

We must implement the EIA in letter as well as in spirit for a sustainable future.

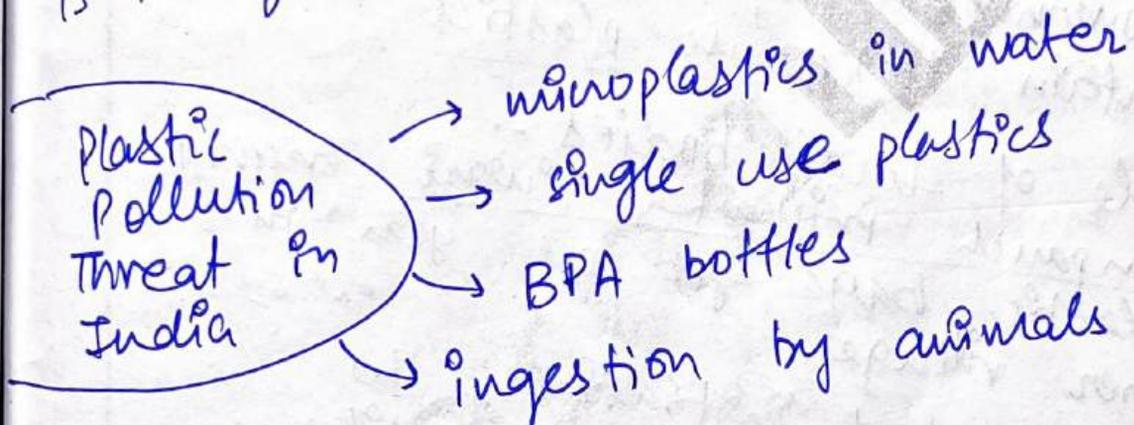
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Q.8) Plastic pollution is emerging as a serious environmental threat in India. Discuss the various mitigation measures to address this problem and also the government's initiatives in this regard. (10 marks, 150 words)

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)

The negotiations for a Plastics Treaty could not precipitate to common goals and deferred the discussions to the next year. India too is facing threat of plastic pollution



## Mitigation Measures for Plastic Pollution

- ① Use of biodegradable alternatives for packaging.  
 Ex - Kenya startup 'Hya Pak' makes packaging material from water hyacinth plant

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- ② Banning of single use plastics
- ③ Proper waste segregation
- ④ Reuse of plastic instead of disposing

## Government Initiatives

- ① Plastic Waste Management Rules
- ② Government of India banned certain single-use-plastics
- ③ Role of local bodies - sarpanch Priyanka Tiwari banned plastic bags for one year in her village.
- ④ state-led initiatives to support alternatives like Jute.
- ⑤ waste segregation bins under smart cities Mission

Microplastics were found in Delhi's groundwater, this is a serious Blue which must be addressed immediately.

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)

Former CDS Shri Bipin Rawat warned that India is facing a 2.5 front war where 0.5 represents the challenge of internal security (IS)

Need of Blending private sector capabilities with current IS architecture

- ① constantly evolving nature of threat  
Ex - use of UAV by terror outfits like ~~TRF~~ TRF
- ② Limited incorporation of state-of-the-art technology in current infrastructure  
Ex - still SLR rifles with forces
- ③ Rise of cyber threats where private players can help in countering it.  
Ex - Bomb hoax in schools, airports

- ④ Reconnaissance using AI, satellites, border infrastructure requires emerging technological know-how.

Way Private Sector can help in strengthening IS

- ① Develop and deliver UAVs like drones for patrolling and spying
- ② Create AI-driven border infrastructure with sensors.  
Ex - CBIMS and BOLD-QIT (at Dhubri)
- ③ Research in new age armoury  
Ex - Kalashnikov rifles
- ④ Specific satellites for tracking border movement
- ⑤ Tackle the cyber war properly through anti-cyber attack infrastructure.

Thus a PPP approach can help India deal with the internal security challenges and remove obstacles to growth

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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. (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।

Recent horrific incident at Pahalgam exposed that radicalisation in J&K is still alive. It is fuelled by both socio-economic factors as well as external influences. (10 अंक, 150 शब्द)

Socio-economic factors fuelling Radicalisation in J&K

① Lack of employment opportunities leave youth with discontent.

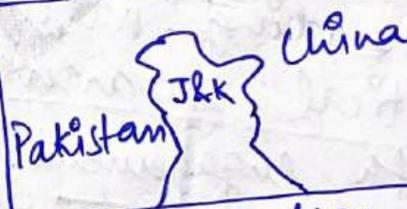


Fig: Location

② Poor education and illiteracy push people into drug abuse as well as radical ideas.

③ Rampant poverty breeds contempt.

External influences fuelling Radicalisation in J&K

① Cross border terrorism by Pakistan in J&K.

- ② Misguiding and using the gullible youth against India by ISI.  
Ex - ISI paid ₹6000 each for stone pelting
- ③ Separatist tendency Ex - Hurriyat

Role of Education & Youth engagement in countering Radicalisation in J&K

- ① Making the youth job-ready by educating them.
- ② Skilling of the youth Ex - Udaan scheme
- ③ Spreading nationalism and political awareness through youth engagement. Ex - Youth Parliament
- ④ Enabling small business in local products among youth Ex - Saffron, dry fruits
- ⑤ Inclusive development of all to curb the perceived neglect.

Education and employment is the panacea to radicalisation in J&K.

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 वैतनिक देखभाल कार्य के मूल्य को अपने आर्थिक ढांचे में बेहतर ढंग से एकीकृत कर सकता है। (15 अंक, 250 शब्द)

Care economy refers to the economic activities like childcare, elderly care, household labour work etc. which are generally not accounted in the calculation of GDP.

## Key Characteristics of Care Economy

① Largely dominated by women like mothers, wives etc.

② Skewed gender-wise contribution in care economy.

Ex - Average woman does 7 hours of unpaid labour, while average man just 2.5 hours (Time Use Survey)

③ Not counted in conventional GDP estimation of a country.

- ④ Enables the workers to perform other economic activities
- ⑤ Prepares the children through childcare, who go on to become active workers later.
- ⑥ Ensures inter-generational equity by doing elderly care of senior citizens.
- ⑦ offers under-paid or un-paid  
Ex - domestic labour underpaid and wives and mothers not paid for care work

## Integrating Unpaid & Underpaid work in India's economic framework

- ① Changing the methodology of GDP estimation to include care activities too
- ② Assigning value to care work, by estimating the labour hours required for care work.

- ③ Understanding and integrating the idea mooted in "Doughnut Economics" book
- ④ Providing adequate compensation to non-family care work  
Ex - nurses, domestic labour.
- ⑤ Applying best practices from across the world.  
Ex - Japan has monetised the care work too
- ⑥ Utilise care economy to free up the women from household care  
Ex - This will add workforce and lead to demographic dividend.

In order to truly reap the demographic dividend, India must integrate care economy in its economic framework.

### Feedback

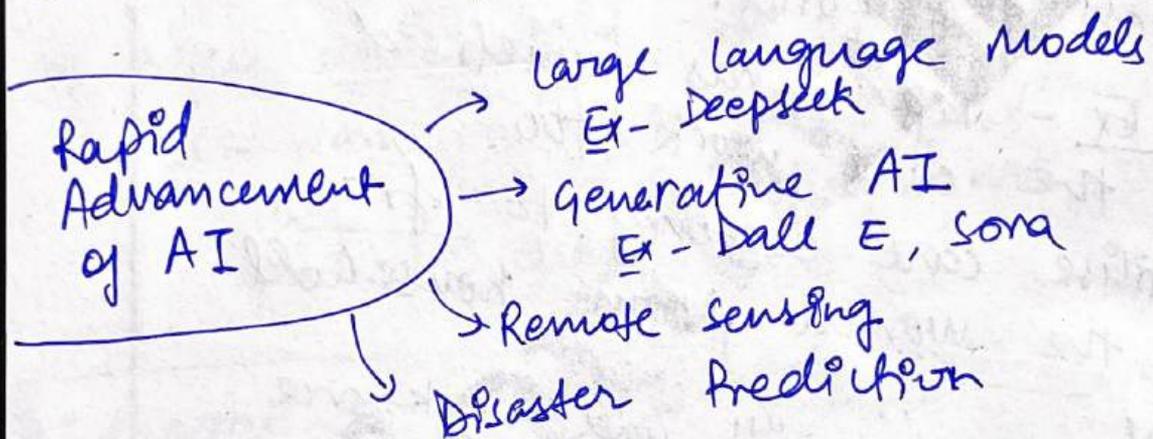
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Q.12) 'The rapid advancement of artificial intelligence (AI) presents both unprecedented opportunities and significant challenges for India's labour market.' Examine. Also suggest strategies to align AI adoption with inclusive and resilient labour 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 तन्व्यशील श्रम बाजार परिणामों के साथ AI अपनाने को संरक्षित करने की रणनीतियाँ भी सुझाएँ। (15 अंक, 250 शब्द)

Artificial Intelligence is expected to cause an Industrial Revolution 4.0, thus creating new opportunities but also disrupt the existing jobs and cause a challenge to labour market.



## Unprecedented opportunities due to AI

- ① Create new jobs for engineers  
Ex - Prompt engineers
- ② Reduce the work-load by doing the labour tasks  
Ex - Content collection, data entry

- ③ create more desk jobs that can be done remotely  
Ex - work from anywhere model
- ④ More opportunities for women due to rise in no. of non-physical labour jobs. Ex - vide coding
- ⑤ More jobs in proofreading, model training and regulation

## Significant challenges due to AI

- ① Disruption of obsolete jobs  
Ex - MS Excel work
- ② Digital divide will exacerbate the challenges.  
Ex - Rural areas → no AI jobs
- ③ Blurred boundaries of work hours, leading to poor work-life balance  
Ex - late night shift to align with global market

- ④ Poor worker health, due to increased emissions from AI  
 Ex - Economic Survey (2024) criticised AI as energy guzzling

Strategy to align AI with inclusive & resilient labour market outcomes

- ① Create opportunities equitably in all regions. → urban, rural, backward states.
- ② State to regulate the AI job to counter its all effects
- ③ social security for workers to curb hire-fire culture  
 Ex. code on social security
- ④ skill development and higher education of Indians to prepare them for AI jobs.

To make our worker AI-ready we must educate them and create a robust labour market.

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 सुझाएंगे? (15 अंक, 250 शब्द)

India exports only 7% of its total grain production despite being second largest producer of wheat, rice, sugarcane etc.

Reasons for weak Agri-export Performance despite high production

- ① Huge population of 146 crores (UNFPA Projections) requires large amount for domestic consumption.
- ② Heavy post-harvest losses due to poor cold chain and food processing infrastructure.
- ③ Low shelf-life of agricultural commodities
- ④ Obsolete storage infrastructure  
↳ cover & plinth storage leads to rotting of grains.

- ⑤ Trade and non-trade barriers by other nations.  
 Ex - sanitary & phytosanitary measures by EU distort the global market
- ⑥ Heavy subsidies in competitiveness  
 Ex - sugar
- ⑦ Poor marketing strategies

## Measures to improve Agricultural Export Competitiveness

- ① Curated schemes for farmers addressing the input costs.  
 Ex - RoDTEP scheme
- ② GI certification and organic branding for products  
 Ex - Ratnagiri Alphonso mangoes famous worldwide
- ③ Market intelligence and demand linked production  
 Ex - high demand of Makhana due to rise in veganism in EU

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(Don't Write anything in this Area / इस स्थल पर कुछ न लिखें)

- ④ Improved supply chain infrastructure and cold chains
- ⑤ Policy support through APEDA and MPEDA.
- ⑥ Optimal use of fertilisers and pesticides to avoid sanitary & phytosanitary measures.  
Ex - Right dose, right manner, right time for pesticides
- ⑦ Promotion and marketing of Indian products through advertisements, diplomatic channels.  
Ex - Embassies can help in this
- ⑧ Use of organic farming, millets, neglected & underutilised species (NUS) for export purpose.  
Ex - buckwheat, amaranth.
- ⑨ Build pipeline for dairy exports  
Ex - like in New Zealand.

Net exports will boost the GDP of India in these times of global uncertainties.

### Feedback

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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)

India is often pulled in WTO issues due to the agricultural subsidy regime. This calls for reforms in subsidy structure in agricultural sector.

Issues raised by other Nations about India's agricultural subsidy

- ① MSP distorts the market price of food grains
- ② FRP and other regulations in sugar industry artificially manipulate the price of Indian sugar.
- ③ Alters the demand and supply forces for agricultural products
- ④ Fisheries industry is often criticised for subsidies.

These issues have been raised at WTO by countries like USA and India has appealed the decisions.

## Reforms done by India to address the issues

- ① MEIS and SETs have been replaced with RoDTEP scheme of subsidy
- ② Giving DBT to farmers to increase income  
PM KISAN → ₹6000/year  
 Ex -
- ③ Regulation of the price of sugar.

## Arguments by India for other issues

- ① We are an agricultural economy, where 43.2% of the workers are employed in agriculture → thus need subsidies for their welfare

- ② Need Peace Clause and Agreement of Agriculture (AoA) till a consensus is reached at WTO
- ③ Raised appeal at Appellate Body of WTO but USA has stalled appointment of judges there

## Need of More Reforms

As India transitions towards the non-agricultural sector, the subsidies will gradually reduce, but as of now, we need to augment the agricultural economy with subsidies for it to survive.

In the times of covid, it was the agricultural sector only that was least affected and helped in keeping Indian economy resilient.

Q. 19) 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 पुनर्योजी 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)

Government of India unveiled the BioE3 Policy to bring a paradigm shift from chemical based manufacturing to biomanufacturing.

Biomanufacturing's Role in transforming consumptive manufacturing to Regenerative

- ① consumptive manufacturing is the conventional chemical industry.
- ② Ex - use of chemicals  
This method is exhaustive as the input is consumed in process → import reliance.
- ③ Biomanufacturing involves use of biological material at industry scale.  
Ex - Bioethanol production
- ④ Biomanufacturing is regenerative as bio molecules and materials

can be grown.

- ⑤ Biomannuacture is sustainable compared to the fossil fuel based petrochemicals.

## Bio E3 Policy fostering Biomannuacturing

- ① Aims to establish Biofoundries for manufacture of biomolecules
- ② Using biotechnology for boosting the economic growth through Bioeconomy.
- ③ utilisation of biotechnology for environmental conservation.  
Ex - Bioremediation
- ④ Ensure energy security of India  
Ex - Biogas, biodiesel, bio-ethanol.
- ⑤ Create jobs and employment in bio-mannuacturing sector

⑥ Aid the agricultural growth through biotechnological interventions  
 Ex - GM crops like Pusa DST-1 rice

## Other initiatives

- ① Mandatory ethanol blending to boost 2G ethanol production
- ② Biotechnology summits
- ③ Industry - academia linkage for innovation in biotech.

Bioeconomy is expected to have a very high CAGR in the next decade.

### Feedback

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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)

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)

Recent incidents like sinking of container ship in Red sea after Houthi attack and fire in ship off Kochi's coast raise threat of marine oil spills.

## Marine Oil Spills: An environmental Disaster

- ① A man-made disaster that threatens the ecological balance.
- ② Cuts off the oxygen absorption in ocean and leads to death of marine life.
- ③ Leads to contamination of the habitat of biodiversity.
- ④ Reduced fish population threatens the livelihood of coastal populations who depend on fishing.

- ⑤ Impacts the exports of seafoods  
Ex - India second largest shrimp  
producer

## India's limited Preparedness to Mitigate oil spills Impact

- ① Not designated as a disaster under Disaster Management Act, 2005
- ② Lack of modern equipments to track the oil containers in EEZ.
- ③ Lax implementation of regulation of oil ships.
- ④ Meagre allocation of funds for mitigation.
- ⑤ Limited technological know-how to deal with spills.

## India's Efforts to curb and deal with oil spills

- ① Use of bioremediation  
Ex - Oilzapper

- ② using agricultural and industrial residue to absorb oil  
Ex - Bregolli
- ③ Designated organisation to respond to oil spill immediately.  
Ex - Navy & Coast Guard
- ④ Technological transfer from advanced nations.
- ⑤ following the shipping regulations of WMO to avoid spills.
- ⑥ PM Matya Sampada Yojana for coastal livelihoods.

As JC Pant committee recommended, we must shift from a reactive to proactive approach in order to deal with multi-hazard nature of disasters (like oil spill)

### Feedback

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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)

Venezuela recently lost its last glacier to global warming. Owing to this rapid retreat of glaciers, the UN has declared 2025 as the International Year of Glacier Preservation.

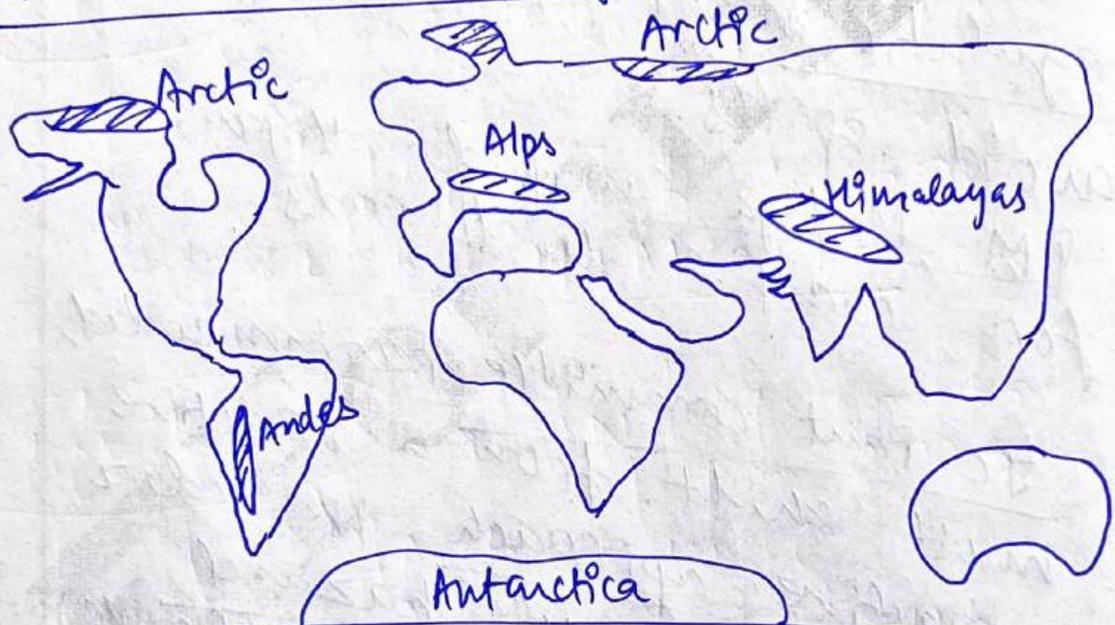


Fig: Major Glacier Regions of world

## Ecological Significance of Glaciers

- ① source of freshwater and rivers. Ex - Gangotri glacier

- ② huge carbon sinks due to methane clathrates beneath them Ex - Arctic
- ③ Home to unique biodiversity. Ex - Antarctic midge, reindeer moss

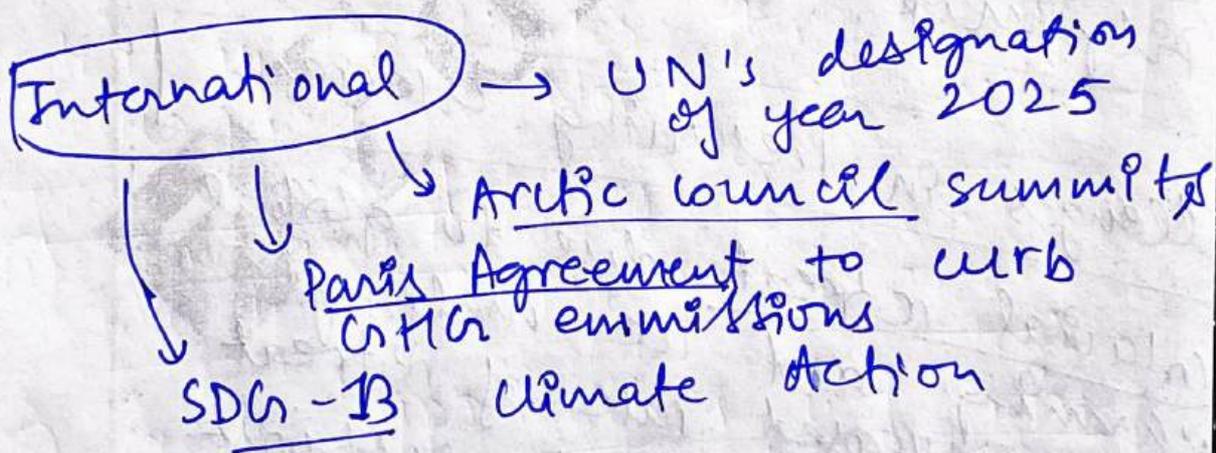
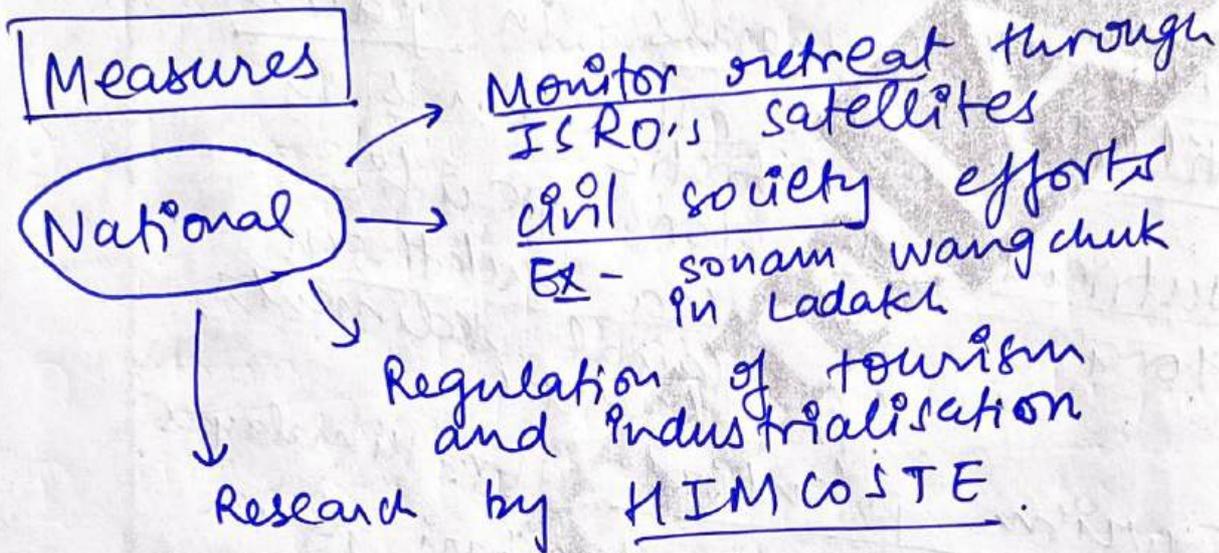
## Socio-economic significance of glaciers

- ① source of minerals in glacial tillite. Ex - oil reserves in Arctic
- ② Nutrient rich flora for specific flora. Ex - sea buckthorn on glacial sediments in Ladakh
- ③ Tourism potential Ex - Himalayas
- ④ Pilgrimage. Ex - Chorabari glacier

## Challenges in Preserving glaciers

- ① glacial retreat due to global warming and ice melting. Ex - increased rate of retreat
- ② Rise in glacial Lake outburst floods (GLOF) events. Ex - southern Lhonak GLOF, Sikkim

- ③ over-urbanisation & industrial in glacial regions Ex - Pharmaceutical Industries in Sikkim
- ④ cross border nature of glaciers reduce the government efforts.  
Ex - Himalayas in several countries.



Glaciers are revered by various indigenous communities and now we understand their importance.

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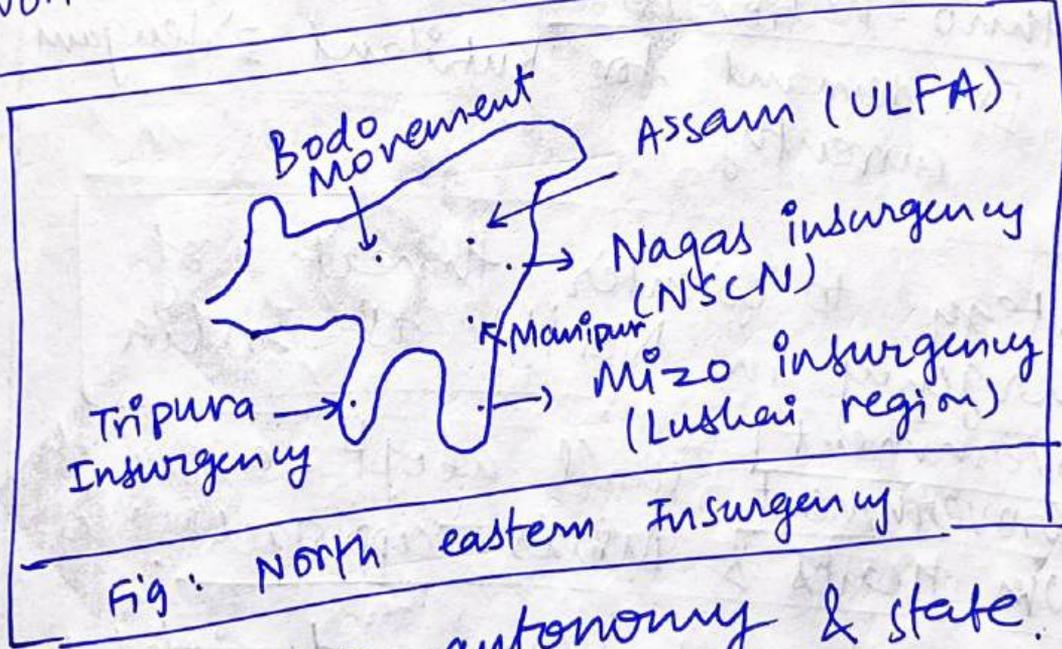
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Q.19) What are the determinants of insurgency in the north-eastern region of India? What strategy should the Government of India, civil administration and security forces adopt to counter the threat in the affected areas? (15 marks, 250 words)

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)

The NORTH Eastern region accounts for 8% land, 4% population but just 2% infrastructure investment, causing development deficit and insurgency as a consequence of it.

## Determinants of Insurgency in North Eastern Region



① Demand for autonomy & state.  
Ex - Manipur insurgency,  
demand of statehood.

- ② Separate homeland demand  
Ex - Nagas - NSCN
- ③ Developmental neglect during time of Mautam famine  
Ex - Mizo National Front
- ④ Migration of non-Indigenous people Ex - Assam AASU movement
- ⑤ Demographic change in state  
Ex - Tripura due to arrival of Bangladeshis
- ⑥ Ethno-nationalism  
Ex - demand for Kukiland Zaiengam currently

Strategy to counter threat of insurgency in North East India

- ① Government shall adopt a win Hearts & Minds approach.
- ② create opportunities and jobs in these regions to fill the development gap. Ex - NERIDS scheme

- ③ special focus to North east  
Ex- 90:10 ratio in centrally sponsored schemes, Article-371
- ④ curb infiltration of migrants  
Ex - Border fencing.

Civil Administration

- ① Respect the traditional tribal customs.
- ② Implement VI schedule properly
- ③ Avoid knee jerk solutions by police.
- ④ Achieve saturation of schemes

Security Forces

- ① Vibrant villages program in Arunachal Pradesh
- ② Project Arunank to build roads and border infrastructure
- ③ ethical use of AFSPA powers
- ④ co-ordinated efforts of army, paramilitary and state forces.

North east India is the gateway to south east Asia and thus curbing insurgency is a national goal.

**Feedback**

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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)

Access of dual use technologies like UAVs by non-state actors is a serious issue in modern day conflicts.

Implications of UAV use on India's security architecture

- ① UAVs used by state actors for cross-border reconnaissance and spying. Ex - Chinese spy balloons
- ② used in organised crimes like drug trafficking. Ex - Punjab border
- ③ used by non-state actors like terror outfits for planning of attacks.

- ④ May be used for swarm attacks  
Ex - suicide drones (kamikaze)
- ⑤ Difficult to track due to small size.

Measures to deal with UAV usage in conflicts

- ① Robust radar technology and tracking equipment.
- ② Anti-missile system to neutralise UAVs Ex - Akash, S-400 for bigger UAVs
- ③ Adding a fleet of UAVs in security forces like Army, Navy, Coast Guard.  
Ex - Nishant UAV

Other Steps to Tackle UAV threats

- ① Regulate the sale of dual use technologies like drones
- ② Collaborate internationally to come up with common solutions

- ③ awareness among citizens about potential threat from UAVs
- ④ Designate critical areas as No drone zones for security purposes
- ⑤ Engage with locals to gather intelligence of any foreign UAVs.   
 Ex - near international border

Dronery has emerged as a new domain of warfare which can change the paradigm of kinetic conflicts.

**Feedback**

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