

TEST CODE

7 1 3 3 0 4

MGP 2024

Time Allowed : Three Hours
समय : तीन घंटे

ForumIAS

Maximum Marks : 250
अधिकतम अंक : 250

GENERAL STUDIES / सामान्य अध्ययन

Name Of Candidate परीक्षार्थी का नाम	PAWAN KUMAR PANDEY		
Roll No./अनुक्रमांक	1910159669	Medium/माध्यम	English ☒ हिंदी ☐
Center Code/परीक्षा केंद्र	Online (1900)	Date/दिनांक	15-09-2024

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

INDEX TABLE / अनुक्रमणिका			INSTRUCTION / अनुदेश		
Q. No. प्र.सं.	Max. Marks अधिकतम अंक	Marks Obtained प्राप्तांक	1. Please do furnish Name, Email, Roll No and Mobile in the answer sheet. कृपया उत्तर-पुस्तिका में नाम, ईमेल, रोल नंबर और मोबाइल नंबर भरें।		
1			2. There are TWENTY questions printed in ENGLISH & HINDI, all questions are compulsory. उत्तर पुस्तिका में अंग्रेजी/हिंदी में बीस प्रश्न दिए गए हैं, सभी प्रश्न अनिवार्य हैं।		
2			3. The number of marks carried by a question/part is indicated against it. प्रत्येक प्रश्न/भाग के लिए निर्धारित अंक उसके सामने अंकित किए गए हैं।		
3			4. Answers must be written in the medium authorized in the admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. उत्तर प्रवेश पत्र में अधिकृत माध्यम में लिखे जाने चाहिए, जो कि दिए गए स्थान में इस प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के कवर पर स्पष्ट रूप से लिखा जाना चाहिए।		
4			5. Word limit in questions, if specified, should be adhered to. Any page or portion of the page left blank in the Question-Cum Answer Booklet must be clearly Struck off. प्रश्नों में शब्द सीमा, यदि निर्दिष्ट हो, का पालन किया जाए। प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गये किसी भी पृष्ठ या पृष्ठ के भाग को स्पष्ट रूप से काट दें।		
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Total/कुल अंक	250		For Student Only / केवल परीक्षार्थी प्रयोग हेतु		
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			10:30 AM	1:30 PM	
Total Marks/कुल अंक :			Mode Of Examination/ परीक्षा की विधि :	Online/ऑनलाइन ☒ Offline/ऑफलाइन ☐	
			For Office Use Only / केवल कार्यालय प्रयोग हेतु		
*Examiner's Discretion is the marks awarded at the discretion of the examiner based on your overall impression, on the basis of (but not limited to) your handwriting, presentation, use of diagrams, flowcharts, facts and figures or absolutely anything that he/she liked in your copy. मूल्यांकन कर्ता का विवेक अंक, आपकी लिखावट, प्रस्तुति, आरेखों के उपयोग, प्रलेखन, तथ्यों और आंकड़ों या समग्र रूप किसी अन्य विषय वस्तु, जो मूल्यांकन कर्ता को आपकी कॉपी में पसंद आयी के आधार पर (लेकिन इन्हीं तक सीमित नहीं) पर दिए गए अंक हैं।			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

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) Why has there been an increased focus on negotiating, renegotiating and concluding Free Trade Agreements (FTAs) by India in recent years? (10 marks, 150 words)

हाल के वर्षों में भारत द्वारा मुक्त व्यापार समझौतों (FTAs) पर बातचीत, पुनर्वार्ता और समापन पर ध्यान क्यों दिया जा रहा है? (10 अंक, 150 शब्द)

India has shed its historical hesitation seen in proactive negotiation of FTAs with EU, UK and EFTA etc.

Reasons behind increased focus on FTAs in recent years

- ① revamped globalization especially after COVID — for robust recovery and growth.
- ② Export led growth — target of [2 trillion] dollars export by 2030
- ③ Secure supply chain of critical minerals and other essential commodities (eg) ECTA with Australia.
- ④ expand geopolitical leverage

- (Eg) CEPA with UAE - crucial energy partner.
- ⑤ address diaspora issues and free flow of labour ⑥ migration and mobility agreements with France.
- ⑥ Boost to India's services industry
- ⑦ services included in CEPA with UAE

Although there has been increased focus on FTAs, India must address following issues :-

- ① imports have risen more sharply than exports via FTA (31% rise in imports)
- ② non-tariff barriers by EU, UK
- ③ rising tariffs in India increased to 18% in 2023 from 13% in 2013.

Thus, enhanced FTAs can increase India's integration with the world.

Feedback

(For OFFICE use)

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

Q.2) A well-designed fiscal policy can serve as a vital instrument to facilitate the equitable distribution of resources and ensure the welfare of all sections of society. Elaborate. (10 marks, 150 words)

एक अच्छी तरह से डिज़ाइन की गई राजकोषीय नीति संसाधनों के समान वितरण को सुविधाजनक बनाने और समाज के सभी वर्गों के कल्याण को सुनिश्चित करने के लिए एक महत्वपूर्ण साधन के रूप में काम कर सकती है। विस्तार से वर्णन कीजिए। (10 अंक, 150 शब्द)

Fiscal policy is the instrument to ensure equitable distribution of resources, allocate resources and stimulate growth by government expenditure.

Fiscal policy - vital instrument

① equitable distribution of resources

→ progressive taxation - trickle down effect of taxation

→ development of public good -

② expenditure on defense, water resources.

→ benefit transfer to poor -

PM KISAN

② welfare of all sections

→ gender budgeting - increased to 6% in FY 25

- employment generation via capex (₹ 11.1 lakh crore in FY 25)
- expenditure on social sector
- PM-POSHAN (mid day meal) ₹ 11,000 cr.
 - Education via Sarva Shiksha Abhiyan.
- ensure welfare of gig workers and informal workers - PM-SUANIDHI etc.
- ③ nudge behavioural change - incentivise EVs through tax-benefits

But to ensure sustained growth following measures are needed

- ① Fiscal consolidation target of 4.5 %.
- ② fiscal deficit currently reduced government debt at 81.7 % (FY 24)
- Thus, fiscal policy must be counter-cyclical to stimulate growth.

Feedback

(For OFFICE use)

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

Q.3) What are the primary factors contributing to India's significant reliance on imported edible oils?
What measures do you suggest to increase domestic production and to reduce India's reliance on im-
ported edible oils? (10 marks, 150 words)

आयातित खाद्य तेलों पर भारत की महत्वपूर्ण निर्भरता में योगदान देने वाले प्राथमिक कारक क्या हैं? घरेलू उत्पादन बढ़ाने और
आयातित खाद्य तेलों पर भारत की निर्भरता को कम करने के लिए आप क्या उपाय सुझाएंगे? (10 अंक, 150 शब्द)

High import of edible oils
is one of the main reasons of high
food inflation (7-4:1 in FY24).

Primary factors behind import of edible oils

- ① over-reliance on rice wheat system $\Rightarrow$ neglect production of oil seeds
- ② about 236 MMT of rice-wheat out of total 316 MMT of production
- ③ Weak MSP regimes for mustard, soybean - lack of enforcement
- ④ lack of agri-R&D in climate resistant and high yielding varieties
- ⑤ lack of awareness among farmers

about high potential of edible oils

- ⑤ low production of palm oil —
more focus on mustard etc.
- ⑥ highest contribution of imports
is from palm oil

Measures to reduce reliance

- ① enhanced domestic production
of palm oil especially in North East —
incentive to switch to palm oil
- ② robust MSP procurement
- ③ research on drought and climate
resistant varieties
- ④ Cooperative marketing using NAFED
to enhance access to market.

Nation mission of oil palm
is steep in right direction to
enhance domestic production.

Feedback

(For OFFICE use)

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

Q.4) With the growing water crisis in India, micro irrigation offers a sustainable solution for water conservation; however, its adoption remains skewed and below its potential. Discuss.

(10 marks, 150 words)

भारत में बढ़ते जल संकट के साथ, सूक्ष्म सिंचाई जल संरक्षण के लिए एक स्थायी समाधान प्रस्तुत करती है; हालाँकि, इसका उपयोग अभी भी विषम है और इसकी क्षमता से कम है। चर्चा कीजिए।

(10 अंक, 150 शब्द)

As per World resource institutes,
India is one of the 15 most vulnerable
to extremely high water stress.
Micro irrigation can provide sustainable
solution for water conservation.

Microirrigation - solution for conservation

① high water use efficiency - upto
90-1. for drip irrigation



② decrease losses during runoff,
percolation, precipitation etc.

③ irrigated degraded and barren
lands using saved water.

④ enhance nutrient efficiency - fertigation - fertilizers through irrigation

⑤ prevent exploitation of ground water - agriculture largest user of ground water

Below potential use of microirrigation

way forward

- ① only 19% adoption of microirrigation
- ② extremely poor in large states like UP (less than 1%)
- ③ costly and high maintenance cost
- ④ low involvement of farmers in development stage

- ① Israel - involve farmer's feedback
- ② proactive utilization by states
- ③ R&D on cheap and easy to use microirrigation
- ④ awareness generation

micro irrigation as key to achieve goal of sustainable production (SDG-03)

Feedback

(For OFFICE use)

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TOTAL MARKS				

Q.5) The recurring railway accidents highlight the urgent necessity for addressing the myriad challenges related to safety, undercapacity and lack of modernization within Indian Railways. Analyse.
(10 marks, 150 words)

बार-बार होने वाली रेल दुर्घटनाएँ भारतीय रेलवे के भीतर सुरक्षा, अल्प-क्षमता और आधुनिकीकरण की कमी से संबंधित असंख्य चुनौतियों के समाधान की तत्काल आवश्यकता को उजागर करती हैं। विश्लेषण कीजिए। (10 अंक, 150 शब्द)

Indian railway network is 4th largest in the world which transports 2.4 cr passengers daily. This needs enhanced focus on safety. Balasore incident is case in point. Myriad challenges in railway

① low expenditure on safety —
Railway Suraksha Kosh has't been utilised fully even once.

② lack of modernization
↳ rudimentary wagon design especially of freight trains
↳ lack of skill and poor training in management of mechanised tracks.
↳ single and narrow gauges

③ under capacity

- As per Railway board, 5 crore passengers couldn't be accom-
dated in 2018-19
- congestion and high traffic -
125-1 capacity utilization for
trunk roads
- common lanes for freight and
passenger trains - more prone to
accidents

Ways to address these challenges

- ① fully utilize railway Suraksha
Kosh, adhere to fire safety norms
(CAG-62-1. trains lack it)
- ② private participation in moderni-
sation of tracks, passenger trains -
Bike & Debray Committee
- ③ enhance own resources of railway
- ④ faster deployment of Kavarak
These measures can ensure
railways as per changing times.

Feedback

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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)

NASA- ISRO aperture Radar
has been developed in collaboration
with NASA and ISRO.

NISAR - exemplify international
cooperation in space

- ① sharing of best practices and
technology (eg) NISAR &
- ② collaboration of international
platforms (eg) India joined Artemis
Accord
- ③ as a tool of geopolitics -
(eg) India- UAE space collaboration
- ④ solve issues affecting mankind
(eg) Monitoring of climate change

⑤ prevent militarisation of space ⑥ Moon agreement, liability convention

⑥ funding in developing nations

NISAR - Climate change monitoring

① monitoring green house gas emissions like ~~no~~ nitrous oxide or other harmful gases like Methane

② study melting of polar ice caps

③ study climate change's impact on oceanic circulation

④ Natural hazard prevention → cyclone monitoring
→ satellite based imaging
→ urban development

prevent urban floods.

NISAR is a perfect example of collaboration for global good -

Feedback

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

Q.7) Nuclear technology can play a transformative role in enhancing food security and agricultural sustainability. Discuss. (10 marks, 150 words)

परमाणु प्रौद्योगिकी खाद्य सुरक्षा और कृषि स्थिरता को बढ़ाने में एक परिवर्तनकारी भूमिका निभा सकती है। चर्चा कीजिए। (10 अंक, 150 शब्द)

Nuclear technology has wide ranging application like healthcare, energy and food security.

Nuclear technology - food security and agricultural sustainability

- ① food preservation using irradiation technology involving nuclear rays
- ② prevent growth of fungus, moulds
- ③ development of new varieties by changing composition using nuclear technology
- ④ source of energy for power

Irrigation systems⑤ food fortification

⑥ But use of nuclear technology are prone to various hazardous effects:-

- ① exposure to radiation - Cause of cancer
- ② nuclear waste
- ③ less trust of people

Precautionary principle must be adhered to for judicious use of nuclear technology in agriculture

Feedback

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TOTAL MARKS	

Q.8) Increasing frequency of forest fires in India underscores the urgent need for sustainable forest management practices. In light of the statement, bring out the causes and multidimensional impact of forest fires. Also, suggest measures for their prevention and management. (10 marks, 150 words)

भारत में जंगल की आग की बढ़ती आवृत्ति स्थायी वन प्रबंधन प्रथाओं की तत्काल आवश्यकता को रेखांकित करती है। इस कथन के प्रकाश में, वनाग्नि के कारणों और बहुआयामी प्रभावों का उल्लेख कीजिए। साथ ही इनकी रोकथाम और प्रबंधन के उपाय भी सुझाएं। (10 अंक, 150 शब्द)

Recent forest fire in uttarakhand highlight the challenges posed by forest fires.

Causes of Forest fire

① Natural → Volcanoes leading to fire
→ extremely dry winds
→ lack of precipitation
→ due to El-Niño
→ huge feedstock for fire in forests like Boreal

② Anthropogenic → negligence in camping
→ climate change - warming of planet
→ declining Atlantic meridional
oxidation leads to forest fires in Europe.

Impact of forest fires

- ① Positive
- nutrients from ashes
 - regeneration of plants
 - reduce fuel for further fire

② Negative impacts

- Economic - loss of tourism potential, livelihood loss
- Social - forced migration, water crisis
- Environmental - destruction of wild life, flora and fauna

③ California fire.

Measures for prevention and management

- ① follow NDMA guidelines on forest fire

- ② Artificial rain to curb forest fire

- ③ Rehabilitation and relief to affected people.

- ④ Responsible camping

- ⑤ green transition - curb climate change.

Forest fire must be curbed to prevent loss to environment and livelihood.

Feedback

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Please put tick marks in the above table.		
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TOTAL MARKS		

Q.9) What reasons can be attributed to the recent surge in terror related violence in Jammu and Kashmir? What strategies would you suggest to counter it? (10 marks, 150 words)

जम्मू-कश्मीर में हाल ही में आतंकवाद से संबंधित हिंसा में वृद्धि के क्या कारण हो सकते हैं? इसका मुकाबला करने के लिए आप क्या रणनीति सुझाएंगे? (10 अंक, 150 शब्द)

There has been recent surge in terror attacks in Jammu and Kashmir such as Raeiri, doda, Rajouri etc

Reasons behind recent surge in terror in J&K

- ① threat as a means to restrict political participation of people of J&K
- ② impending elections, highest voter turnout in 2024 election
- ③ disturb the peace dividend after abrogation of Article 370
- ④ shifting terror attacks to Jammu due to high security in Kashmir
- ⑤ state sponsored terrorism in ~~in~~ by Pakistan - Bleed India by 1000 cuts

- ⑤ security forces may be relaxed
after huge fall in violence in J&K
- ⑥ radicalisation of youth —
acting as overground workers
and supply logistics.

Strategies needed to counter it

- ① Coordination between security
forces and intelligence agencies
like IB, RAW.
- ② Capacity building of locals —
bridge trust deficit
- ③ security response — robust
border policing, check infiltration
- ④ Continue with elections to ensure
people's participation

These measures can ensure
that peace remains everlasting in
J&K to avoid 2-front war.

Feedback
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TOTAL MARKS		

Q.10) In the light of recent events, throw light on the possible implications of 'cyber slavery' on internal security of India. (10 marks, 150 words)

हाल की घटनाओं के आलोक में, भारत की आंतरिक सुरक्षा पर 'साइबर स्लेवरी' के संभावित प्रभावों पर प्रकाश डालिए। (10 अंक, 150 शब्द)

Cyber slavery refers to forceful use of people for cyber frauds against their will.

Implication of cyber slavery on internal security

- ① Cyber threats like phishing, stolen identity, threat to privacy etc.
- ② non-state actors as a source of internal security threat
- ③ attack on critical information infrastructure like attack on AIIIMS server
- ④ law and order deterioration enhanced trafficking

- ⑤ destabilisation of North east
— source of potential recruits
- ⑥ loss of demographic dividend
- ⑦ massive digitisation in India
→ attack on financial sovereignty
of India

Ways to curb cyber slavery

- ① Robust geopolitical dialogue
with Countries used for cyber
slavery like ASEAN etc.
- ② Capacity development of CERT-In
- ③ rehabilitation of cyber slaves
Cyber slavery must be
curbed for peaceful internal
security situation

Feedback

(For OFFICE use)

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

Q.11) "The liberalization policies of 1991 significantly enhanced India's economic dynamism, but the evolving global and domestic landscape necessitates 'Reforms 2.0' for sustained economic development and prosperity." Comment. (15 marks, 250 words)

"1991 की उदारीकरण नीतियों ने भारत की आर्थिक गतिशीलता को महत्वपूर्ण रूप से बढ़ाया, लेकिन उभरते वैश्विक और घरेलू परिदृश्य में सतत आर्थिक विकास और समृद्धि के लिए 'सुधार 2.0' की आवश्यकता है।" टिप्पणी कीजिए। (15 अंक, 250 शब्द)

The liberalisation policies of 1991 were undertaken in the backdrop of balance of payment crisis in 1991 and failure of post independence measures to create sustained growth.

Liberalisation of 1991 - enhanced India's economic growth and dynamism

① break the chains of quota and licence raj (Eg) delicensing of industries, free to locate industries etc.
Result over 6.5% industrial growth in pre-reform era

② government as enabler - (Eg) decreasing number of industries reserved for governments only, disinvestment

③ Globalization

- free flow of foreign capital -
forex of 670 Billion USD (May, 2024)
- technology transfer - growth
of BPO and IT industry

④ faster pace of poverty alleviation
and growth after reforms of 1991 -
(Eg) India GDP now 3.7 trillion USD
(from 270 Billion), eliminated extreme
poverty (less than 1%)

⑤ Skill development such as modern
industrial methods etc.

Need for Reform 2.0 - evolving global
and domestic landscape

① sustained job creation and
absorb disguised labours of agriculture

⑤ need 178.5 lakhs jobs annually
as per economic survey

② rising inequality - world inequality

report 2022, Bottom 50% control just
13% of income in India.

- ③ Balance development with environ-
ment - (eg) extreme events in
uttarakhand
- ④ upskilling in sync with changing
technologies like AI, blockchain etc.
- ⑤ Geopolitical leverage - control supply
chain of key minerals like lithium etc.

Reform 2.0 which India need

- ① labour law reforms - rationali-
sation and flexibility
- ② land reforms - redistribution
and conclusive land titling
- ③ greater integration with tech-
nology - (eg) jobs in AI etc.
- ④ ease of doing business - reform
direct tax codes etc. (Akhilesh
Arjun Committee)

Thus, reforms 2.0 are must
for 5 trillion dollar economy target
by 2026-27.

Feedback

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TOTAL MARKS			



Q.12) Infrastructure development is essential not just for economic transformation but also for sustainable development and societal well-being. Elaborate with examples. (15 marks, 250 words)

बुनियादी ढांचे का विकास न केवल आर्थिक परिवर्तन के लिए बल्कि सतत विकास और सामाजिक कल्याण के लिए भी आवश्यक है। उदाहरणों के साथ विस्तार से समझाइए। (15 अंक, 250 शब्द)

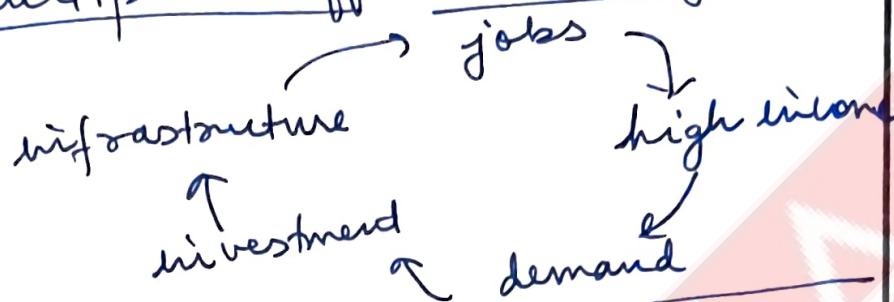
India's emphasis on infrastructure development shown by rising capex (₹11 lakh crore for FY25) shows its importance for economic as well as social development.

Infrastructure development - essential for economic transformation

- ① Robust logistics systems and decrease logistics cost
- ② 7-8-8.9% logistics cost in India
job creation to absorb those entering job market every year.
- ③ enhance competitiveness of economy - decrease operational costs

boost exports (9) India rank 40th
in world competitiveness Index, 2023

(4) multiplier effect in every sector



Infrastructure for societal well
being and sustainable development

(1) bridge inter-regional gaps in
infrastructure (Eg) poor connectivity
in North-East (only 1% domestic
border)

(2) inclusive growth - equal distri-
bution of benefits of economic develop-
ment
(5) enhance women's labour force
participation (37% currently
PLFS 2022)

(3) curb distress migration from

rural to urban areas

(Eg) infrastructure in rural areas
like roads, supply chain (storage) etc.

④ enhanced income would lead
investment in social sector like
education, health, nutrition

(Eg) affordable education, hospital etc.

⑤ sustainable development —
balance environment with development

(Eg) investment in green technologies
like carbon sequestration etc.

⑥ bridge trust deficit — curb rise
of extremist tendencies (Eg) left

wing affected districts.

Efforts of
government

→ PLI and National
logistics policy

→ UNNATI — industrializa-
tion in North East

Thus, infrastructure development
is key to achieve SDG 01, 02, 03 (hunger,
poverty etc.)

Feedback

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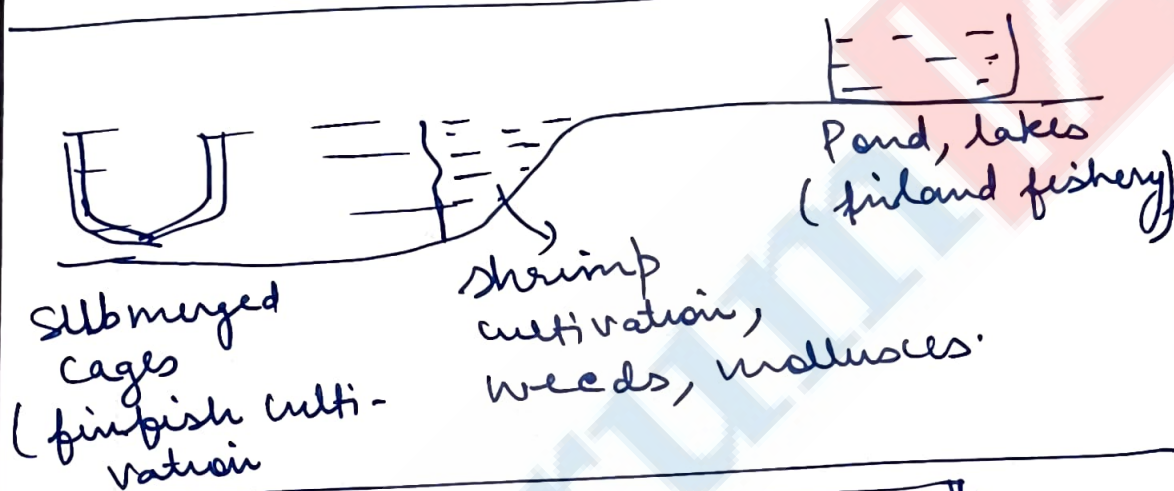
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Q.13) Bring out the significance of aquaculture towards nutrition security, livelihood generation, and economic growth. Also, mention various measures taken by the government to promote aquaculture in the country. (15 marks, 250 words)

पोषण सुरक्षा, आजीविका सृजन और आर्थिक विकास के लिए जलीय कृषि के महत्व पर प्रकाश डालिए। साथ ही, देश में जलीय कृषि को बढ़ावा देने के लिए सरकार द्वारा उठाए गए विभिन्न उपायों का उल्लेख कीजिए। (15 अंक, 250 शब्द)

Aquaculture refers to wide range of activity associated with marine and fresh water ecosystem



Significance of aquaculture :-

① nutritional security

- address hidden hunger - source of omega 3 fatty acid etc.
- (80% adolescent face hidden hunger - UNICEF)
- source of essential minerals etc.

② livelihood generation and economic growth

- fishery employ about 28 million people directly and twice in value chain
- [jobs] in Homes of agricultural distress (Eg) 4% usually working people in livestock stock
- enhance income of farmers through selling livestocks, milk etc. fish, molluscs
- export promotion — of marine products via robust processing etc.
- source of energy generation via 3rd generation biofuels from marine algae
- skill development of young labours in technologically advanced marine fishery etc.

Measures taken to promote aquaculture

- ① PM Matsya Sampada Yojana - capacity building, funding etc. of aquaculture (fishery)
 - ② Kisan Credit card to fisherman
 - ③ separate department of fishery
 - ④ PLI for processing of marine products
 - ⑤ Fishery development fund with NABARD
 - ⑥ National fishery policy
 - ⑦ boost to shrimp cultivation
- Lacuna in efforts → lack of under-tech-nology in fishing boats
 → rudimentary methods
 → land, lease rights issue in inland fishery etc.
 → lack of coordination with state
 Robust aquaculture can solve agri-culture crisis by absorbing disguised labour

Feedback

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Q.14) The MSP system, though well-intentioned, has led to market distortions and ecological stress, necessitating reforms to make it more inclusive and efficient. Examine. (15 marks, 250 words)

MSP प्रणाली, हालांकि अच्छी नीयत से बनाई गई है, लेकिन इसने बाजार में विकृतियाँ और पारिस्थितिकी तनाव पैदा किया है, जिससे इसे और अधिक समावेशी और कुशल बनाने के लिए सुधारों की आवश्यकता है। परीक्षण कीजिए।

(15 अंक, 250 शब्द)

Minimum Support price is announced based on 1.5 times of $A_2 + FL$ cost which has economic and social justification.

MSP — well intentioned

① Economic justification

→ shield farmers from price fluctuation due to bad monsoon etc.

→ incentivise farmers to invest in raising agricultural productivity

② modern tools etc.

→ minimum incomes for farmers

② Social justification

→ curb intra-regional disparity in income.

→ social safety net to farmers.

MSP - market distortion and ecological stress

① Market distortion

- inflationary - procurement price has become equal to MSP
⇒ high prices in market
- open ended procurement -
dump in market ⇒ sudden price fall
- disputes in WTO - over 100% deminimus level.
- problem of excess stocks -
Rice stock 4 times the buffer norms (June, 2024)

② Ecological stress

- depleting ground water -
water guzzling crops like rice

- Green house gas emission -
flooding paddy fields (Methane)
- declining soil health - NPK
ratio has become $\boxed{13:5:1}$ (ideal
is $4:2:1$)
- soil salinity and land degradation

Reforms to make MSP more inclusive

- ① capping farmer procurement per-hectare or per- solve inflation problem.
 - ② Robust procurement of coarse meals
like Jowar + bajra as well - Shanta Kumar
 - ③ Price deficiency payment system
instead of up-front payment
 - ④ ensure inclusive MSP in North
east, distress areas not just in
UP, Punjab
 - ⑤ decentralised storage using PAEs etc-
Ashok Dalwai Committee
- Thus, MSP needs to be reformed as per
current challenges.

Feedb
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Q.15) Biotechnology holds immense potential for achieving sustainable food production, efficient waste management and significant advancements in human health. Elucidate. (15 marks, 250 words)

जैव प्रौद्योगिकी में टिकाऊ खाद्य उत्पादन, कुशल अपशिष्ट प्रबंधन और मानव स्वास्थ्य में महत्वपूर्ण प्रगति हासिल करने की अपार संभावनाएं हैं। स्पष्ट कीजिए।
(15 अंक, 250 शब्द)

Biotechnology refers to use of modern techniques like CRISPR, gene editing etc. to modify living organism for wide range of benefits.

Immense potential of Biotechnology

① Sustainable food production

→ enhance yield and quality

② IR 8 variety of Rice

→ climate resistant varieties

↓
shield from adverse effects

③ 109 new varieties launched

→ pest and herbicide resistant varieties

④ Bt cotton (resistant to bollworm)

- ② efficient waste management
- bioremediation of water and waste using genetically modified organisms
 - ⑤ oil zappers
 - phyto remediation modify plants to suck hard minerals from water.
 - Waste to energy using algae to produce bioethanol
- ③ enhance human health
- treatment of cancer - CAR-T cell therapy - modified T-cell to fight cancer
 - fortification of food for nutrition
 - ⑤ Golden rice (Vitamin A)

→ treat genetic disorders in infants

Despite potential, biotechnology
must be regulated to curb harmful
effects like :-

- ① threat to environment due
to development of super weeds
(resistant)
- ② threat to health - Bt - benign
- ③ privacy and consent before
experiments

Thus, biotechnology
holds immense potential for
sustainable development.

Feedback

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Q.16) Climate change is leading to significant alterations in ecosystems, resulting in cascading effects on biodiversity, ecosystem services, and human livelihoods, necessitating integrated approaches to conservation and climate adaptation. Analyse. (15 marks, 250 words)

जलवायु परिवर्तन के कारण पारिस्थितिकी तंत्र में महत्वपूर्ण परिवर्तन हो रहे हैं, जिसके परिणामस्वरूप जैव विविधता, पारिस्थितिकी तंत्र सेवाओं और मानव आजीविका पर व्यापक प्रभाव पड़ रहा है, जिसके कारण संरक्षण और जलवायु अनुकूलन के लिए एकीकृत दृष्टिकोण की आवश्यकता है। विश्लेषण कीजिए। (15 अंक, 250 शब्द)

As per IPCC, 1.5°C rise by 2100 is inevitable and can even be reached before 2050. This highlights the catastrophic effect climate change is having on humanity. Climate change leading to significant alterations in ecosystems

① Cascading effects on biodiversity

→ threat to marine biodiversity like corals, dugongs etc due to rise in ocean temperatures and acidifications

↓
(skeletal of corals become soft)

→ threat to polar biodiversity

like polar bears etc due to melting
of ice sheets

→ climate tipping points being breached
in boreal forests of North America.

② on ecosystem services



→ extreme weather events -

As per Ministry of Earth science,
extreme precipitation events have
increased by 75% in India
from 1950 - 2015

- ③ human livelihood → destruction of livelihood
like fishery etc.
→ sea level rise - threat
to life of small island countries
like maldives.

Integrated approach to conservation and climate adaptation

- ① enhance climate finance for adaptation - only 6% of total fund
is for adaptation
- ② global concerted effort towards decarbonisation - (Eg) developed countries
to enhance NDCs
- ③ technology transfer in green transition like sequestration technology
- ④ involvement of local community
and enhance resilience.
- ⑤ global efforts towards renewable energy (eg) ISA.
concerted effort is needed to achieve SDG as well as tackle climate change.

Feedback

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Q.17) Urban areas, often referred to as the cradle of civilization and growth engines, are increasingly experiencing various natural and man-made disasters. Discuss in the Indian context. Also, suggest suitable mitigation and management strategies.
(15 marks, 250 words)

शहरी क्षेत्रों को अक्सर सभ्यता और विकास के इंजन के रूप में संदर्भित किया जाता है, जो विभिन्न प्राकृतिक और मानव निर्मित आपदाओं का सामना कर रहे हैं। भारतीय संदर्भ में चर्चा कीजिए। साथ ही, उपयुक्त शमन और प्रबंधन रणनीतियों का सुझाव दीजिए।
(15 अंक, 250 शब्द)

As per UN habitat, 870 million people (over 50%) will live in Urban India by 2050. This necessitates closer attention to natural and man made disaster in urban areas.

- Urban areas - growth engine
- ① Contribute to 60% of GDP as per NITI Aayog.
 - ② employment generation via industries and services
 - ③ resources mobilised for vulnerable section.

Various disasters in Urban areas

- ① Natural
→ cyclones and extreme precipitation

Cyclone frequency increasing in Arabian Sea as per II SER (by 52%)

- Natural floods - changing course of rivers (eg) In cities of UP, Bihar
- cloudbursts and land slides (eg) Shimla, Pehradun.

② Man-made disasters

- Urban floods due to encroachment over drainage (eg) Delhi, Chennai
- Urban heat island effect due to high rise building - [heat waves] and extreme precipitation
- Green house gases from industries and vehicles $\Rightarrow$ climate change
- exceeding carrying capacity of Himalayas - (eg) Chamoli landslide due to power plant

Mitigation and management strategy
needed

- ① Robust supply of urban planners
as per high level expert committee on
urbanisation
- ② every city must have city water
stress master plan - World resource
institute
- ③ Green and Blue infrastructure
afforestation, rejuvenation of lakes
(mission Amrit Sarovar)
- ④ Sponge city concept - reduce
concretization to allow percolation
- ⑤ Building code for energy efficient
buildings - ventilation, use solar
roof tops
- ⑥ Capacity building of urban
local bodies - urban flooding cell
(NDMA)

Mitigating urban disaster is key
to achieve SDG 11 safe and sustainable
cities.

Feedback

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Q.18) "India's disaster management framework has made significant progress in the 21st century, yet challenges persist in ensuring timely response and effective coordination during crises." Comment.
(15 marks, 250 words)

"भारत के आपदा प्रबंधन ढांचे ने 21वीं सदी में महत्वपूर्ण प्रगति की है, फिर भी संकट के दौरान समय पर प्रतिक्रिया और प्रभावी समन्वय सुनिश्चित करने में चुनौतियां बनी हुई हैं।" टिप्पणी कीजिए।
(15 अंक, 250 शब्द)

Indian disaster management framework has changed from being reactive (after Odisha supercyclone) to being proactive (After Tsunami of 2005)

Significant progress in India's disaster management framework

① Legislations and policies

- National disaster Management Act, 2005 - hierarchical structure to mitigate disasters
- National Disaster plan, 2016 - build structural and non-structural ~~dis~~ risk reduction infrastructure.

② institutional framework

- National and state disaster management authorities - plan and execute mitigation efforts
- National disaster response force (NDRF) - relief efforts

③ Financing mechanisms - National disaster relief and mitigation funds

④ International cooperation

- Coalition for disaster resilient infrastructure
- implement Sendai framework

Challenges in disaster management

- ① lack of coordination between state and national authorities measures.
 - ⊗ delayed relief
- ② over-centralization of powers

with respect to policy formulation
in NDMA and executive committee

③ inadequate financing resources -

(Eg) 15th Finance Commission - National
Calamity Countervailing Duty (NCCD)
is insufficient

④ fail to recognise risks which can
lead to disasters (Eg) crowd
management, bridge collapse (Mozhi)

Way Forward

① 2nd ARC

→ effective decentralization
of powers to local
bodies

→ classify disasters as
local, national, state level

② insurance for those living in
vulnerable areas

③ hazard mapping and vulnerability
mapping

Thus, robust disaster management
is crucial for economic and social growth.

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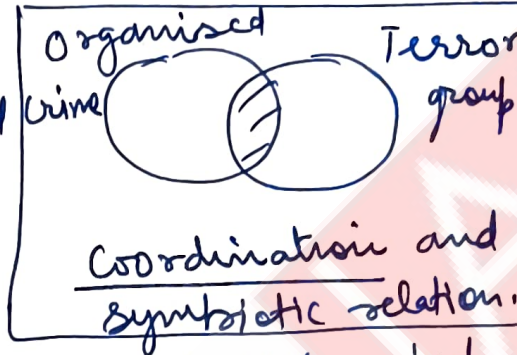
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Q.19) Explain how the symbiotic relationship between organized crime and terrorism further aggravates internal security concerns. What steps can be taken to address this linkage and the threats emerging from it? (15 marks, 250 words)

बताइए कि संगठित अपराध और आतंकवाद के बीच सहजीवी संबंध किस तरह आंतरिक सुरक्षा संबंधी चिंताओं को और बढ़ाता है। इस संबंध और इससे उत्पन्न होने वाले खतरों से निपटने के लिए क्या कदम उठाए जा सकते हैं?

(15 अंक, 250 शब्द)

Symbiotic relation arise when organized crimes and terror groups coordinate and benefit each other to fulfil vested interests.



Symbiotic relation - further aggravate internal security concerns

- ① logistics support to terror groups
- ② militants in J4K utilize existing drug networks to launder money.
- ③ Arms training to organised crime groups by terror groups.
- ④ D-gang allegedly trained by LeT, Jaish etc.

- ③ Organised crime as source of funding for terror activities
- ④ insurgents in North East use trafficking, drug trade, smuggling to garner funds.
- ④ technology transfer ~~to~~ by organised crime to terrorists
- ④ drones used by Hamas, ISIS etc.
- ⑤ propaganda by terrorists using organised crime
- ④ Stone pelting in Kashmir etc.

Steps which can be taken to address this linkage

- ① specialized legislation to curb organised crimes - usual legislation not sufficient

- ② curb on terror funding using
organised crimes ⑥ Robust Anti-
money laundering and terror financing
regulations (as given by FATF)
- ③ Use of technology to counter
such relationship ⑦ blacklisting
to identify suspicious transactions.
- ④ strengthening local police forces
capacity development
- ⑤ international cooperation through
INTERPOL, conferences etc.

Measures
taken by
India

→ BNS - organised crime
under its ambit
→ No money for terror
conference

→ terror financing and counter
financing in MHA
→ cooperation with INTERPOL

These measures are step in
right direction to curb emerging threats.

Feedback

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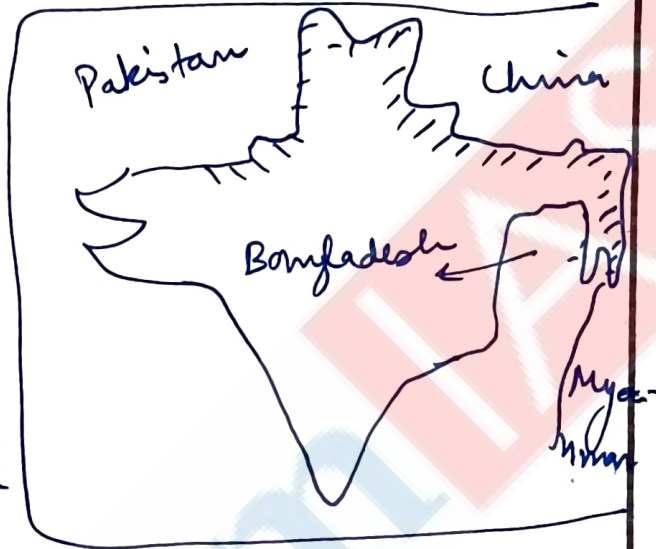
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Q.20) Strengthening security apparatus in border areas and forging developmental partnerships with the locals are essential components of a robust and effective border management strategy. Discuss, with initiatives taken by the government in this regard. (15 marks, 250 words)

सीमावर्ती क्षेत्रों में सुरक्षा तंत्र को मजबूत करना तथा स्थानीय लोगों के साथ विकासात्मक साझेदारी बनाना एक मजबूत और प्रभावी सीमा प्रबंधन रणनीति के आवश्यक घटक हैं। इस संबंध में सरकार द्वारा उठाए गए प्रयासों के साथ चर्चा कीजिए। (15 अंक, 250 शब्द)

India has over 13000 Km border with various countries. Thus cooperation with local is essential for effective border management.



Robust border management strategy

① Strengthening security apparatus

→ building roads, tunnels, bridges to mobilise men and material - [Cold start doctrine]

→ plugging porous borders to curb illegal migration and

infiltration (eg) in J&K
→ Curb organised crimes through
drug, arms smuggling
(eg) India - Bangladesh border.

③ forging developmental partnership
with locals

→ build trust and coordination
in times of crisis (eg) Ladakhi
tribes first to respond in 1962
→ Connectivity through internet,
roads etc.
→ supplement efforts of security
forces in crisis situation.

Initiatives taken by government

① Security infrastructure

→ acceptance of Shekhtakar
Committee recommendation
enhanced capacity of IBRO

→ Comprehensive Integrated Border Management Scheme on recommendation of Madhukar Gupta - use of laser sensors, night vision camera, etc.
 → Integrated border checkpoints at Attari etc.

② developmental partnership with locals → Vibrant Village programme - saturation of all schemes
 → Border Area development programme.

More steps which can be taken

- ① One border one force - as per Madhav Godbole Committee
 - ② PPP in infrastructure in borders
 - ③ Capacity building of village defence guards
- Thus, border areas must be seen as first villages not last villages

Feedback

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