Aman
MGP 2025

TEST CODE	8	1	3	4	2	7

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	Ayush Pathak		
Roll No./अनुक्रमांक	1910091577	Medium/माध्यम	English ☑ हिंदी ☐
Center Code/परीक्षा केंद्र	1901	Date/दिनांक	10/8/25

*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

Q. No. प्र.सं.	Max. Marks अधिकतम अंक	Marks Obtained प्राप्तांक
1		
2		
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20		
Total/कुल अंक	250	

Examiner's Discretion/मूल्यांकन कर्त्ता का विवेक :

Total Marks/कुल अंक :

*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 कर्त्ता का विवेक अंक, आपकी लिखावट, प्रस्तुति, आरेखों के उपयोग, फ्लोचार्ट, तथ्यों और आंकड़ों या समग्र रूप किसी अन्य विषय वस्तु, जो मूल्यांकन कर्त्ता को आपकी कॉपी में पसंद आयी के आधार पर (लेकिन इन्हीं तक सीमित नहीं) पर दिए गए अंक हैं।

INSTRUCTION / अनुदेश

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।

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।

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।

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।

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।

For Student Only / केवल परीक्षार्थी प्रयोग हेतु

Start Time/प्रारंभ करने का समय :	End Time/समाप्त करने का समय :
9:30	12:30

Mode Of Examination/ परीक्षा की विधि :	Online/ऑनलाइन ☐ Offline/ऑफलाइन ☑

For Office Use Only / केवल कार्यालय प्रयोग हेतु

ECN CODE/ ईसीएन कोड :	EG/ईजी : ① ② ③ ④ ⑤	Evaluation Date/ मूल्यांकन तिथि :

Note: Students are expected to incorporate suggestions from the feedback provided in the answers. Discussion classes for the tests are also available online in your portal to aid in your preparation. Further, students are requested to see the good copies of the tests and learn from them. You can also discuss your copy with a Mentor and discover ways and means to improve your answers, or if you have any issues with this test / copy, Ask specific questions, to get specific answers.

EXAMINER'S REMARKS

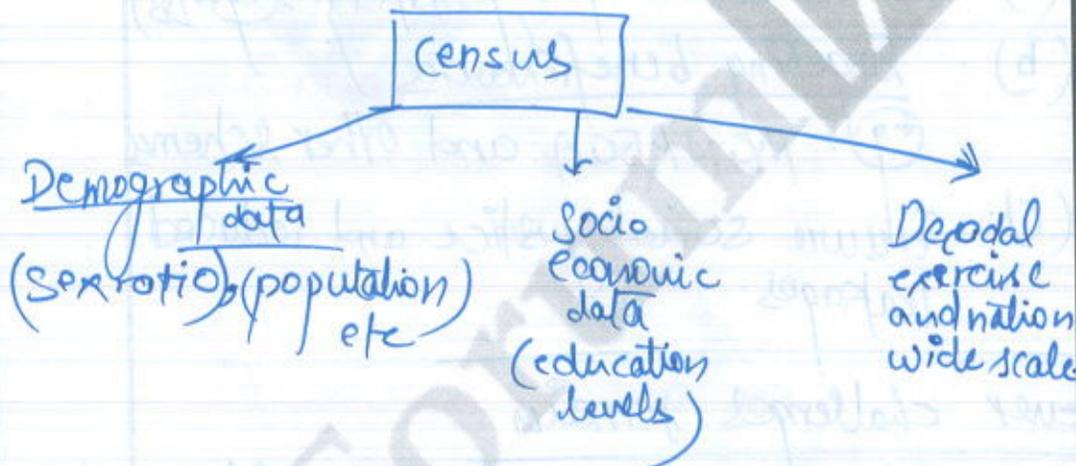## CRITERIA FOR THE FEEDBACK SECTION AT THE END OF EACH QUESTION

1. **AWIS = Answered What is Asked.** This means whether you have addressed the core demand of the question or not. Addressing the core demand of the question gets you an objectively fair score. It is examiner's perception if you have understood the question and if you know the answer in the first place. Creative answer writing, sometimes missing the core demand, may fetch very high or very low scores, and exposes your answer to the subjectivity of the examiner.

2. **CD & VA = Content Density & Value Addition.** Examiner will evaluate the quality and quantity of your content in the answer. In the same word limit and space limit have you (a) written what is asked (b) gone beyond what is asked (c) enriched answers through combination of (but not all!) suggestions, ideas, quotes, flowcharts, diagrams, facts and figures, data etc. This affects objective components of assessment.

3. **S & F = Structure & Flow** = Whether you have structured your answer properly or not. Whether the answer has been broken into parts and sub-parts and each part has been addressed appropriately or not. Whether the flow of the answer is maintained. Affects both subjective and objective components of assessment.

4. **P & R =** How your answer performs on the criteria of **presentation, ease of read, clarity and apparent effort** in writing the answer. This affects the subjective components of assessment.

Q.1) What is a 'Census'? Discuss the importance of Census for the economy and policy making.

(10 marks, 150 words)

'जनगणना' क्या है? अर्थव्यवस्था और नीति निर्माण के लिए जनगणना के महत्व पर चर्चा कीजिए। (10 अंक, 150 शब्द)

Census is a decadal assessment of data collection based on various demographic parameters to assess the state of the population.

Census
- Demographic data (Sex ratio) (population) etc
- Socio economic data (education levels)
- Decadal exercise and nation wide scale

Importance of Census →

① for the Economy

(a) Assessment of prevailing unemployment rates

(b) Assessment of female empowerment and policy deepening.
eg → FLFPR → 41.7% as per Eco survey

(c) Data driven economic services

(eg)→ Adoption of proper targets of fiscal governance.

(d) Education and skill mapping

(eg)→ Employability currently ~51% of graduates.

② For the policy making

(a) Data driven policy making (eg)→ DBT

(b) Targeting beneficiaries
   (eg)→ MGNREGA and other schemes

(c) Ensure social justice and reduced leakages.

However challenges remain

① Decadal census → makes data outdated
   ↳ Need for real time data

② Delayed central exercise → 2020 census delayed due to COVID

③ Training of staff and usability of data
   (eg)→ SECC data was not useable.

— therefore, a robust plan for census survey would led to a data-driven public policy and economic growth

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Q.2) Assess the role of NITI Aayog over the past decade in transforming the country's approach to planning and development.
(10 marks, 150 words)

देश के नियोजन और विकास के दृष्टिकोण को बदलने में पिछले दशक में नीति आयोग की भूमिका का आकलन करें।
(10 अंक, 150 शब्द)

Niti Aayog is the government think tank that replaced the erstwhile planning commission to ensure cooperative federalism and bottom up planning.

Niti Aayog Transforming planning and development

① **Top down to bottom up approach**
  ↳ planning commission had top down model of (five year plans).

② Niti → focus on 'Team India' approach
  eg → through leveraging the state governments.

③ **Consensus driven and consultative mechanism** →
  eg → Co-operative federalism by discussions with states.

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(4) Inclusive development through adoption of best practices

(5) Acting as bridge between central and state governments.

(6) Think tank work → feedbacks for policy.
   (eg)→ Ramesh chand committee on Agricultural productivity.

(7) Focus on data driven policy making
   (eg)→ SDG India Index
   MPI India Index reports by Niti Aayog

However,

Challenges in working
→ lack of statutory status
→ lack of Independence in working
→ Recommendations being non binding in nature
→ consultative role difficult in multiparty political systems.
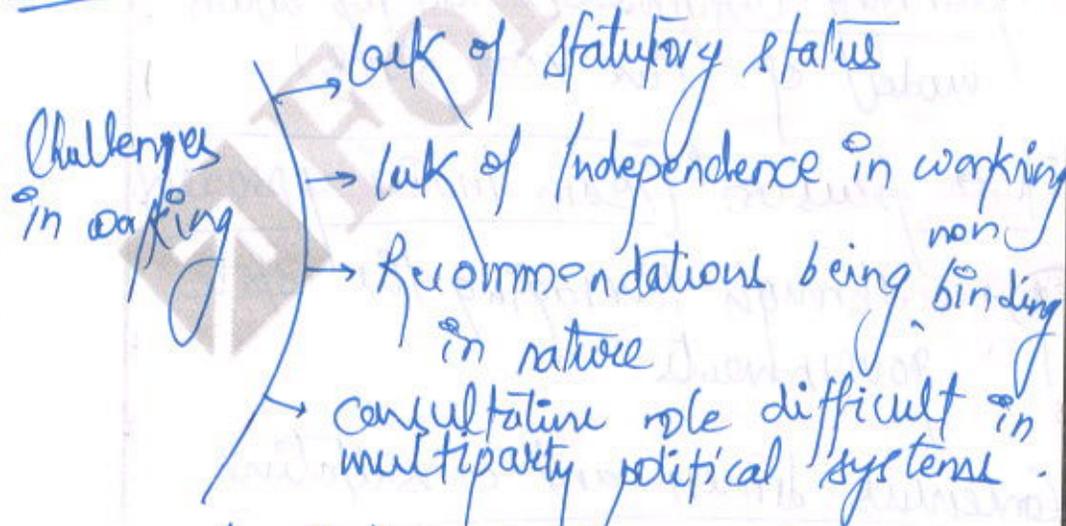
Thus, for better functioning, adequate safeguards must be put in place to ensure smooth path towards Viksit Bharat status.

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Q.3) Discuss various measures taken by the Government to strengthen the Cooperative movement and ensure "Sahakar Se Samriddhi". (10 marks, 150 words)

सहकारी आंदोलन को सशक्त करने और "सहकार से समृद्धि" सुनिश्चित करने के लिए सरकार द्वारा उठाए गए विभिन्न उपायों पर चर्चा करें। (10 अंक, 150 शब्द)

The 97th constitutional amendment act provided for constitutionalisation of cooperative movement, making Art 43(B), Art-19(1)(c) and Art 243 (ZH-ZT) a reality.

<u>Measures taken by the government</u> for Co-operative movement

① <u>Ministry of Co-operatives</u> → to ensure a proper focus toward cooperative ecosystem.

② Primary Agricultural Cooperative Societies PACS → computerisation (~70% complete)

③ Particular sectors selected
→ eg → Dairy Cooperatives → AMUL
Fertilizers Cooperatives → IFFCO.

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④ Banking activities through Rural-Urban Cooperative banks
→ Increased access to lending.

⑤ Agricultural exports and improved productivity
↳ eg → NAFED, Multistate Cooperative Societies.

⑥ National Cooperative policy by ministry to ensure ecosystem of Sahakar se samriddhi.

Challenges → Localised nature of working.
→ Inadequate finances and resources.
→ Technological adoption remains loco.
→ Microfinance has currently high NPA rate eg → ~13% as per PLFS.

Therefore, as a |way forward| proper Interventions on the lines of Operation flood's success can augur well for green Revolution 2.0 and better cooperative sector in future

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Q.4) India remains significantly dependent on imports to meet its pulses demand. Examine the key challenges in achieving self-reliance in pulses. Also, mention the major government initiatives taken in this regard. (10 marks, 150 words)

भारत अपनी दलहन की माँग को पूरा करने के लिए आयात पर काफी हद तक निर्भर है। दलहन में आत्मनिर्भरता प्राप्त करने में आने वाली प्रमुख चुनौतियों का परीक्षण कीजिए। साथ ही, इस संबंध में उठाए गए प्रमुख सरकारी कदमों का भी उल्लेख कीजिए। (10 अंक, 150 शब्द)

India is the largest producer as well as the importer of pulses in the world.

Key challenges in achieving Self reliance in pulses ⟶

① low productivity of agriculture despite fertiliser usage.
    eg⟶ Fertiliser to crop (ratio) output
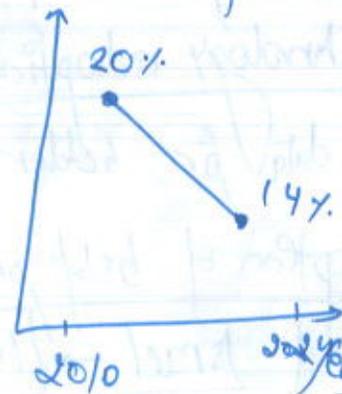
② High heat waves around 20% north India leading to reduced yield

③ Less pesticide response rate
    eg⟶ Eco survey (24-25) highlighted only ~1% goes to hit the actual pest.

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④ High post harvest losses in the case of diseases and rotting.

⑤ Need for consumption demand is increasing with population increase.

The government has taken [Initiatives] to tackle this →

① Improved seeds with high quality and heat tolerance.

② policy support → through increased MSP on tur, dal and other crops.

③ Technology adoption → Remote sensing data for better crop sowing cycles

④ Adoption of best practices (Bangladesh) and Israel → [low input → yield high cases]

As a [way forward], the recommendation of [Arind Subramaniam Committee] to be taken for improving Pulses production and improved nutritional security for [SDG 2.0].

Q.5) What is a 'Black box'? Explain its significance in flight safety and airplane crash investigations.
(10 marks, 150 words)

'ब्लैक बॉक्स' क्या है? उड़ान सुरक्षा और वायुयान दुर्घटना परीक्षण में इसके महत्व का वर्णन कीजिए। (10 अंक, 150 शब्द)

A black box is a component of an aircraft or aviation unit which stores information and helps in addressing the cause of any incident.

<u>Significance in Flight safety and crash Investigation</u>

(1) <u>Orange coloured box</u> → Easily detectable in debris.

(2) <u>Storage of Information</u>
↳ Voice recordings and actions taken by pilots before the crash.

(3) Ensures authentic addressal of the real cause behind any crash

(eg)→ Ahmedabad airplane crash case black box is being investigated.

④ Black box helps in addressing existing loopholes in safety management of the aircraft.

⑤ Will ultimately lead to accountability fixing.

However, [challenges] remain in i/s functioning ⟶

① Incident may destroy it, leading to difficult retrieval of information.

② Technology is required to study the contents with the black box.

③ Lack of adherence to aircraft safety may exacerbate the crash which may not be directly related to a identified by black box investigations.

Thus, black box poses technological challenges that must be addressed for better safety compliance and air safety.

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Q.6) How does NISAR mission exemplify international cooperation in space exploration and scientific research? In what ways will it help in climate change monitoring and natural hazard management?
(10 marks, 150 words)

NISAR मिशन अंतरिक्ष अन्वेषण और वैज्ञानिक अनुसंधान में अंतर्राष्ट्रीय सहयोग का उदाहरण कैसे प्रस्तुत करता है? यह जलवायु परिवर्तन की निगरानी और प्राकृतिक आपदा प्रबंधन में किस तरह से मदद करेगा? (10 अंक, 150 शब्द)

Recently launched NISAR mission is an International collaboration of <u>NASA - ISRO</u> to launch <u>Synthetic Aperture Radar</u> to study <u>Earth Surface</u>.

NISAR exemplifying International Co-operation and scientific research

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① <u>NASA - ISRO</u> collaboration

<u>ISRO</u> provided launch Vehicles eg <u>LVM-3</u>

<u>NASA</u> provided the cameras eg (<u>L band camera</u>)

② <u>Scientific exploration</u>
→ collaborative work by the two to build components and jointly study earth systems.

NISAR helping climate change monitoring and natural hazard management

① Remote Sensing data

    ↳ L/S band images studying existing Carbon content of the forests etc

② Weather pattern monitoring

    (eg) → Cloud thickness, precipitation content etc

③ Study of water levels during floods

    (eg) → Adequate dredging would be facilitated before monsoon.

④ Volcano studies by studying changes in Earth's surface.

    (eg) → Basalt flow extent etc.

⑤ Heat wave management through study on Agricultural yield impact.

    All these will help in furthering [adaptive capacity] and help [risk zonation] of vulnerable regions and communities towards better mitigation and adaptability

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Q.7) While oceans are considered among mankind's best allies in the fight against climate change, they are themselves heavily impacted by the same. Discuss. (10 marks, 150 words)

जबकि महासागरों को जलवायु परिवर्तन के खिलाफ़ लड़ाई में मानव जाति के सबसे अच्छे सहयोगियों में से एक माना जाता है, वे स्वयं भी इससे बहुत प्रभावित हैं। चर्चा करें। (10 अंक, 150 शब्द)

Oceans are a great source of Carbon sink absorbing CO_2 in various forms. However in recent years the absorption has led to ocean acidification (IPCC report)

Oceans - allies in fight again climate change

① Carbon Sinks → 2x absorption than forest ecosystems over longer period of time.

② Heat balance → through Atlantic meridional circulation overturning

②⑨ Ocean currents lead hot water (AMOC) of Equator towards poles.

③ Promotion of livelihood to help people fight climate change.

eg → Upwelling leading to high fisheries.

④ Oceans help in promoting wind system to distribute heat generated due to climate change.

eg → Atmospheric meridional circulations.

However, Oceans themselves have been affected

① Marine heat waves → Indian Ocean region.

② ENSO cycles → El Nino leading to Ocean heating.

③ Ocean acidification → High CO_2 absorption leading to H_2CO_3 (acid) formation.

④ Coral bleaching incidents.

eg → UNEP 1.5°C rise → 33% global corals will be bleached.

⑤ Extreme weather Events
   ↳ Heated oceans → Intense cyclones → more destruction

Way forward → IPCC targets (INDCs adherence)
              → COP-26 goals
              Global collaborations (UNEP)

Therefore SDG 14.0 and 13.0 require collaborative efforts across the countries to save the oceans.

Q.8) "Disasters cannot be managed by a single agency, department, or ministry on its own. It requires a whole-of-government and whole-of-society approach." Elucidate. (10 marks, 150 words)

"आपदाओं का प्रबंधन किसी एक एजेंसी, विभाग या मंत्रालय द्वारा अकेले नहीं किया जा सकता। इसके लिए संपूर्ण सरकार और संपूर्ण समाज के दृष्टिकोण की आवश्यकता होती है।" स्पष्ट करें। (10 अंक, 150 शब्द)

Disasters are a natural or man induced phenomena causing large scale disruction which is beyond the <u>coping capacity of the communities.</u> ← DM Act 2005

<u>Need for whole of government and whole of society approach</u>

① Siloed to collaborative work

(ey) → Centre - State collaboration to work together (Odisha model)

② Effective communication

↳ early Warning dissemination through IMD and MHA

(ey) → Waynad landslide incident.

③ Effective regulations of activities

eq → CRZ notification about construction

④ Effective tourism and sustainable development.

eq → SEZ notification → Sustainable Ecotourism

| whole of Society |

⑤ Leverage Private Sector/NGOs

eq → Red Cross, Robinhood army in rescue work.

⑥ People as stakeholders in the work.

eq → Information dissemination

⑦ Media for advisory role

eq → During covid-19.

Thus, a collaborative, Community based disaster risk reduction augurs well for a sustainable regime to address disasters in future Japan Model

Q.9) The convergence of organized crime and terrorism presents a formidable challenge to the country's internal security. Analyse. (10 marks, 150 words)

संगठित अपराध और आतंकवाद का संमिलन देश की आंतरिक सुरक्षा के लिए एक विकट चुनौती प्रस्तुत करता है। विश्लेषण कीजिए। (10 अंक, 150 शब्द)

Organised crime and terrorism are a continued malice hampering the country leading to 2 and half front war.
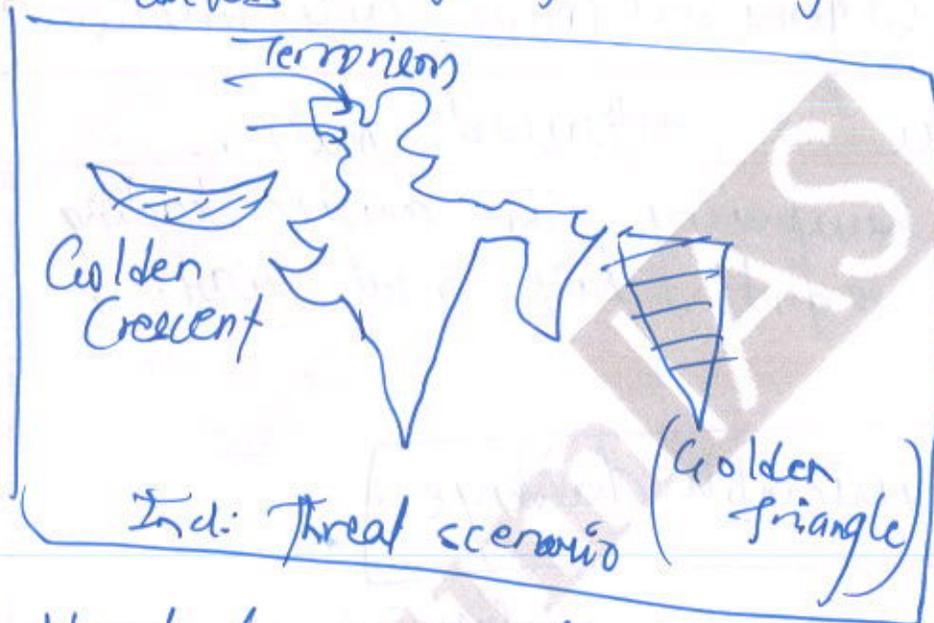
A formidable challenge

organised crime (money) → Terrorism (musle) ←
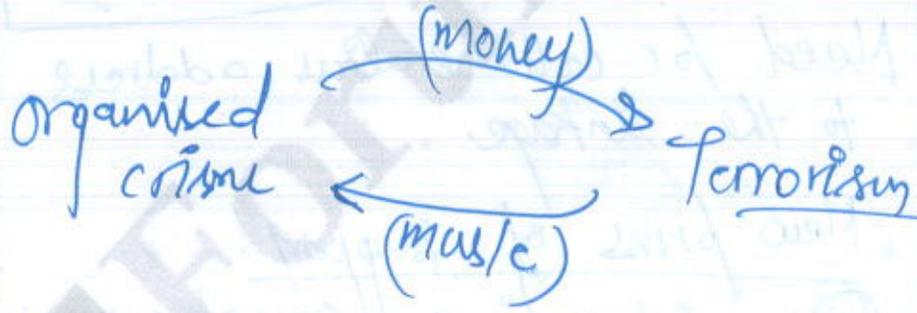
① Syndicated working

Eg → Haqqani Trade of drugs support Taliban terror activities.

② Collaborative work of the two

ⓔⓨ→ FATF highlighted drug cartels.

Terrorism

Golden Crescent

Ind: Threat scenario

(Golden Triangle)

③ Need for collaboration address to the linkage

④ New forms of support-

ⓔⓨ→ Cyber crimes. Cryptocurrencies to fund wars.

⑤ 4th/5th generation warfare

ⓔⓨ→ Usage of Cyber/ Informational warfare

⑥ Proxy of States

ⓔⓨ→ Strts sponsored terrorism by Pakistan.

— Thus comprehensive solution is needed.

Q.10) In an era of complex security challenges, examine the ways in which the private sector can contribute to strengthening India's internal security. (10 Marks, 150 Words)

जटिल सुरक्षा चुनौतियों के इस युग में, उन तरीकों का परीक्षण कीजिए जिनसे निजी क्षेत्र भारत की आंतरिक सुरक्षा को सुदृढ़ बनाने में योगदान दे सकता है। (10 अंक, 150 शब्द)

Private sectors can very significant address the internal security challenges of India.

Security challenge	Private sector
① Drug Trafficking	use of capabilities to monitor and surveillance.
② Cyber threats	Investment in cyber security @ -s log4 shell vulnerabilities
③ Naxal Insurgencies	Use of UAVs to supply materials and surveillance

ForumIAS

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

(eg) → Garuda UAVs
for defence purposes.

(5) Money
laundering

Collaboration with FATF
for better surveillance

Issues → defence FDI norms

→ Threat of monopsony
single buyer
Evolving threats

Way
forward → Higher R&D

→ Higher innovation
and better collaborations

→ Dedicated policy for
collaborations

This will create a robust framework
of security in the country.

Q.11) Recently, the Reserve Bank of India (RBI) announced a transfer of surplus to the Union Government for the financial year 2024–25. What does 'surplus' mean in this context? How does the RBI generate it, and what is its significance for the country's fiscal policy? (15 marks, 250 words)

हाल ही में, भारतीय रिज़र्व बैंक (RBI) ने वित्तीय वर्ष 2024-25 के लिए केंद्र सरकार को अधिशेष राशि हस्तांतरित करने की घोषणा की है। इस संदर्भ में 'अधिशेष' का क्या अर्थ है? RBI किस तरह इसका सृजन करता है, और देश की राजकोषीय नीति के लिए इसका क्या महत्व है? (15 अंक, 250 शब्द)
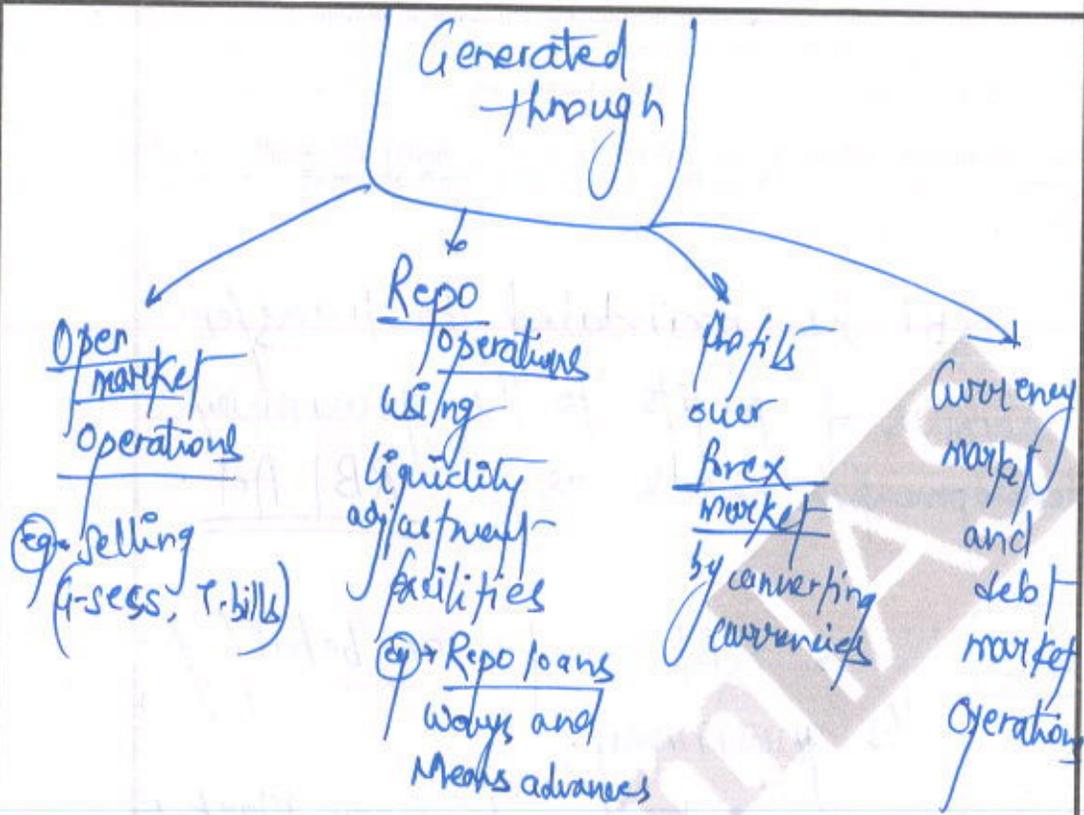
RBI is mandated to transfer the surplus of profits to the government for developmental needs as per RBI Act.

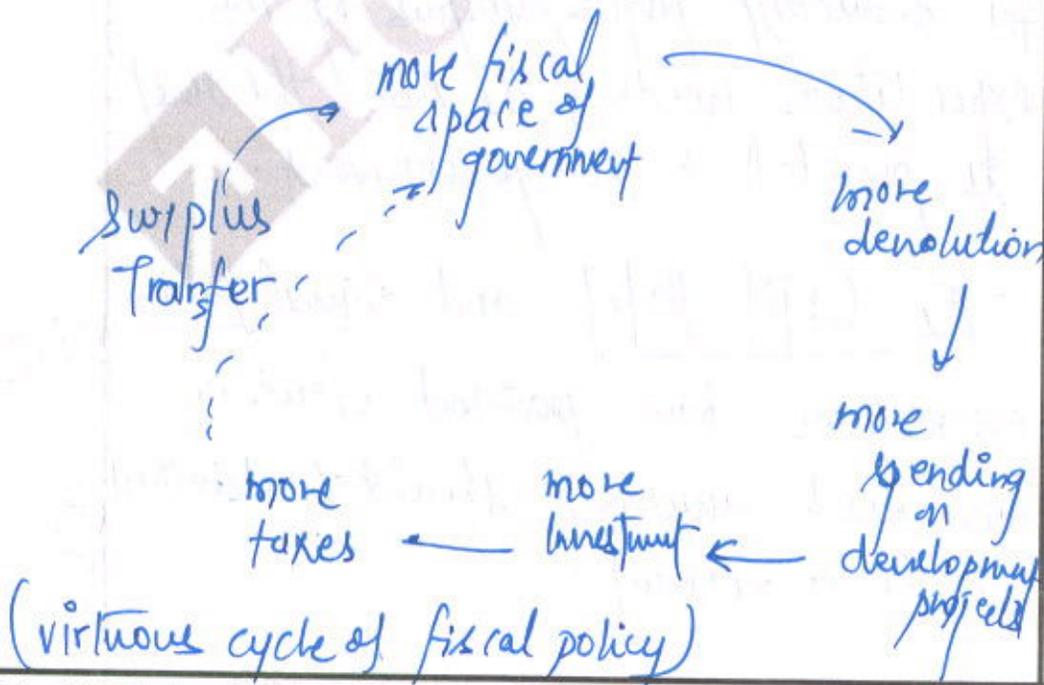Surplus → RBI works on behalf of the government.

→ Profits generated through Open Market Operations and other financial activities

After deducting profits/surplus by the expenditure needs of the RBI, the rest is provided to the government.

→ The Urjit Patel and Bimal Jalan committees have provided views on how much amount should be delivered to the government.

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Generated through

Open market Operations
Eg- Selling (G-secs, T-bills)

Repo Operations using liquidity adjustment facilities
→ Repo loans
Ways and Means advances

Profits over forex market by converting currencies

Currency market and debt market operations

Significance for fiscal policy →

Surplus Transfer

more fiscal space of government

more devolution

↓

more spending on development projects

more taxes ← more Investment ←

(virtuous cycle of fiscal policy)

(1) More <u>fiscal space</u> of the government
    ↳ More spending on development projects.

(2) More <u>economic development</u>
    ↳ Crowd-in private sector investing
  (eg)→ Capital <u>expenditure</u> → Crowd-in private expenditure.

(3) High <u>socio-economic</u> improvement
    ↳ better targeted policies.

(4) Reduced <u>fiscal deficit</u> → As the surplus is not part of borrowing.

(5) Improved <u>logistics</u> and <u>Infrastructure</u> development.
  (eg)→ Current logistic cost ~ 13-14% GDP
        target is ~8% GDP.

However | challenges | → Usage of money for freebies
remain in this transfer → Increased Revenue expenditure (unproductive)
         Rate at which it is to be given.

Thus, a careful assessment is needed about the devolution and usage of funds.

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Q.12) Examine the role of Public-Private Partnership (PPP) model in the development of ports in India.
(15 Marks, 250 words)

भारत में बंदरगाहों के विकास में सार्वजनिक-निजी भागीदारी (PPP) मॉडल की भूमिका का परीक्षण करें।
(15 अंक, 250 शब्द)

Public private Partnership involves resources, , expertise. and capacities of both public and private sector for asset creations.

Role of PPP in port development

① Creation of ports
↳ through capital infusion by the private sector.

② Landlord model of port development
eg → Adani port — Gujrat.

③ PPP model for bringing expertise. professionalism
eg → [EPC model], [HAM models] for improved working.

④ Reduction of turn around time

is from 2.1 days to ~1.4 days in India. as per Eco Survey 24

⑤ Sustainable port development with compliance of Marpol convention and UNCLOS

(eg)→ Vizhijam Port modelled on sustainable lines.

⑥ Increased connectedness with global supply chains

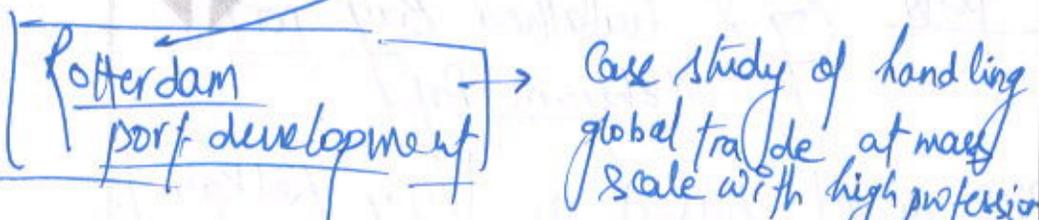(eg)→ currently goods exports ~1.8% Ching 2b% exports global. globally

⑦ Development of transshipment container ports (eg) Galathea Bay port. → Vizhijam Port

⑧ PPP model based on Vijay kelkar committee recommendations → for comprehensive development of trade.

However, challenges exist in PPP model

① Issue with adoption of models and Infusion of finances by private companies.

② Reluctance in taking up projects due to non competitiveness.

③ No incentive to own the asset in later run.

④ Threat of misuse or Improper practice usage by private entity.

⑤ Government interventions hampering the working of the projects.

Way Forward → Vijay Kelkar committee Recommendations
⟶ Best Practices

Rotterdam port development → Case study of handling global trade at mass scale with high professionalism

Thus, adequate regulations with autonomy is a best way ahead for port development works in India.

Q.13) "Legalizing the Minimum Support Price (MSP) would create more challenges than it resolves." Comment.
(15 marks, 250 words)

'न्यूनतम समर्थन मूल्य (MSP) को वैध बनाने से समाधान की अपेक्षा अधिक चुनौतियाँ उत्पन्न होंगी।" टिप्पणी कीजिए।
(15 अंक, 250 शब्द)

Minimum Support Prices are the lower benchmarking of Price support below which prices will not go to ensure remunerative prices for farmers.

(eg)→ 23 crops have MSP support in India

Legalizing MSP creating challenges

① [Ashok Gulati] highlighted the problem of Inadequate crop diversification.

(eg)→ Wheat - Paddy MSP like led to highscale production.

② Issue of soil health degradation

(eg)→ N:P:K ratio at place
Ideal → 4:2:1
Real → 9:3:1

(ICRIER)

③ Increased similar demands by Other sections of farmers

(eg)→ Farm protests done by rich farmers promooting own profit — Interests

④ [High scale groundwater Issue]

(eg)→ Punjab, West UP → Groundwater ~90% for Agriculture usage led to table going down.

⑤ Right based remunerations
↳ leading to higher revenue expenditure and reduced focus from Capital expenditure on modernization
(eg)→ only 45% Agriculture is mechanised

⑥ MSP not reach the Small and Marginal farmers
(eg)→ ~90% are Small and Marginal farmers in India who sell in local markets.

⑦ Low Stacking capacity of FCI
(eg)→ ~(30-40%) low storage capacities — FAO.

However, there are a few positives as well →

① Increased assured income support for farmers.

② Incentives for improved productivity.

③ Adopt technology and modernization to increase yield.

④ Rural population development through better incomes.

Way forward → Diversification to high value crops

(q) → Horticulture ~30%. Agriculture GVA

Increased market prices through better support regime.

Adoption of technology and increased capacities of existing APMCs.

The projects like Digital Agriculture Mission through usage of Agristack act well instead towards Increased productivity and doubling income

Q.14) 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)

Agriculture exports have increased ~ 1.5% during (2005-2027) while average Agriculture (GVA) increased ~ 4% CAGR. highlighting low exports despite high productivity.

Reasons for low exports ⟶

① Reduced consumption demand abroad

eg → Geopolitical poly crisis, Supply chain disruptions.

② Increased local demand

eg → Consignment of paddy exports stopped due to price hike at home.

③ Tariff and Non Tariff barriers

eg → Tariff → on Agri exports of India at US

Non Tariff → Sanitary and phyto sanitary measures.

④ Issue of low productivity of Indian agriculture.

(eg) → Wheat → productivity ½ of and Paddy china, ⅓rd of vietnam (FAO)

⑤ Low diversification of markets

(eg) → African countries

⑥ High competitiveness from Bangladesh and vietnam in Agri exports.

⑦ WTO compliance Issues

⤷ Agreement on Agriculture, De minimis level subsidies.

⑧ Policy support - has been inadequate

(eg) → low value addition of food processing sector

⤷ lack of access to finance for farmers etc

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Measures Needed →

① Surjit Bhalla committee recommendation
for Increasing export competitiveness and
market diversification.

② Focus on food processing sector to Increase
value addition.

③ Crop diversification towards horticulture,
fisheries etc. to improve value of exports.

④ Strengthen capacity of APEDA to
Increase exports.

⑤ WTO measures for better trade
negotiations along with FTAs.
supportive of Indian agriculture.

All these would help in
Increasing Agri exports towards doubling
farmers Income as the path of Viksit
Bharat goes through the farms of Annadata.
~ PM.

Q.15) How the application of Artificial Intelligence (AI) can help India in its socio-economic development? Identify the hurdles in its large-scale adoption and suggest corrective measures.

(15 marks, 250 words)

कृत्रिम बुद्धिमत्ता (AI) का अनुप्रयोग भारत के सामाजिक-आर्थिक विकास में किस प्रकार सहायक हो सकता है? इसके व्यापक पैमाने पर अपनाने में आने वाली बाधाओं की पहचान कीजिए और सुधारात्मक उपाय सुझाइए। (15 अंक, 250 शब्द)

Artificial Intelligence involves objects, processes that mimick human like intelligence to make decisions and take actions.

eg→ Drones, deep tech, chat GPT etc.

AI applications toward socio-economic development

| Social development |

① Improved social transformation and empowerment of manual scavengers

eg→ NAMASTE scheme - use Bandikoot Robot driven by AI to clean sewers.

② Improved Educational outcomes

eg→ NEP'20 adoption of coding from 6th standards.

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③ Identification of beneficiaries through AI for policy purposes.

(eg) → Direct benefit transfers during PM KISAN.

④ Monitoring of social development policy work through <u>drones</u>, etc.

⑤ AI for women empowerment

(eg) → SHGs using AI models to improve productivity → Kudumbashree

⑥ | Economic development |

Supply chain management → through AI models
(eg) → Transport using GPS.

⑦ Identification of consumer base ↔ Tailored products
(eg) → Big data analytics.

⑧ Reduced logistics costs → due to most efficient work route.

⑨ Better work allocation based on skill mapping of employees.

Hurdles in adoption

① High digital divide and low digital literacy ⊕ only 58% rural population with Internet (TRAI)

② AI models not in vernacular language.

③ Costly adoption for small firms and poor individuals

④ Threats of privacy and cyber security ⊕ v1.3 lakh cases of cybercrime (2023)

Corrective measures →

① National AI mission → India based models.

② BHASHINI for local vernacular models

③ Reduced cyber crimes through Cert IN.

④ Quantum AI → for faster working

⑤ Meena Hemachandra committee recommendations.

AI is the fuel for Industrial Revolution 4.0, therefore adequate steps need to be taken to leverage it.

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पर कुछ न लिखें)

Q.16) What is a Geographical Indication (GI)? What are the legal frameworks governing it? How does it differ from a trademark? How can GI infringement be tackled? (15 marks, 250 words)

भौगोलिक संकेतक (GI) से क्या अभिप्राय है? इसे नियंत्रित करने वाले विधिक ढाँचे को स्पष्ट करें? यह ट्रेडमार्क से कैसे भिन्न है? GI उल्लंघन से कैसे निपटा जा सकता है? (15 अंक, 250 शब्द)

Geographical Indication as a Intellectual property specific to its location as a parameter.

eg → Kanchipuram silk, Patan Patola (Gujarat) etc.

┌─────────────────┐
│ legal frameworks │ →
└─────────────────┘

① Geographical Indication (Identification rules)

② National Intellectual Property Policy.

③ Trade Related Intellectual property system (TRIPS)

④ Other WTO regimes regarding GI Tags.

⑤ In India, It is valid for 10 years

Difference from Trademark

① GI focuses on Geographical localition as a specific feature for uniqueness.

② Trademark is necessarily towards utility in trade related matters.

③ GI Tag is used to promote the product, the location and also the culture.

④ Trademark is linked with the manufacturing company.

⑤ The mechanism of production is inherent in the Trademark as a symbol of uniqueness for the company. GI Tag highlights the uniquness due to a geographic entity.

<u>Tracking GI Infringement</u> ⟶

① Copying at different place
   ↳ other than the place where it is actually produced.

② <u>Infringement of the uniqueness of the product</u>
   ↳ through copying the mechanism.

③ <u>Counterfeit products</u> ⟶ similar looking as the GI product.

④ Corporate Law of IP regime protect the GI tagged products being infringed by other entities

— Thus, despite ⟦challenges⟧ of Infringement and 10 year embargo for renewal, the GI tag products have been promoted through ⟦One district One product⟧ to show the rich cultural depth of the country.

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Q.17) "Mangroves contribute significantly to the coastal economy and ecology, but they are threatened by numerous factors". Elaborate. Also, state the measures taken by the government for mangrove conservation and restoration. (15 Marks, 250 Words)

"मैंग्रोव तटीय अर्थव्यवस्था और पारिस्थितिकी में महत्वपूर्ण योगदान देते हैं, लेकिन वे कई कारकों से खतरे में हैं"। सविस्तार वर्णन कीजिए। साथ ही, मैंग्रोव संरक्षण और बहाली के लिए सरकार द्वारा उठाए गए उपायों के बारे में भी बताएँ।

(15 अंक, 250 शब्द)

Mangroves act as 4x more efficient carbon sink than forests alone.

— IPCC

Contribution of Mangroues

① Coastal Economy

(a) Providing livelihoods through better products.

(b) Improved coastal protection thereby improving coastal economy

(c) Mangroves acting as buffer against cyclones
↳ reduce the impact of disasters on the coastal economy

eg → Odisha port — cyclone protection through Mangrove plantation

fig: Mangroue profile of India

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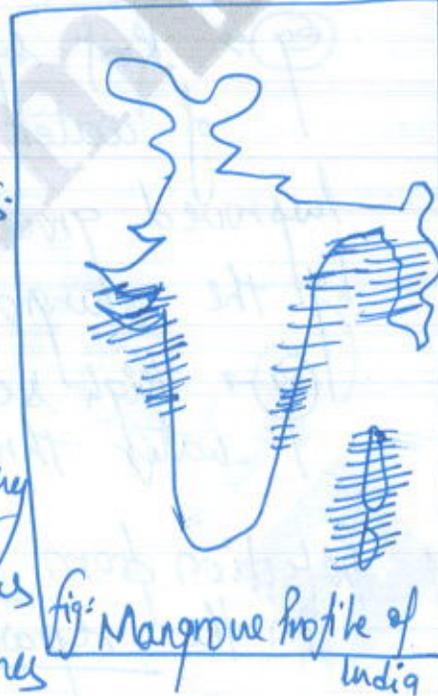
② | Coastal ecology |

(a) · Acting <u>as the Carbon Sink</u>
   ↳ 4x more than forests.

(b) · Protection of biodiversity
   ↳ buffer against cyclones.

(c) · filtration and <u>sedimentation</u>
   <u>of toxics</u> .
   (eg)→ Root system helps in filtration
          of water .

(d) · Improved groundwater recharge
        by the mangroves .
   (eg)→ High scale absorption of
          water through back water
                                channels

(e) · Protection from <u>Coastal erosion</u>
        in the <u>riparian zone</u> .

   (eg)→ Godavari - Mahanadi
          System .

Threats to Mangroves

↳ ① Coastal deforestation and Clearing
② Sea stormes affecting the Mangrove
③ Alien Invasive species threat.
④ Coastal expansion and clearing of land etc.

Measures taken ⟶

↳ MISHTI scheme → Mangrove plantation

↳ Compensaory Afforestation fund (CAMPA) used in Mangrove plantation.

Thus, the Importance of Mangroves make them the buffer against the Unintended consequence of Climate change disasters and help in sustainable living.
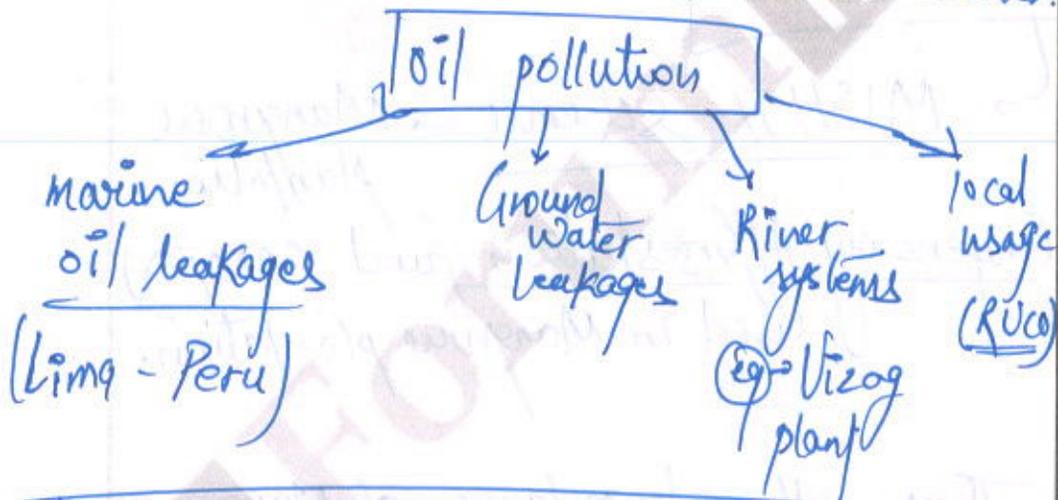
Q.18) What is oil pollution? What are its impacts on the marine ecosystem? In what way is oil pollution particularly harmful for a country like India? (15 marks, 250 words)

तेल प्रदूषण (ऑयल पोल्यूशन) क्या है? समुद्री पारिस्थितिकी तंत्र पर इसके क्या प्रभाव हैं? भारत जैसे देश के लिए तेल प्रदूषण किस प्रकार विशेष रूप से हानिकारक है? (15 अंक, 250 शब्द)

Recently. Oil pollution at the Kochi coast and earlier at Peru border due to Tonga earthquake-volcano highlighted the menace of oil pollution a disaster.

| Oil pollution |

marine oil leakages (Lima - Peru)

Ground water leakages

River systems (eg. Vizag plant)

local usage (RUCO)

| Impacts on marine ecosystem |

① Reduced availability of Oxygen

(eg)→ Increased Biological oxygen demands

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② Mass fish kill Incidents
- eg → Australia Incidence -
    Sydney oil pollution leakage.

③ Coral bleaching Incidents.
- eg → Great Barrier reef bleaching caused due to marine pollution

④ Hampered marine biodiversity
- eg → Pacific garbage patch - leaching oil / pollutants.

⑤ Maritime shipping Issues
- eg → IMD highlighted Instances of oil leakages and Impact on whales.

[Particular harmfulness for India]

① India situationed near sea lines of communication.
↳ oil pollution may come of shores.
- eg → Kochi Incident

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② Informal sector fisheries ecosystem

ↄ → Would affect lives and livelihood

③ Reduced export competitiveness of
Indian fisheries

ↄ → Marine products highest
export items.

④ Tropical country status highlight
enhanced climate change impacts.

ↄ → Marine heat waves in Indian
Ocean highlighting the case.

⑤ Green shipping requirements of India
is high due to ~11005 km of coastal
region.

Way forward → Adoption of Marpol
convention for reduced
marine pollution.

→ Green Shipping lanes (IMO efforts)
→ Global collaboration (Public + Private)

for SDG 14: life below water.
the menace of oil pollution is to be
addressed

Q.19) 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 Sindoor saw usage of Unmanned aerial Vehicles (UAVs) both by the state actors, while usage of UAVs in Hamas's war highlighted its usage by non state actors as well

Implication of usage of UAVs for Indian security architecture →

① Need for defense Indigenisation
   ㉠→ UAV manufacturing in the country - DRDO, Defense PSUs.

② Need for joint ventures
   ㉠→ Israel- India - Hermes drones

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③ Focus on $4^{th}/5^{th}$ generation warfare along with Drones.

(eg) → Using GPS, NaVIC satellite for precision attacks.

④ Leverage Private sector and defence startups. (eg) → Garuda Aerospace

⑤ Building capabilities in Anti-drone systems.

(eg) → Akash systems , S-400 of Russia.

⑥ Drone theatre and force ⤷ through civil-military fusion.

(eg) → Cert IN working with local graduates and experts for bringing innovation.

There have been various measures been taken for UAV adoption by the country →

M
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→ Joint Ventures (Israel Hermes drones)

→ Defense PSU restructuring

→ DRDO → UAV Innovation lab

→ Akash System → Antidrone system of India

→ Defense Indigenization → Positive procurement list.

However, more measures are needed →

① Higher spending on defence R&D

② Improved private sector performance to bring innovation.

③ High International collaborations
  ○→ B₂ bombers of USA kamikaze drone capabilities.

④ Built own capabilities
  → Anti drone systems, sensors, AI adoption etc.

A secure India is a sine qua non for becoming a Viksit India by 2047.

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Q.20) Maritime security challenges are complex, driven by both conventional and non-conventional threats. In this context, discuss the key maritime security challenges in India. Also, highlight the measures taken by the government in this regard. (15 marks, 250 words)

समुद्री सुरक्षा चुनौतियाँ जटिल हैं, जो पारंपरिक और गैर-पारंपरिक दोनों तरह के खतरों से प्रेरित हैं। इस संदर्भ में, भारत में प्रमुख समुद्री सुरक्षा चुनौतियों पर चर्चा करें। साथ ही, इस संबंध में सरकार द्वारा उठाए गए उपायों पर प्रकाश डालें।

(15 अंक, 250 शब्द)

"India is a permanently stationed ship in the Indian Ocean". Highlighting i/s vulnerabilities Towards maritime security threats.

Conventional threats

Non conventional threats

① State actors
(a) Pakistan - Sir Creek Issue
(b) China → string of pearls doctrine

① Piracy → Houthis in the Red sea area
(Eg) → During Israel - Hamas war.
MV chem pluto piracy case.

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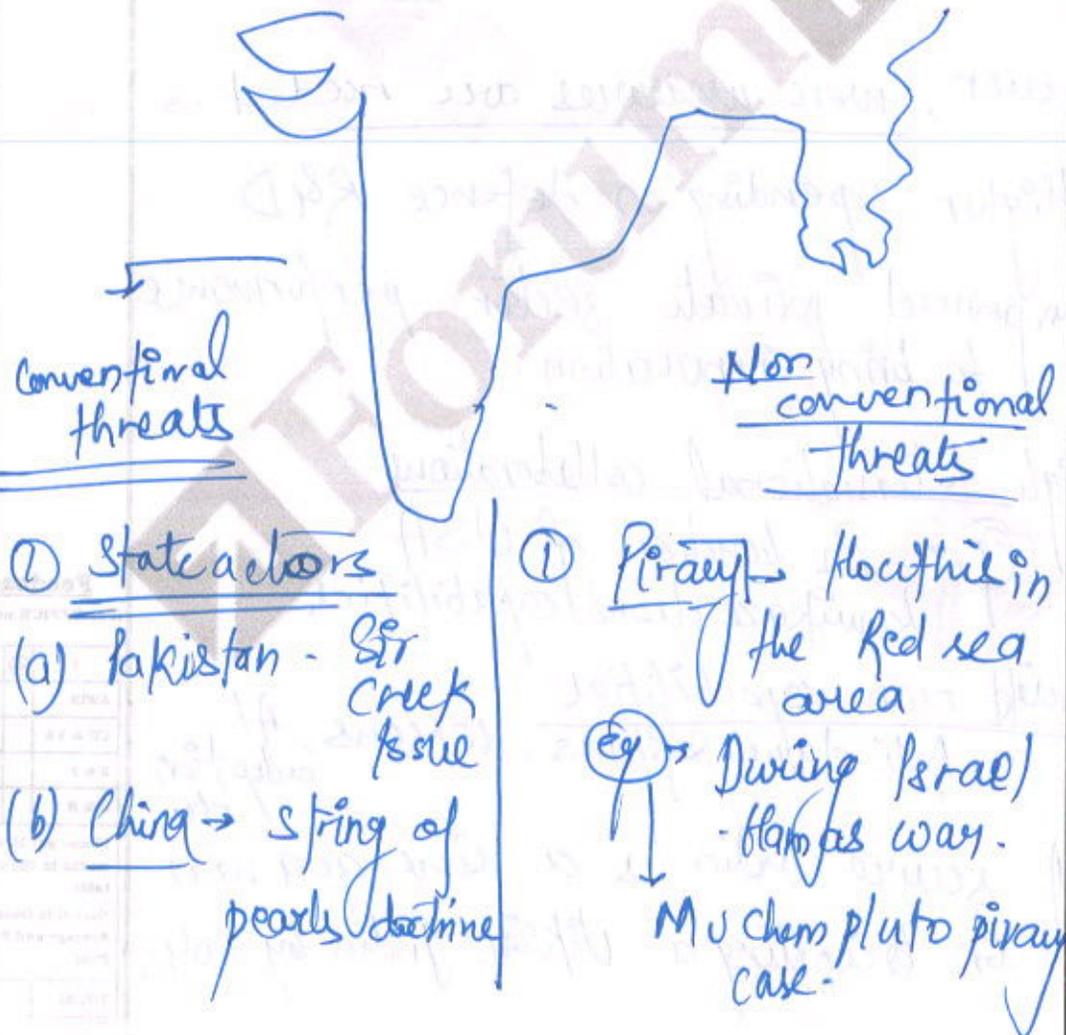
② Maritime Naval Warfare

(eg) → 1971 Indo-pak war.

③ Issues of fisherman and maritime sovereignty.

(eg) → Sri Lanka - India Kaechatheevu Island case

④ UNCLOS compliance Issues

(eg) → Maritime passage through EEZ and territorial waters of India.

---

② Maritime surveillance and espionage

(eg) → Russia Research chinese vehicle near Sri Lanka for spoofing of signals.

③ Drug trafficking

(eg) → Adani Port Methamphetamine visooct (operation Samudragupta)

④ Human Smuggling

(eg) → Dunkey Routes to USA, Europe entry.

⑤ Gunrunning and hawala

⑥ Cybersecurity and terrorism (26/11 attack)

To counter this, various measures have been taken →

① Maritime Security Vision.
  - QUAD security alliance
  - IOA-ARC dialogues.
  - Colombo Security Conclaves
  - Participation in Comprehensive maritime security fleet.

② Project MAUSAM and SAGAR doctrine
  ↳ Security And growth for all in the region.

③ Net Security provider
  [↳ Transshipment port and defence establishment at Port Blair
  ↳ Andamans - theatre command.

④ Restructuring of Navy
  Indigenous Aircraft carriers - INS Nikrant
  Coast Guard overhaul

⑤ Defense capabilities → Submarines (P15 class)
  (INS Vela, Vagshree) etc

  - Therefore, maritime security remains at the forefront of national security of the country.

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Mentor Feedback Questions

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5 ....

Test Goal		Outcomes

Test Goal

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Outcomes

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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.

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