

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	Ganeau kumar		
Roll No./अनुक्रमांक	Medium/माध्यम	English <input checked="" type="checkbox"/>	Hindi <input type="checkbox"/>
Center Code/परीक्षा केंद्र	online	Date/दिनांक	16/08/2025

\*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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			Start Time/प्रारंभ करने का समय :	End Time/समाप्त करने का समय :	
			10:00 AM	1:20 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 नमूने रूप चित्रों अथवा विषय वस्तु, जो मूल्यांकन कर्ता को आपकी कॉपी में पसंद आती के अलावा पर लिखित इन्हीं तक सीमित नहीं पर दिए गए अंक हैं।			For Office Use Only / केवल कार्यालय प्रयोग हेतु		
			ECN CODE/ ईसीएन कोड :	EG/ईजी :	Evaluation Date/ मूल्यांकन तिथि :
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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)

The debt to GDP ratio is the cumulative addition of deficits through years. It is stock concept while fiscal deficit is flow concept.

Budget outlines shift towards debt-GDP as fiscal anchor. because:

- ① Tough to anchor fiscal deficit? year wise control over deficit is difficult, due to multiple & large expenditures (eg) 9% TD in COVID.
- ② mere 0.5% escape clause in FRM - (Nk Singh Committee) → so tough for govt to balance 'public welfare' & austerity in finance.
- ③ debt to GDP ratio gives time to fiscal maneuver: till 2025 govt is targeting 60% of GDP (Debt/GDP)

4) Control over debt/GDP is easier than fiscal deficit in long run? in short run fiscal deficit target can be breached for countercyclical policies like PM-NISAR MNREGA expenditure during slowdown.

5) To avoid criticisms of fiscal profligacy - difficult to track debt/GDP by public

6) Why not target the 'final fiscal anchor' rather than intermediate fiscal deficit?

7) In the end, stock variable target (debt/GDP 60% Centre, 40% States - 2025) to be achieved.

7) Centre-states fiscal have over fiscal deficit - though states' 0 to 1% within 3%, centre is constantly deviating

9% → 6.8% → 6.7% → 5.6%  
From 2000-2025

Therefore, to escape the tighter grip over fiscal space, to ~~avoid~~ get fiscal freedom the spend govt is going for debt/GDP.

Feedback	
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Please put tick marks in the above table.	
Here G is Good, A is Average and P is 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)

Recently, govt announced 4 more semiconductor plants for fabrication.

This shows govt is moving towards design & development to high value goods instead of assembly of low value goods.

Need to transition from 'build to print' to build to design because:

- ① Industrial Revolution 4.0 - based on IOT, AI, Robotics & machines (Smart devices) hence manufacturing require will be of design.
- ② The 'Build to print' will be by Robotics. Smart devices like kiito robot.
- ③ To get gainfull employment for crores of workforces, need to capture inland manufacturing at cheapest cost.

④ More deeper production in supply chain  
 & vertical & horizontal integration?

here Assembling, producing copy will not add depth to manufacturing (eg) Need to produce mobile phones fully at home

⑤ Backward linkage; till the design, research end is will build competitive advantage in manufacturing

⑥ So govt has taken steps:

① Make in India 1.0, 2.0 - IT sector to research, design, manufacture with the goal of 25% contribution by manufacturing

② PLI scheme in high value chains like semiconductors, solar module

③ National industrial corridor & manufacturing Nodes

④ Employment linked incentive scheme

⑤ New manufacturing policy, 2013.

⑥ SEZ Act for export oriented manufacturing  
Manufacturing is 'backbone' of Viksit Bharat

**Feedback**  
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TOTAL MARKS	
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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)

Nutrition sensitive food system is food full of vitamins, minerals, proteins, fat, & other ingredients, necessary of a balanced diet recommended by ICMR.

Nutrition sensitive food system will be:

- ① Vitamins saturated : vit A-K to avoid scurvy, rickets, etc by mango, fruits.
- ② Iron, magnesium, calcium, potassium rich in vegetables (e.g.) spinach for anemia.
- ③ Protein rich food like milk, meat, egg
- ④ Cereals for necessary starch & sugars carbohydrates (Rice, wheat, maize)
- ⑤ Oil by mustard, soybean etc for necessary saturated fat.

Strategies to achieve them.

- ① Increase the per capita income:

① - Engel Curve says as income increases people diversify their food. (MNC by HSD wet - Increased diversification)

② Government-led diversification - [Postham 20] in Sankham Angamwadi, NFSA, 2013, POSTM4 in (MDM) in schools.

③ Deliberate Imbalancing: Change MSP for agifood system (eg) Jowar in M.P. gaps in manufacture through Maheer-Intervention Scheme.

④ Increase availability through PDS - (eg) Iron fortified rice in PDS outlet

⑤ Increase production of horticultural crops (fisheries, meat) via National Mission on Horticulture

⑥ Regular screening & distribution of supplements? like Iron folic capsule 'Nutrition security' fulfills SDG, target 3.

### Feedback

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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 is Integration & reaping of full potential of digital technology to increase yield of agriculture.

Digital agri mission : an overview.

① It is extension services to farmers like AATMA, KVK & satellite based DP-kisan

② Digitalisation of land records for secure property rights, Geospatial planning, digital crop survey & insurance products

ee to SWAMITVA

③ DBT based payments using JAN Posh to secure PDS, fertilisers, & pesticides HYV seeds & a PM-kisan amount

④ Agriculture stack : to build digital agricultural infrastructure for yield

5) Digital technology based modernisation of agriculture : Drone-as-a-service, precision agriculture, Climate smart-agri.

6) It will help agriculture by:

- 1) Better price discovery of products via e-NAM, GoM, & decentralised procurement.
- 2) Better extension service to informed decision about hyr seeds, crops etc according to soil health.
- 3) Reduces intermediaries & leakage in PM schemes, income support or subsidy disbursement.
- 4) Assist agriculture to modernise & increase productivity (eg) Drones, IoT
- 5) Help agri to diversify - ~~eliminating~~ regional specific crops by financial literacy.

Agriculture modernisation by digitisation  
is one step towards 'Digital India'

Feedback  
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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 तत्त्व (Rare Earths) केवल रासायनिक तत्व नहीं हैं; ये प्रौद्योगिकी के 'बीज-तुल्य' मूलभूत निवेश हैं। सविस्तार वर्णन कीजिए। (10 अंक, 150 शब्द)

Rare Earths are minerals found though in abundance, but require specific magnets to mine. They are emerging oil of this decade due to newer sectors like Renewable energy.

They are elements:

- ① Of the periodic table - special block elements are REE due to their higher weights & density or Refr with respect to other elements
- ② They are like other elements like graphite lithium but are found in polymetallic nodules - difficult to mine, purely.

They are not just elements

- ① foundational inputs: for semiconductors aerospace, space, military, Renewable energy.

- (1) Their increased use in GPUs & NVIDIA share of 41% more - AI based machine learning needs GPU
- (2) Inputs for new high value manufacturing of Electric vehicle, Solar modules Wind turbines, so climate resilience & future inputs are in REE.
- (3) Military equipment like aircraft munition, UAVs, (Camikaze drone) etc. so geostrategic elements.
- (4) future space mission, requires REE for space docking, space station is critical light material.

However they have challenges:

- (1) Monopolised by China - special regimes
- (2) Costly exploration - long gestation lag

They can be equitably distributed through an international treaty for welfare of humanity

### Feedback

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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 डिसल्फ्यूरिजेशन (FGD) प्रणालियाँ लगाने के बजाय विद्युत-अवक्षेपकों (ESPs) का पुनर्संयोजन क्यों अधिक व्यवहार्य और कारगर विकल्प है? (10 अंक, 150 शब्द)

Out of  $\geq 600$  power plants based on coal majority have defied the guidelines of FGD installation. This indicates the controversial nature of this technology.

Retrofitting electrostatic precipitators more viable than FGD?

- ① Cheaper to install as it is readily manufactured & installed from outside of chimney.
- ② FGD is costly & need to be installed in inner core of the plant.
- ③ No significant reduction of sulphur by FGD - research indicates cost of installation outweigh the benefit.
- ④ ESPs are better in removing lead, sulphur,  $PM_{2.5}$ ,  $PM_{10}$  & other pollutants.

(eg) Max, 50x

④ SSP work on precipitation - drizzle out the pollutant as sticky surface then collect & drain out. So water intensive & energy savers.

⑤ FGD work on making sulphur gas in flue gas they need catalyst & special operators so increases upfront cost of procurement.

⑥ TPP are ~~de~~ degradation in other ways so instead of FGD, integrated solution needed.

- water guzzling to boil the boiler
- water pollution / Air pollution,
- Mining & other negative impact like leaching, acidification.

All these needs various measures like Renewable, (Syn gas) led TPP, instead of merely focusing on FGD.

### Feedback

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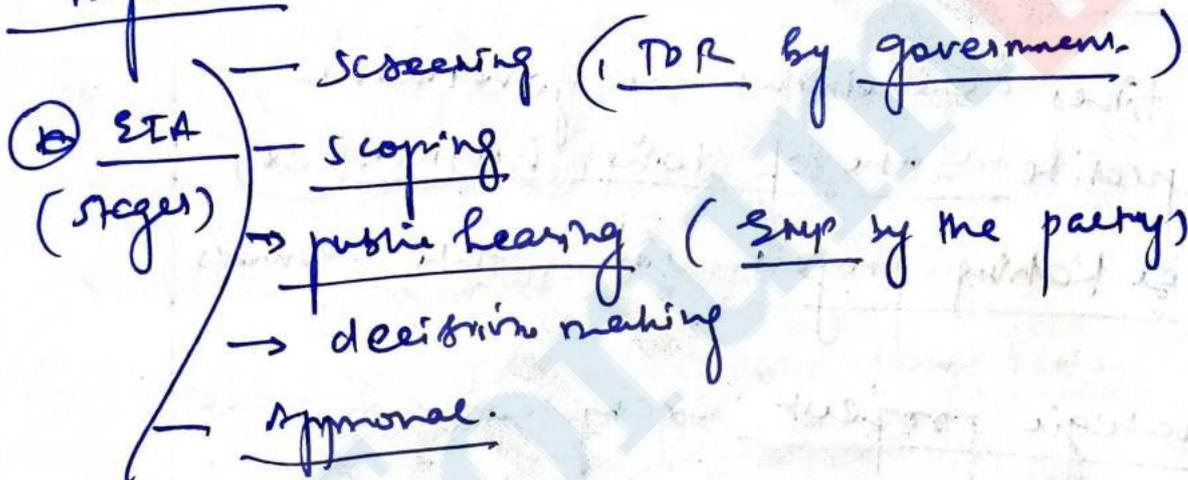
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TOTAL MARKS	
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Q.7) 'The Environmental Impact Assessment (EIA) regime in India remains weak and is often reduced to a procedural formality.' In light of this statement, examine the key challenges in 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 सुधारत्मक उपाय सुझाएँ। (10 अंक, 150 शब्द)

The EIA is an informed cost benefit analysis to be done before beginning a project with respect to environment, socio-economic impact.



However it remains weak due to following:

① Ignorance of 'public hearing stage' : instead of gram sabha as unit, Gram panchayat is made unit, not in vernacular languages (English)

② Ex-post facto approval - post project

Grant by ~~new~~ regulations (2020)

③ Splitting to projects to bypass category 'A' & EIA by central government.

(eg) Chandrapur project

④ poor ~~poor~~ environment-management plan monitoring - moral hazard on project initiators

⑤ 120 times amendment by government to expedite base of doing business (eg) Star Rating project for state agencies

⑥ 'Strategic project' exempted from EIA - vague definition (eg) Nicobar project siang project (poor EIA)

⑦ official skipping public hearing at all

⑧ Unskilled credited agencies & staff.

reforms → objective EIA : strict implementation  
constitutional status  
public hearing as focus in TOR  
 well trained accredited staff

Feedback  
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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)

Currently, India generates 1.5 mn ton/day of plastic waste, creating a toll on ecosystem & the economy.

Plastic pollution as environmental threat:

- ① poor degradation rate : so difficult to remove from environment : chokes the sewers, wetlands etc
- ② Burning causes toxic gases like lead, NOx, VOCS etc so harmful for lungs, plants (shed their leaves)
- ③ leaching of heavy metals from unsanitary landfills - like mercury cadmium damage liver, kidneys
- ④ Harmful for flora & fauna - degrade wetlands (microplastic) & chokes the

Intestine of Cows, pigs etc

- Mitigation measures
- Incrineration & pyrolysis to remove them completely
  - Bio remediation of degradable plastic
  - Refuse derive fuel to use them as fuel. i.e. petrol, electricity
  - Reuse, reduce, recycle (~~Recycle~~)

- Joint steps
- 'Mission Life' - mindful use
  - plastic waste management rules, 2016, 2022
  - Remove microplastic
  - extended producer responsibility (EPR)
  - EPR certificate to be traded
  - formalisation of ragpickers, plastic provision.

International treaty (UNE 502 in Geneva) on plastic by UNEP is urgent to curb this.

Feedback (For OFFICE use only)

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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)

Internal Security is security from organised crime, cyber crime, cross border terrorism, LVE, insurgency, religious indoctrination, money laundering etc. - Private sector here can better Complement government.

Need to blend private sector:

- 1) Better synergy of Ideas, security infrastructure (eg) Companies can provide big data, to process, decrypt the laundered money
- 2) Parallel drive front-over internal security. - (A) Cybercrime - AI based fight (eg) Airtel-AI, spam removal
- (B) provide military infrastructure (eg) Tata, L&T over drones

③ Fund to fight; resources in the form of skilled manpower, expertise in the field of Geospatial, weapons, computers software structure.

How they can contribute:

① Organised crime; trace, track by GPS, satellite internet, 'big data'

② Water - internet - SMS, VPN to track

③ Money laundering & Hawala; they can decrypt without the need of govt request

④ Fund to fight against LWE, insurgency - special fund for CAPE, CRPF funding -> Rehab fund for tribals

⑤ Cross border terrorism - give new IoT, AI, robot based technology

⑥ Dash, Netix

⑦ Research & development - special imp. private players can eliminate internet security threat as another front.

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TOTAL MARKS	
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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. 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)

~~Recent~~, Pulwama attack in 2019 by 'Local freelance' refocused our attention in radicalisation in Jammu & Kashmir.

Drive forces of Radicalisation

- External agent - State & non state actors - Pak based ISI, NGO, Jamaat Ud-dawa
- Socio Economic factors

(1) Poverty - in Kashmir : lower class is agriculture based.

(4) Inequality : elite v/s poor

(iii) Religion fundamentalism = Salafism  
 \* radicalisation by indoctrination

(iv) Historical tendency of separatism & British period & currently 'Hunsiyat'

(v) poor reservation benefits : unequal distribution

(vi) low education in secular subjects like science maths, social science

(vii) Ar 370, Ar 35-A they as tendency of separate socio-economic policy

(viii) Neighbouring Pakistan (Pak) - is poor, & radicalised like mujahideen

Education & youth engagement as reduction factors

(i) educated, skilled to get into mainstream culture of jobs

→ Employment; do not focus on medicalism

→ secular education

→ properly elect this govt based on development rather than Hurriger

youth as adult of future, this next generation become more patriotic

youth as force multiplier if positive change is channelised in IIT AIIMS.

Need to boost vocational education to win Heads

### Feedback

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Please put tick marks in the above 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 is services oriented economy  
i.e. services of caring elderly, children  
PWD & diseased (illiterate, geriatric)

Key characteristics

- Care as a service (Care)  
So charges price
- underpaid, unpaid & unpaid because  
largely informal & family  
gives
- women as majority Caregivers  
(5 hr/day more care gives work  
than men)
- Not accounted for in GDP is not  
in hospital, creche centre or  
kindergarten or

How India can integrate in economic framework

① proper accounting in GDP - as Imputed

Cost of care (eg) C<sub>2</sub> cost, A<sub>2</sub> cost of MSP in Agriculture as imputed value.

② Formalize the care market - 'Insta-maid' Urban class, market-based Hospital care facilities for pill-taking geriatric.

③ Recognition by government as a service & mandatory payment.

④ sensitize the economy & society towards the aged care work.  
 → Boys' attitude towards care  
 → removal of paternal mindsets - (Awareness through seminars, webinars, folk dance theatre).

⑤ MPI parity, Gini index, based N50 surveys of MHCG (Consumption)

expansion) should include 'care economy'

⑥ Special code on 'care workers': regarding security of tenure, social security benefits on the line of code on wages, code on social security. etc

⑦ Care products = Research & development for baby proofness like long lasting Huggies, wheel chair (IoT loaded) etc to ease care burden

⑧ Special budgetary announcement, tax rebate for care givers to incentivise entry of men & formalisation

⑨ Monetise govt services! care to service (if they avail).

Care economy can integrate gig economy, informal unpaid work to women in one formal frame & so can be monetised to reap dividend.

**Feedback**

(For OFFICE use only)

#	G	A	P
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Please put tick marks in the above table.  
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TOTAL MARKS	
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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 तन्वशील श्रम बाजार परिणामों के साथ AI अपनाने को संरक्षित करने की रणनीतियाँ भी सुझाएँ। (15 अंक, 250 शब्द)

AI is machine based simulation of human cognition & decision making, based on machine learning on billions of parameters from big data.

AI

- Machine based LLM
- GPUs as new oil for AI
- Human skills & thinking
- Chatbots, Generative AI, etc

Unprecedented opportunities for labor market

① Skill development & augmentation:  
 learn new skills through Chatbot, Technology spillovers. So better internationisation of new ideas in labor force (eg) AI Engineers.

② Complement them in futuristic : make

decisions, create work schedule to deliver the work by labours

③ Smart devices: AI integrated is Robots, AI, IoT will bring tells of knows them (eg) De Vrai Robot emergency help for doctors

→ Agriculture - drones to help in fertilization, crop sensing & pesticide fumigation

→ Services sector - AI based summaries RPT, excel sheets to help employees to greater execution

④ Reduces load of work so reduce stress anxiety

⑤ Reduces intermediaries in governance: paperless → ease of doing business

⑥ Development of AI industrial complex - require labours to labour intensive jobs

Challenges

- Replace workers (Infosys layoffs)
- Mimic human cognition so unskilled tasks, repetitive tasks by AI
- Can discriminate in hiring due to inherent biases (Google hiring)
- Unskilled labor (50% experience) → Can't absorb AI 5% (15-20 yrs) skilled
- Already capital intensive manufacturing will create more labor surplus, reduces employability (Companies will go for cost cutting)

Strategies to align AI for inclusive & resilient

- AI based conversion in Colleges (UGC) - to AI evaluate interns
- AI based cooling : to laborers (NEP 2020)
- Include AI - marginalised who get benefit so AI based National AI mission - renewables AI model to include laborers.
- New employment in AI industries by govt led hiring.

**Feedback**  
(For OFFICE use only)

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Please put tick marks in the above table.		
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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 सुझाएंगे? (15 अंक, 250 शब्द)

India's agriculture export is bound to various government led control so its performance is policy bound, instead of under WTO free trade regime.

Despite high production, export weak.

① production : 340mT cereals, 25mmT of milk, 350 bales (lakh) of cotton, 35mmT of sugar, 180 lakh tons of fisheries etc.

② Export - share mere - 2.3% of cereals.

### Causes of poor export

① Dom consumption - 140 Bn population so Dom consumption of cereals, pulses, meat eggs (little surplus)

② Govt MFSA Act, 2013, MSF led buffer

Stock of at least 20mmt for food security. — poor offerings in DMSS scheme to export

③ WTO Contravention — India breaches WTO deminimis subsidy ( $> 10\%$  of agri ~~so~~ output), so can't export → trade distortion

④ Agri Export policy : Adhoc & Contrary to export to reduce global stocks spill over

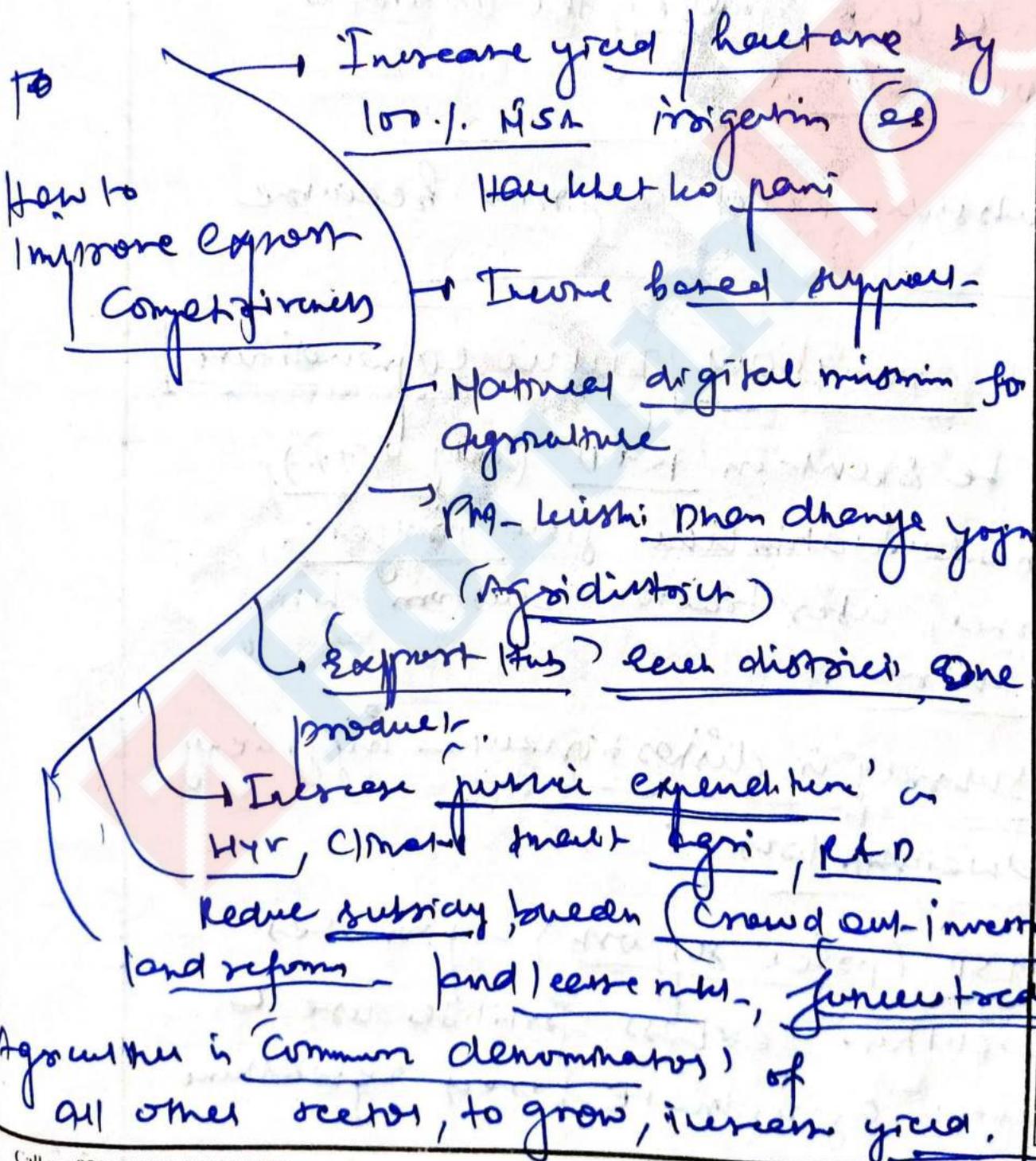
- reduces any export-based deficiency of oil, lentils, pulses
- export-led food insecurity & inflation
- Monsoon vagaries — uniform export policy will hurt the deficient years (lobster phenomenon)

⑤ Main agri trade focus : to get food security & protect livelihood

# of farmers instead of foreign earning

(2/8/4)

6) poor export competitiveness vis-a-vis China, Vietnam (Rice), Ukraine (Wheat) due to poor yield, subsistence agriculture



### Feedback

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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)

The agriculture subsidy constitute 8% of Agricultural GDP while public expenditure in agriculture is only 2%.  
 So one can gauge the serious crowd out.

Agri subsidy need reforms because

① If crowd out public expenditure

is to be spent on R&D (only 0.7%),  
 agri modernisation like field irrigation,  
 drones, laser tractors, custom hiring  
Centre.

② Subsidy is distortionary - inefficiency,  
deadweight loss,

③ MSP (price support) - promotes  
 monoculture, excess fertiliser use &  
 prevent agri climate based agriculture

- ② Credit subsidy - increase NPA of banks  
moral hazard in farmers (consumption)
- ③ Essential services - power subsidy / irrigation  
- ~~also~~ GW development is exceeding 100% → water stress
- ④ Fertiliser subsidy - (₹7000 crore)  
causes fertile use of NPK, soil degradation.
- ⑤ Fiscal burden - govt fiscal space  
overburden → fiscal deficit (52%)
- ⑥ WTO agreement on agriculture - violates  
the deminimis level (Amber box  
subsidy)
- ⑦ Direct support from high value  
horticulture / livestock → no subsidy  
available here (as less as agriculture)

Reforms needed.

- ① Decrease subsidy gradually -

- (A) MBS based subsidy to Urea
- (B) Reduce power subsidy - Smart metering, Commercial Discoums distribution

(C) Influence - PM-Fasal Bonus - RPP based

(D) Reduces MSP: only on anchor crops to promote agri diversification

(2) Increase public expenditure on agriculture influence modernisation  
(more funds - budget)

→ Integrate MGNREGA with public expenditure

(3) Open agriculture : export policy, Contract farming ⇒ private sector entry & inflow funds

(4) DBT based income ~~to~~ grant-like  
PM-kisan

Subsidy hampers agriculture in long run,  
to get 5% growth, public expenditure of 5% GDP need to be replaced

### Feedback

(For OFFICE use only)

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Please put tick marks in the above table.  
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TOTAL MARKS	
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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 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)

Biomanufacturing is use of biotechnology to manufacture the products for consumption. (eg) Bioprocesses for alcohol

It can transform today's consumptive manufacturing to regenerative principles

- ① Remove the need of large amount of inputs — biotechnology, simply tweak the genes of plants & organisms
- ② Input for other high value industries like — ethanol blending, chemical industries (eg) biochemical
- ③ Shift from consumer good to

Capital good industries for regenerative  
purpose like bio foundries, bio enzyme  
to leaves, apparel, pharmaceutical  
industries

④ Environmentally sustainable : as  
manufacturing produce green product  
reduce waste generation, & use  
to promote circular economy by  
reducing the waste generated (eg)  
refuse derive fuel, bioremediation

How Bio E3 fosters Bio manufacturing

① Increase biotechnology based  
manufacturing (eg) BioREFE scheme  
for biocatalysis in pharmaceutical  
(APF)

② Improve Employment scenario -  
more employment in skilled biotechnology

(es) Bio protein

③ Boost the genetic engineering based  
economy - Renewable energy -  
bi manufacturing of ethanol (E20)

→ GMO crops to boost production  
of Bt brinjal, Bt cotton

→ Genetically engineered - rice wheat

→ Generative medicine - Stem cell  
therapy, CAR-T cell therapy

④ Sustainable manufacturing - of  
future as it is based on gene editing  
& precision technique require IoT,  
digital & technology.

Biomanufacturing is manufacturing of  
future, it will help us become  
manufacturing house of world.

**Feedback**

(For OFFICE use only)

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

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 machine based learning of billions of parameters & then doing predictive analysis, mimicking the human brain (eg) gpt-4 AI of chatbot

Future of digital innovation is ~~not~~ depends on domain specific AI

- ① Agriculture = AI based precision agriculture
- ② Health -- data entry of patient, Hospital management system.
- ③ Education = Customized course, IoT / AI based modules courses
- ④ Manufacturing, services: AI based
- ⑤ Governance. Augmented Intelligence  
Sense of doing business.

Consideration is developing intelligent AI

- ① Based on India's data & parameters to understand the Country's economy, society  
(eg) workforce of services
- ② ~~Stimulate~~ India's funds to remove sovereignty constraint on LLM
- ③ Domain compatible - renewable languages interoperable over domains, clouds & services in education, health.
- ④ Ethical AI to remove baises, discrimination

## Measures to build enabling Ecosystem

- ① financing & ensuring regulatory compliance : 10,000 cr for India AI mission
- ② Forum for active participation of all stakeholders - AI hubs to integrate billions of parameters like Adhar, IRAT, passport etc

Govt steps in this regard

- (i) India AI mission to build own AI model, LLM, & Generative AI, 1000 cr for reg developing
- (ii) Regulatory sandbox, challenge fund for startups over chatbots, generative AI (eg) Bhanni.
- (iii) AI Commons as 1 spot GPU as a service to startups - get free parameter
- (iv) Open source AI to develop AI to be accessible, available & affordable

challenge - low supply of GPU from USA unwilling, infra constraint.

So, an inclusive AI is needed for future ready Viksit, Atmanirbhar  Bharat.

**Feedback**  
(For OFFICE use)

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Please put tick marks in the above table.  
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TOTAL MARKS	
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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 pollution is due to spilling from ships or exploration, causes harm to biotic flora, fauna & marine ecosystem. (e.g. Ennore oil spill recently)

Consequence of oil spill → loss of biotic flora - coral, fauna like megapods, fishes, shellfish, invertebrates

→ fish smell - Tourism loss  
 → coastal area beaching  
 → poor to fine, coastal susceptibility  
 → kill fishes → so fishing industry is danger (threat of livelihood)

→ Birds kills, plants get no air, minerals by osmosis, transpiration degrades wetlands, lagoons, to reef.

significant gap in precedences

- (i) poor hazard zonation & mapping of vulnerability assessment of oil spill areas like dense traffic in marine near Kanrayar port
- (ii) poor implementation of Coastal zone regulation guidelines - zone II, III are encroached
- (iii) poor ~~to~~ salvage rule of ~~at~~ destroyed vessels
- (iv) Increased ~~in~~ cleaning cost of ship ~~to~~ firms & insurance as tragedy of commons
- (v) No Natural disaster status to oil spill
- (vi) No statutory recognition to oil spill & pollution
- (vii) No mechanism, comp sop to cost-guards

To mitigate oil spills

- ① Geospatial tagging of incidents.
- ② Non structural measures - like proper SOP, Compendium to Coastal guards, admiralty jurisdiction of High Com.
- ③ proper Salvage rule'
- ④ Investigation, rescue during accident - (Bio-cleaning, ~~low~~ restricted fire, dilution of oil, rescue of big animals & birds)
- ⑤ Funding to cleaning agencies, KLD in vessels of cleaning.

Oil spill can be avoided by following CIRMA, SIA & Normal guidelines

**Feedback**

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Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
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)

Glaciers are ice sheet & ice masses of ice in poles & higher altitude

Significance of glaciers

→ Water tower for rivers like Yangtze, Gange

→ Terrestrial Ecosystem & wildlife habitat like Taiga Tundra Wetland, river

→ Permafrost - Carbon sink

→ Heat sponge - as they melt heat is absorbed

→ Albedo effect: reduces the Sun rays heat

Cooling effect to Oceans - cold ocean current (- Kamohatke)

potential fossil fuel - REE, Petroleum

→ gives boost tourism, economy

Challenges in preserving them

→ melting due to climate changes

→ pollution by countries stations, mining, pollution & sea lanes

→ No replenishment of ice due to disturbance in weather - El Niño, La Niña

→ Breeding of 'polar vortex' & ozone holes do, poor ice formation

→ No specific treaty for 'glaciers' only 'polar code' for navigation

'Antarctic treaty', Swalbard treaty to sustainably use them. turning into expedition

→ global geopolitic (sea) Greenland v/s USA

Antarctic treaty, Svalbard treaty  
code of practices (polar code)  
for navigation

India - Antarctic res. for  
sustainable mission

Operation ~~Mastoi~~ Bheeshi,  
Garjapati etc to research  
over glaciers

National mission for Sustainable  
Himalayas region to protect  
Himalayas glaciers

MoU guidelines over GLOF to  
protect mitigate (eg) check dam  
of moraine

Glaciers are lifeline 'interesting'  
our carbon ~~of~~ future

**Feedback**  
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TOTAL MARKS	
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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)

Recently, MSCM - Im of Nagaland retreated from Medi-Naga peace / showing return of insurgency in North East.

**Determinant of insurgency in NE**

- Historic: British ~~Factor~~, Isolation, Bengal area regulation
- political - small states, proportional representation in LS, rajya saba
- Economic - exploitation of resource, mines, environment, degradation of & no growth
- Employment
- Tribal Nature of insurgency - ULFA, MSCM Khaplang.

- social - Ethnic divide (e.g.) Leukiv/S mehes
- Geographical - poor reach to Assam rifles  
, CARF to curb the insurgency
- Hostile neighbors & porous borders - FR  
, Chinese exultin, activism →
- gun, drugs, smuggling.
- money, laundering, Human -
- safe harbours to insurgents - in  
Myanmar, Bangladesh,

## Strategies to be adopted.

- ① Political will - Strong will of  
winning Hearts, minds of people
  - increase political representation
  - Autonomy - @ 5th, 6th PESA, FRA
  - Agreed position, Peace deals like  
Bodo peace agreement -
- ② Economic - special package

like DMER budget allocation of 1 lakh crore.

③ Military: SAMADHAN of MHA

government - counter insurgency

→ medicine, police force, officers, comp

④ CSO, MGO led work is capex for ethnic reappreciation & rehab.

⑤ Civil Administration - ensure all govt schemes like - PM-Awas, Jandhan digital technology, MANKA reche

⑥ Industrialisation & Skill development

- DAY NREEM, Ishaan vikas, Ukhari

ME is jewel of our country, their integration is mainstream is single for inclusive development.

**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)

UAVs are GPS guided, ~~totally~~ Autonomous maneuvering devices to operate the far as own or guided by human at far off places.

- UAVs
- drone (eg) HALE (MQ9B)
  - loitering munition
  - Satellites in (below LEO)
  - pre loaded GPS in Cruise missiles

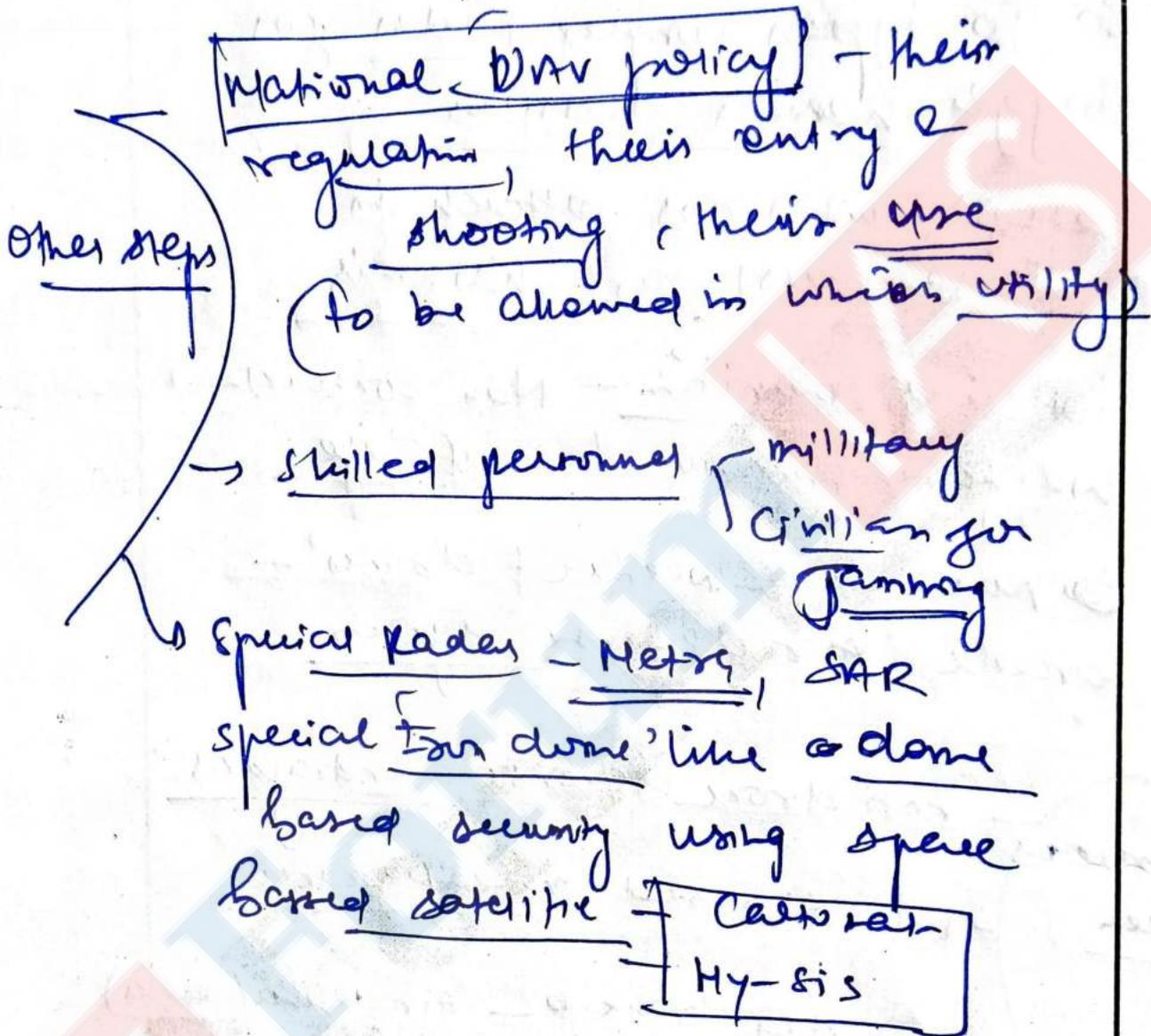
Implication for India's security

- ↳ Itself is a bomb
- ↳ carrier of guns, loggers, drugs, money, chip, phone, sensors
- ↳ surveillance & data processing
- ↳ recognition of military infra

- Help to infiltration logistics
- φ to bypass complex redes for bigger heavies battles
- Better suited for attack in dense forest of Kashmir
- loitering munition - Non contact warfare without loss of life
- Multiple swarms of drones - evade Air defense systems

Measures taken

- Anti drone defense - Indrajit
- laser based interference
- Counter drone to - Air defense (counter)
- GPS spoofing, Jamming by military
- Pre-empt the drone attack by special operation like Op. Sindoor



UAVs are new modern kinetic warfare they can be threat of future of national security. Unmanned are more dangerous than manned aircraft so we must counter through a National security paradigm

Feedback (For OFFICE use only)

#	(C)	(A)	(P)
AWIS			
CD & VA			
S & F			
P & R			
Please put tick marks in the above table. Here G is Good, A is Average and P is Poor.			
TOTAL MARKS			

Mentor Feedback Questions

- 1 ..... *How to reduce my time ?* .....
- 2 .....
- 3 .....
- 4 .....
- 5 .....

Test Goal

- 1 ..... *Do I have content?* .....
- 2 ..... *Am I competent in his subjects* .....
- 3 .....

Outcomes

- .....
- .....
- .....
- .....

Marking Scheme

Mark	Good	Average	Below average
10 Marker	3.75 - 5.0	3.0 - 3.5	< 3.0
15 Marker	5.75 - 7.0	4.0 - 5.5	< 4.0
20 Marker	7.75 - 10	6 - 7.5	< 6
✓✓	Key / Relevant Point		
✗	Vague / Irrelevant		

\* Subject to change without prior notice.