

NEXT IAS

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Test - 7

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MTS IGP Batch 2023

GENERAL INSTRUCTIONS

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SUBJECT/PAPER
GENERAL STUDIES

Invigilator's Sign. :

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Evaluator Code :

Q.No	Pg No.	Maximum Marks	Marks	Total
1	1			
2	3			
3	5			
4	7			
5	9			
6	11			
7	13			
8	15			
9	17			
10	19			
11	21			
12	24			
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14	30			
15	33			
16	36			
17	39			
18	42			
19	45			
20	48			
Grand Total				

Signature

MACRO COMMENTS



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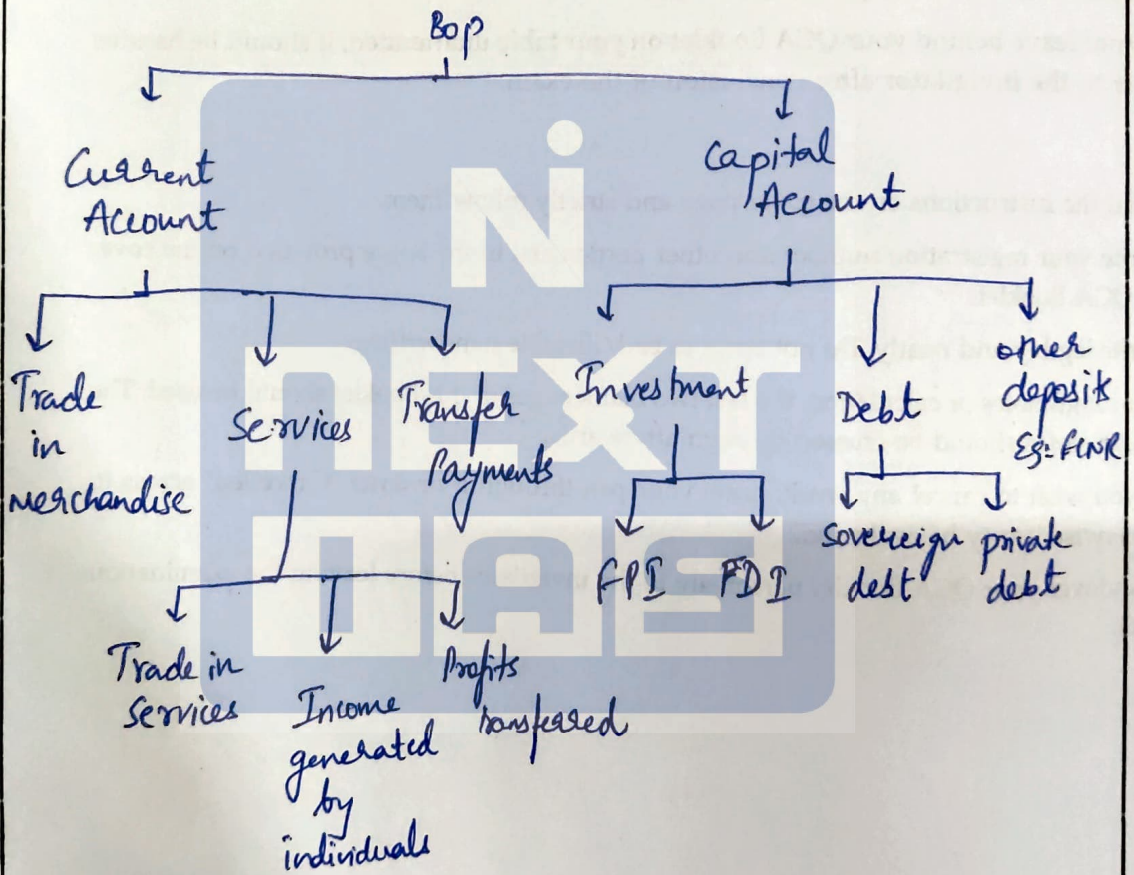
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1. भुगतान संतुलन (बीओपी) के घटकों के रूप में पूँजी खाते और चालू खाते के बीच अंतर का सविस्तर वर्णन कीजिए। भारत के बीओपी घाटे को संतुलित करने के लिए कुछ उपाय सुझाएँ। (150 शब्दों में उत्तर दीजिए) 10 अंक
 Elaborate on the difference between Capital Account and Current Account as components of Balance of Payment (BOP). Suggest a few measures to balance the BOP deficit of India.

(Answer in 150 words) 10 Marks

Balance of payments account has to be maintained under Current Account and Capital Account as per IMF international guidelines. RBI follows the same



Differences :

- 1) India has a current account deficit but capital account surplus
- 2) we have current account convertibility but don't capital account convertibility (FEMA regulations)

Measures to balance

As per recent Economic Survey data, Current account deficit is increasing due to global head winds to 2% of GDP. Our total trade is more than \$750 bn.

- ↳ Sign favourable trade agreements (eg: with UAE, GCC, Australia, Canada, UK)
- ↳ Shift to self-reliance in manufacturing (eg: PLI schemes)
- ↳ Further boost export competitiveness
- ↳ Reform SEZ policy (eg: DESH Bill)
- ↳ Continue reforms in economy to attract more capital
- ↳ RBI measures to attract more NRIs to keep savings in Indian banks is a step in right direction

Current account

Capital account

Foreign Trade Policy is a step in right direction which emphasis on 4 pillars for ease of doing business, incentives, more sectors like SCOMET - will help to reduce (AD)

2.

लॉजिस्टिक्स (रसद) क्षेत्र, विनिर्माण उद्योग के विकास के महत्वपूर्ण घटकों में से एक है। चर्चा कीजिए। साथ ही, हाल ही में घोषित राष्ट्रीय लॉजिस्टिक्स नीति, 2022 के विभिन्न घटकों का भी उल्लेख कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

The logistics sector is one of the important components of the growth of the manufacturing industry. Discuss. Also, mention various components of the recently announced National Logistics Policy 2022.

(Answer in 150 words) 10 Marks

Manufacturing industry relies on solid, robust logistics support for effective backward and forward linkages :-

- (i) Logistics cost is integral part of overall good produced (transportation + warehousing)
- (ii) It affects the timeliness of goods delivery especially for perishable goods
- (iii) Multi-modal connectivity ensures efficiency in goods delivery and at cheap rates
- (iv) Effective logistics provide connectivity from factories to consumers
- (v) New technologies in warehouse management help in achieving economies of scale
This is evident in Government support for 11 new infrastructure corridors & creation of plug-and-play model (Ex: Dholera in Gujarat)

National Logistics Policy 2022

- 1) Vision
- reduce logistics cost as % of GDP from 12-14% to 8-10%.
 - make India top 25 countries in LPI index of world bank (at 38th rank)
 - leverage technology
- 2) Comprehensive Logistics Action Plan (LAP)
- ↳ Emphasis on manpower generation and capacity development
 - ↳ state government support
 - ↳ multi-modal logistics connectivity
 - ↳ technology push in warehouse
- 3) Empowered group of secretaries to monitor progress
- 4) online platforms - ULIP, Elogs for transparency

Thus, NLP 2022 will act as game changer in post COVID world as India aims to be manufacturing hub.

3.

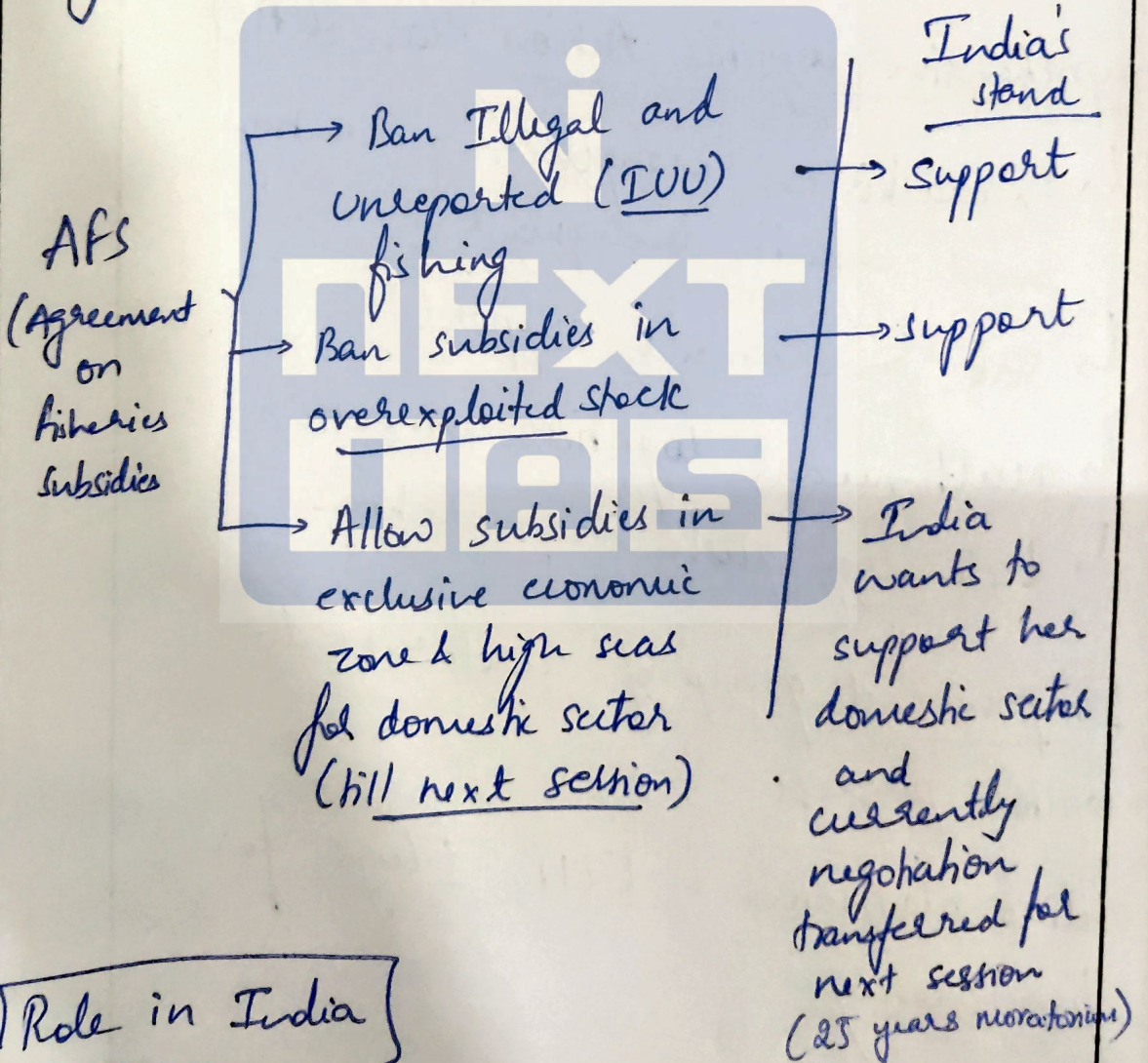
डब्ल्यूटीओ के तहत मत्स्य पालन सब्सिडी पर नए समझौते पर भारत का क्या रुख है? भारत के लिए मत्स्यपालन क्षेत्र किस प्रकार महत्वपूर्ण है? इस क्षेत्र के विकास के लिए सरकार द्वारा उठाए गए कदमों का उल्लेख कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

What is India's stand on the New Agreement on Fisheries Subsidies under WTO? How is the Fisheries sector significant for India? Enumerate the steps taken by the Government to develop this sector.

(Answer in 150 words) 10 Marks

Recently, our Commerce Minister Shri Piyush Goyal participated in hard negotiations on fisheries subsidies at WTO



Role in India

- ↳ Employ 28 million people
- ↳ Contribute to 11% of GDP

- ↳ 7.8 bn export generation (target to increase to \$ 15bn)
- ↳ contribute to food security especially in coastal areas
- ↳ support marginalized sections in coastal communities

India has emerged as 2nd largest aquaculture and 3rd largest fish producer due to following Government steps :-

- 1) Creation of new Ministry for livestock & fishing
- 2) Matruya Sampada scheme and new sub scheme on Sambuddhi Seth Yojana (1000 crores)
- 3) Promotion of cooperatives and digitization and formalization support
- 4) Draft fisheries Policy
- 5) Credit support (inclusion in KCC)
- 6) CSANTA — online platform
- 7) Sagar Parikrama

These steps are welcome and India must continue supporting the sector.

4.

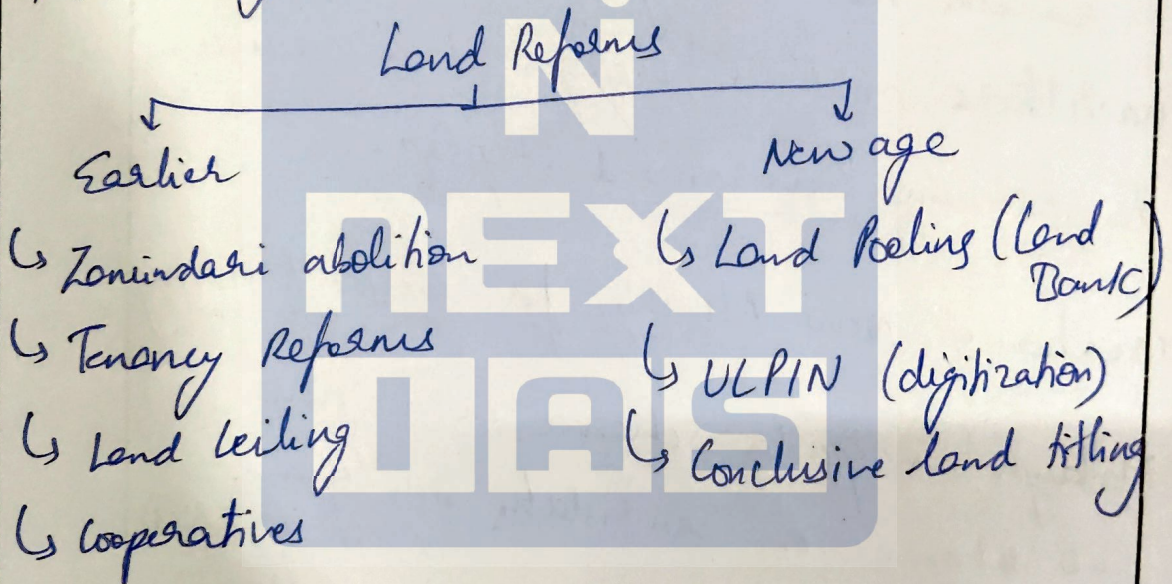
उन प्रणालीगत और संस्थागत बाधाओं का विश्लेषण कीजिए जो भारत में भूमि सुधार प्रयासों में बाधा बनी हुई हैं और भूमि के न्यायसंगत वितरण को सुनिश्चित करने के लिए व्यावहारिक समाधान प्रस्तावित कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

Analyze the systemic and institutional constraints that continue to hinder land reform efforts in India and propose pragmatic solutions to ensure equitable distribution of land.

(Answer in 150 words) 10 Marks

Land reforms have been undertaken to realize social and economic justice goal in Article 38 and enhance agricultural productivity and ensure land to tiller.



Challenges

- 1) Lack of effective training
- 2) Lack of political support at ground level (voted interests)
- 3) legacy issues like oral deeds, pending court disputes
- 4) Loopholes in reforms like ceiling can be breached with benami transaction

- 5) Multiplicity of departments at municipal and state government level
- 6) Land records not properly maintained due to presumptive land titling

Solutions

1. Leverage technology (like blockchain) for decentralized document verification (or use GIS technology)
2. Use successful case model like Bhoomi project in Karnataka
3. NITI Aayog can nudge states to bring reforms (as it under List II of 7th schedule)
Es: Model Tenancy Act Model Conclusive Land Titling
4. Promote Digitization of government departments (Es: Digital India Land Record Program)
5. Leverage remote sensing, satellite data (ISRO Dhunidhi project)
6. Make Swamitva applicable for urban areas as well

5.

ब्रह्मोस सुपरसोनिक क्रूज मिसाइल की अद्वितीय विशेषताएँ और क्षमताएँ क्या हैं, और इसने भारत की रक्षा क्षमताओं और सामरिक स्थिति के क्षेत्र में किस प्रकार योगदान दिया है? (150 शब्दों में उत्तर दीजिए) 10 अंक

What are the unique features and capabilities of the BrahMos supersonic cruise missile, and how has it contributed to India's defence capabilities and strategic position in the region?

(Answer in 150 words) 10 Marks

Brahmos is a state of art missile system developed with combined efforts of India and Russia.

Unique features

1. Long range cruise missile (fire and forget capability)
2. Can be deployed in strategic areas for defence with high warhead capacity
3. Range includes few thousands kms
4. Speed is very high (supersonic)

Contributed to Indian defence

1. Hallmark of our defence capabilities in border areas of Indo-Pak and Indo-China (LoC & CAC respectively)

2. Recent tests show it can be deployed within Pakistan
3. Contributed to defence manufacturing sector
4. Technology support will help develop other weapon technology

Strategic position

1. Make India not only self-reliant but also as a net security provider in the region
2. Complement our SAGAR doctrine
3. Boost bilateral relations in Indo-Pacific as countries like Philippines want to import it

Thus, Brahmos has emerged as a game changer in our defence capabilities.

6. समुद्र की गहराई का पता लगाने और उसमें मौजूद संसाधनों का दोहन करने के देश के प्रयासों के अनुरूप, भारत सरकार ने गहरे समुद्र में अन्वेषण मिशन 'समुद्रयान' का प्रस्ताव रखा है। यह मिशन देश में समुद्र विज्ञान और प्रौद्योगिकी की प्रगति में किस प्रकार योगदान दे सकता है? (150 शब्दों में उत्तर दीजिए) 10 अंक

In line with the country's efforts to explore the depths of the ocean and harness the resources it holds, the Indian government has proposed a deep-sea exploration mission Samudrayaan. How can this mission contribute to the advancement of ocean science and technology in the country?

(Answer in 150 words) 10 Marks

Deep ocean beds contain huge potential of resources, that India aims to harness given it's vast coastline of more than 7500 kms.

Contribution of mission

1. Explore nutrients like polymetallic nodules which are critical minerals for various scientific developments and industrial support (Eg: medicine, defence, telecom)
2. Develop sea-faring capabilities in deep water and ocean bed

3. Contribute towards enhancing drilling capabilities in off-shore fields (which can be used in Bombay High seas for gas and oil exploration)
4. Develop more reconnaissance capability which can be used domestically for mineral exploration
5. Boost our mineral and mining sector which is marred by overall low tech adoption
6. Help contribute to ocean study (eg: sea floor spreading)
7. Contribute to defence technology like submarine manufacturing capabilities (independent air propulsion)

Thus, mission has multifold benefits for economy, science & tech developments and will boost employment generation.

7. वैश्विक मीथेन प्रतिज्ञा क्या है? क्या आपको लगता है कि वैश्विक मीथेन प्रतिज्ञा मीथेन उत्सर्जन को कम करने की दिशा में एक सकारात्मक कदम है? इस मुद्दे पर भारत का रुख स्पष्ट कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

What is Global Methane Pledge? Do you think the Global Methane Pledge is a positive step toward mitigating methane emissions? Explain India's stance on this issue. (Answer in 150 words) 10 Marks

Global Methane Pledge was signed in COP26 at Glasgow by major advanced economies to significantly reduce methane emissions.

Methane is a short-lived climate pollutant and it generates more greenhouse gas in terms of CO₂ equivalent thus it's necessary for reducing its emission given the target of 1.5°C global warming under UNFCCC and reducing carbon emissions.

Positive step

↳ for developed countries who have historically been climate polluters it's apt to reduce further their methane emissions

↳ It also calls for tracking using methane observatories which will ensure transparency & accountability

However, it should not be forced down on developing and least developed nations.

India's stand

- ↳ we did not join the pledge
- ↳ we believe that given our agricultural and industrial needs it would be difficult for making international commitments
- ↳ we believe in common but differentiated responsibilities (Paris Agreement)

Given our current development needs and food security, it's wise to not join pledge but parallelly we should work to phase down these emissions & shift to climate smart practices

8.

कोविड-19 महामारी ने सार्वजनिक स्वास्थ्य में आपदा प्रबंधन के महत्व पर प्रकाश डाला है। महामारी और अन्य संक्रामक रोग के प्रकोप के प्रबंधन के लिए प्रमुख रणनीतियों और चुनौतियों पर चर्चा कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

The COVID-19 pandemic has highlighted the importance of disaster management in public health. Discuss the key strategies and challenges for managing pandemics and other infectious disease outbreaks. (Answer in 150 words) 10 Marks

Every crisis is an opportunity to learn.
COVID-19 pandemic exposed the world to a once-in-a-lifetime challenge showing importance of effective management at regional, national & international level.

Key strategies

- (i) Effective surveillance and monitoring (CDC in US)
- (ii) International cooperation and data sharing (led by WHO)
- (iii) National level response to declare national disasters and build capacity (Eg: Ayushman Bharat Yojana)
- (iv) Adopt One Health Approach
- (v) Leverage Subsidiarity principle (Eg: role of PRT & UB in creating awareness)

Challenges

- (i) TRIPS agreement preventing technology transfer and sharing IPR knowledge
- (ii) lack of cooperation by countries like China & not sharing data
- (iii) teething and financing issues of WHO
- (iv) lack of domestic state capacity in dealing with national level outbreak
- (v) rising anti-microbial resistance (AMR)
- (vi) one health approach is still a nascent idea
- (vii) challenges of global south with high vulnerability

WHO efforts to have Pandemic Treaty is welcome. Further Gandhinagar

Declaration for creation of online platform for sharing resources showcase India's effort as being voice of global South who are most vulnerable.

9.

"पूर्वी और मध्य भारत का संसाधन अभिराम वामपंथी उग्रवाद का एक महत्वपूर्ण चालक रहा है"। इन क्षेत्रों के सतत और समावेशी विकास के लिए उपायों को विस्तार से बताइए और सुझाव दीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

"The resource curse of Eastern and Central India has been a crucial driver of LWE". Elaborate and suggest measures for sustainable and inclusive development of the region.

(Answer in 150 words) 10 Marks

Resource curse is an oxymoron, where despite having natural mineral resources there is overall poor development.

Resources

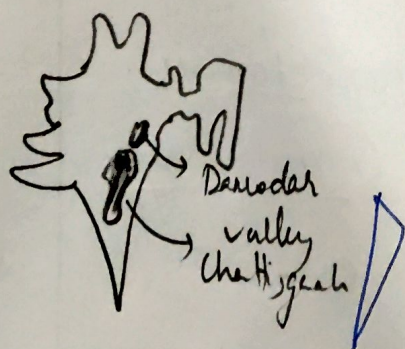
Curse

LWE

→ Peninsular block has huge resources from coal, iron, manganese

→ Lack of inclusive growth
→ Exploitation of mine workers

→ Ideological support for decentralization (without state)



Ex: Korba, Talcher, Baster, Gadchiroli are important mine areas

→ Tribal rights are curtailed

→ violent means to overthrow government

→ Inter-regional inequality

→ recourse to extremist measures

→ Lack of development

Measures

1. Adopt constitutional provisions of 5th scheduled areas in letter & spirit (frame PESA rules in remaining states)
2. Ensure District Mineral fund is used for local development and there is more transparency
3. Create a dedicated policy at state level at chief secretary level with emphasis on whole of society approach
4. Protect tribal rights like FRA Act and harmonize it with other laws like Forest Conservation Act
5. Ensure effective rehabilitation of those surrendering
6. Good governance initiatives like Think - B by Rajat Bansal, hospital by Tamboli Ayyaj
Further there should be smart & sensitive policy as it's both development & law & order issue.

10. उत्तर पूर्व और जम्मू-कश्मीर क्षेत्र में हिंसा की घटती प्रवृत्ति के आलोक में क्या आपको लगता है कि एफएसपीए (अफ़्सा) अपनी उपयोगिता बरकरार रख पाया है? टिप्पणी कीजिए (150 शब्दों में उत्तर दीजिए) 10 अंक
 In light of the declining trend of violence in the North East and J&K region do you think that AFSPA has lived its utility? Comment. (Answer in 150 words) 10 Marks

Recent reports suggest that insurgency incidents have reduced by 70% in North East in past ten years. Similarly in J&K there is relative stability (eg: G20 Tourism meeting happened)

Role of AFSPA

Armed Forces Special Protection Act is aimed to ensure a procedure is established by law for security forces to take strict and swift action.

It safeguards the army & defence forces like Assam Rifles. It helps to tackle insurgent groups.

Challenges of AFSPA

- ↳ cases of violation of human rights
- ↳ Draconian provisions

- ↳ Blanket safety net to security forces
- ↳ several committees have recommended against it

Recent changes

Government has revoked it from several states and is now operating only in select regions which government aims to bring under security net and hence remove AFSPA

In Jammu & Kashmir

There is an AFSPA equivalent ^{publ} legislation that protect the armed forces. Given rise of lone-wolf attacks and overground workers, it's important to have a legislation that protect police

Thus, AFSPA should be removed in phased manner. In meantime, there should be more sensitivity training among forces to respect human rights & create a fine balance

11.

अंतर्राष्ट्रीय व्यापार प्रमुख मुद्रा प्रतिष्ठान (विशेष) पर केंद्रित है। अंतर्राष्ट्रीय व्यापार में हार्ड करेंसी (दुर्लभ मुद्रा) के महत्त्व का आलोचनात्मक विश्लेषण कीजिए और डॉलर साम्राज्यवाद के विकल्प के रूप में वैश्विक व्यापार में रुपये की स्वीकार्यता की संभावना पर चर्चा कीजिए।

(250 शब्दों में उत्तर दीजिए) 15 अंक

International trade is centred on the dominant currency paradigm (DCM). Critically Analyze the importance of Hard currency in International trade and Discuss the potential of rupee acceptance in global trade as an alternative to dollar imperialism.

(Answer in 250 words) 15 Marks

Recent debate on de-dollarization has brought to fore the global dominance of US backed dollar. It leverages the network effect.

Role of hard currency

- ↳ It is more stable (like Dollar)
- ↳ It is backed by US Fed (high credit rating)
- ↳ It is highly liquid (due to capital account convertibility)
- ↳ It has trust of international market (even during 2008 crisis, US dollar rose)
- ↳ It is used widely and has network effect that create positive feedback loop

Counter arguments

- ↳ credit rating agencies like Moody's show bias towards advanced economy (Economic survey argues that we have never defaulted & that ^{we} have strong macro fundamentals yet we have poor rating)
- ↳ It can be weaponized by one country or a trading bloc (eg: NATO allies)
- ↳ Bilateral trade on mutual trust can leverage their own currency (eg: rupee-ruble trade)
- ↳ overall financial institutions (like IMF & MDB) need reforms like Quota measures to have more inclusivity

Potential of Rupee

- ↳ It can be used in bilateral trade (eg: within BRICS nation)
- ↳ with CBDC, there can be faster international settlements
- ↳ we can use it for increasing our financial sector overall competitiveness
- ↳ can be used for FDI

Challenges of Rupee

- ↳ lack full convertibility
- ↳ Subject to government control (Eg: risk of demonetization)
- ↳ Trade deficit creates long term feasibility issue

In this context, RBI has proposed short-term, medium and long term measures like harmonise taxation & regulation policies & boost Masala bonds, which can be adopted

जनसांख्यिकीय लाभांश संवृद्धि सुनिश्चित नहीं करता है; यह केवल सामर्थ्य उत्पन्न करता है। जनसांख्यिकीय परिवर्तन से उत्पन्न अवसरों का लाभ उठाने के लिए सरकार द्वारा उठाए गए कदमों पर चर्चा कीजिए।

A demographic Dividend does not ensure growth; it only generates potential. Discuss the steps made by the government to take advantage of the opportunities presented by the demographic transition.

(250 शब्दों में उत्तर दीजिए) 15 अंक
(Answer in 250 words) 15 Marks

Demographic dividend is a potential promise of demography. India has highest population in world aged 30 years of less and median age of average 28 years. Till 2050 we have window of highly young active workforce.

To reap its Government steps are :-

① Education and skill development

↳ Samagra Shiksha Abhiyan

↳ Promotion of STEM (Vigyan Tyoti scholarships)

↳ Internationalization of higher education

↳ NEP 2020 (policy measure)

- ↳ PM Kaushal Vikas Yojana
- ↳ Anusrit Keddhi emphasis in budget
- ↳ National Skill Development Council
- ↳ Jan Sikshan Sansadhan
- ↳ Intl collaboration with Germany, Japan
- ↳ Skill bonds
- ↳ ASEEM portal

② Healthcare initiatives

- ↳ PM-JAY
- ↳ Ayushman Bharat
- ↳ AYUSH promotion

③ Boosting jobs creation

- ↳ Production Linked Incentive (14 sectors to generate 60m jobs)
- ↳ Mega Textile parks, food parks
- ↳ Emphasis on logistics creation
- ↳ Attracting more investment

④ Promoting Entrepreneurship

- ↳ Startup India Policy
- ↳ hand of hands for startups

⑤ Boosting new sectors

- ↳ SCONET policy for trade promotion
- ↳ AI promotion
- ↳ jobs in green hydrogen mission
- ↳ ONDC

⑥ Financial inclusion

- ↳ SHG - Bank linkage (Lakshmi Didi)
- ↳ Standup scheme, Mudra loans
- ↳ social security nets like ATO Pension, Ujjwala Yojana

⑦ International measures

- ↳ Global Investor Summit by state governments (Eg: UP)
- ↳ Labour 20 to discuss new mobility challenges

These steps are welcome. We should work to address specific challenges like low women participation in economy, skill mismatch in youth (Skill India report) and ensuring industry-academic partnership. Innovative measures like DUET by Jean Druze should be promoted.

13. 'जीनोम एडिटिंग (जीनोम संपादन) में फसल सुधार की अपार संभावनाएँ हैं, लेकिन यह नैतिक और सुरक्षा संबंधी चिंताओं को भी जन्म देती है।' भारत में जीनोम-संपादित पादपों के सुरक्षा मूल्यांकन के लिए नए दिशानिर्देश आनुवंशिक रूप से संशोधित फसलों की सुरक्षा को कितना सुनिश्चित करते हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक
- 'Genome editing holds immense potential for crop improvement, but it also raises ethical and safety concerns'. How far do the new guidelines for the safety assessment of genome-edited plants in India ensure the safety of genetically modified crops? (Answer in 250 words) 15 Marks

Genome editing is a bio-technology editing tool using advanced technology like CRISPR-CAS9 to make changes in gene level.

Eg: Bt Cotton, GM Mustard.

Potential

- ↳ It can help to increase overall productivity and help ensure food security
- ↳ It can enhance farmer income (Eg: Bt Cotton revolutionized cotton sector)
- ↳ It can be effective against pest attacks
- ↳ It can reduce fertilizer and nutrient requirement (also help against land degradation)

↳ Through genetic editing we can create climate resilient modifications

Challenges

- ↳ Lead to monoculture and biodiversity loss
- ↳ Increase information asymmetry with rise of private GM firms
- ↳ Effect local natural environment
(eg: affect natural food chain, harmful to bees)
- ↳ Specific challenges like GM Mustard could lead to loss of women labour in farm
- ↳ safety challenges are still unproven given nascent stage of technology
(eg: affect on health)

Govt guidelines

Ministry of forest, Environment and Climate Change's committee for approval of genetic

crops has given guidelines which can help to address the safety concerns

- ↳ GM Soyabean can be allowed to import as it can be used as feed for livestock
- ↳ Proper tests and results be done before adoption
- ↳ Differentiated between Genetically Engineered and Genetically Modified Crops (latter introduces foreign DNA)

Overall potential is immense, but must be adopted in careful, calibrated manner and after taking all stakeholders into confidence

भारत में कृषि क्षेत्र पर प्रत्यक्ष और अप्रत्यक्ष कृषि सब्सिडी के प्रभाव की चर्चा कीजिए। न्यूनतम समर्थन मूल्य (एमएसपी) ने कृषि अर्थव्यवस्था को किस प्रकार प्रभावित किया है?

(250 शब्दों में उत्तर दीजिए) 15 अंक

Discuss the impact of direct and indirect farm subsidies on the agriculture sector in India. How have Minimum Support Prices (MSP) affected the agricultural economy? (Answer in 250 words) 15 Marks

Indian agriculture has range of subsidies from seeds, irrigation, fertilizers to price support (MSP) offered by both state and central governments.

Impact

1. Distorted the agriculture sector in favour of few crops, few regions and few rich farmers who misuse the subsidy
2. Led to shift focus from infrastructure support & market reforms to input subsidy measures
3. Created culture of freebies and led to handicapped farmer ability to take decision best suited for their needs
4. Huge financial constraint (eg: more than 2.5 lakh crore spend on fertilizers)

5. Specific challenges

- fertilizers: low incentive for companies to innovate, changed soil nutrient composition (Karni Morhi Committee)
- Irrigation: water guzzling crops in Northern India
- Power: cross subsidization prevent reforms in sector

6. Limited investment in agri research & technology

7. Environment challenges

- 87% groundwater utilization
- indiscriminate fertilizer use (wastage)
- land degradation and salinization

8. Not WTO compliant (amber box)

Effect of MSP

1. Distorted market in favour of rice & wheat
2. Favoured few farmers (6% noted by Shanta Committee)
3. Led to distortion of market and regional

inequalities (Ex: wheat in UP, Haryana, Rice in Punjab, Telangana)

4. FCI challenges have exposed high leakages (upto 40% noted by Sumanathan)

5. Contribute to inflationary trend

Positive impact of MSP

↳ surety of farmers for income security

↳ counter cobweb phenomena

↳ support food security program

↳ ensure procurement of food grain by government (address placement issue of private sector)

Way Ahead

Government has constituted a committee to review MSP. In mean time, we should leverage Shanta Committee report and Ashok Dalwai report for reducing inefficiency in system.

"Dewan Principles" under Agriculture do also provide measures for food security, which should be adopted.

15.

रोगाणुरोधी प्रतिरोध (एएमआर) एक तेजी से बढ़ता संकट है जो दुनिया भर में सार्वजनिक स्वास्थ्य के लिए एक गंभीर खतरा है। रोगाणुरोधी प्रतिरोध की बढ़ती समस्या में योगदान देने वाले प्रमुख कारक क्या हैं, और इस वैश्विक स्वास्थ्य खतरे से निपटने के लिए कौन से कदम उठाए जा सकते हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक

Antimicrobial resistance (AMR) is a rapidly escalating crisis that poses a grave threat to public health worldwide. What are the major contributing factors to the growing problem of antimicrobial resistance, and what steps can be taken to address this global health threat? (Answer in 250 words) 15 Marks

Antimicrobial resistance refers to ability of microbes (like bacteria, virus) to resist the effect ~~the effect~~ of antibiotics and thus lead to ineffectiveness of treatment.

Factors leading to it

↳ High usage of anti-biotics in both farm and cattle.

↳ Lack of awareness among people against indiscriminate use of scheduled drugs.

↳ Easy availability of drugs (off-the counter drugs)

↳ Climate change makes the mutations possible in virus

↳ Globalization has contributed to AMR as there is interchange of microbial particles and they mutate to develop resistance

As per worldbank report, it causes life of 7,00,000 people annually and will become a major threat by 2050 with economic impact as catastrophic as 2008 financial crisis.

Steps required

① International level

- ↳ WHO should create platform for AMR awareness
- ↳ Increased surveillance & monitoring
- ↳ Include AMR in pandemic treaty
- ↳ Adopt one health approach

② National Level:

- ↳ Countries should bring dedicated policies & plans
- ↳ create awareness among citizens
(Eg: Red line campaign in India)
- ↳ Monitoring drug use

③ Regional level:

- ↳ Doctors should advise against indiscriminate use
- ↳ Monitoring use by state government among farmers & liveshock breeders

Further, vaccines should be promoted instead of anti-biotics (used as last resort) and shift to one environment and one health approach to achieve

SDG 3.

विघटनकारी नवाचारों से आप क्या समझते हैं? हाल के दिनों में विघटनकारी नवाचार के कुछ उदाहरण बताइए और यह भी बताइए कि इन नवाचारों ने उद्योगों के संचालन के तरीके को किस प्रकार परिवर्तित किया है?

(250 शब्दों में उत्तर दीजिए) 15 अंक

What do you understand by Disruptive innovations? What are some examples of disruptive innovation in recent times, and how have they changed the way industries operate?

(Answer in 250 words) 15 Marks

Disruptive innovations refers to those changes and transformation in technology

that have revolutionized the sectors for eg:
Steam Engine was disruptive technology in 1750s in England.

Recent disruptive innovation

1) IR 4.0 → the associated technologies like AI, ML, IoT, massive machine-to-machine communication, augmented reality, drones have altered the way industries operate

2) Genetic engineering (eg: cloning)

3) Nano-technology (eg: nano concrete)

- 4) Synthetic textiles (Eg: nano textiles)
- 5) 3D printing (Eg: creation of post office in Karnataka)
- 6) smart materials (Eg: smart concrete with self-healing properties)
- 7) Space technology — low Earth orbit satellite & remote sensing (Eg: Starlink)
- 8) Generative AI — Eg: ChatGPT, Lambda, Bard, Ernie
- 9) Neuralink technologies
- 10) Superconductive materials (claims made in Korea)

Changed industries

Positive

- more efficiency
- reduced cost in long run (initial high capital cost)
- targeted customer engagement

Negatives

- Lead to job loss (with automation)
- Vulnerability to cyber attack
- New data colonization models

Specific industries like writers industry in USA (on strike), space sector, drone sector has seen huge disruptions.

Way Ahead

- ↳ Create risk based framework to regulate the disruptive technologies
- ↳ Ensure mismatch in skill level is filled
- ↳ Promote investment in capacity development (eg: CoE for AI)
- ↳ Invest in social security net

Business 20 framework of RAISE is a clarion call for ethical use of technology & sustainable business development.

17. हानि और क्षति (L&D) कोष के क्रमिक विकास को चिह्नित कीजिए। COP27 में हानि और क्षति कोष से संबंधित कौन-से प्रमुख घटनाक्रम हुए हैं? इस सम्मेलन में भारत ने क्या प्रतिबद्धताएँ व्यक्त की हैं? (250 शब्दों में उत्तर दीजिए) 15 अं.

Trace the evolution of the Loss and Damage fund. What are the major development related to loss and damage funds in COP 27?, What are the commitments made by India in this conference? (Answer in 250 words) 15 Marks

Loss and Damage refers to the destruction caused by climate change in those regions or countries which have not historically contributed to carbon emissions. Eg: Pakistan floods led to loss & damage running in billions of dollars.

Evolution

1. It was first discussed under Warsaw International Mechanism of Conference of Parties under UNFCCC
2. Santiago framework created measures to attract international focus on loss & damage
3. In COP26, there was demand for it but no action

4. In COP27 at Egypt, the countries agreed to work to create a framework to be discussed & adopted in UAE's COP28

Key developments

- ↳ countries agreed for a framework in principle
- ↳ however no actionable development
- ↳ mere transfer of discussion from one COP to another
- ↳ we support loss & damage framework

Indian commitments

- ↳ we presented our long term strategy document for carbon emissions reduction:
 - (i) 45% CO₂ eq. reduction by 2030
 - (ii) 50% share of non-fossil fuel in energy mix
 - (iii) 2.5 bn tonne eq. carbon sink creation

↳ we presented the CIFE framework for sustainable changes in lifestyle

↳ we joined MAA Mangrove Alliance for climate

↳ we adopted Breakthrough Agenda for climate mitigation

↳ India called on global nations to mobilize \$100 bn as promised

18. आपदा प्रबंधन सिर्फ आपात स्थिति से निपटने के बारे में नहीं है, बल्कि लचीले समुदायों के निर्माण के बारे में भी है। उन प्रमुख रणनीतियों पर चर्चा कीजिए जिनका उपयोग सामुदायिक लचीलापन बनाने और आपदाओं के प्रभाव को कम करने के लिए किया जा सकता है।

Disaster management is not just about responding to emergencies but also about building resilient communities. Discuss the key strategies that can be used to build community resilience and reduce the impact of disasters.

(250 शब्दों में उत्तर दीजिए) 15 अंक
(Answer in 250 words) 15 Marks

Effective disaster management includes holistic approach from risk-reduction to response to recovery & reconstruction.

Building resilient communities means creating local capacity and effectively analyzing risks, vulnerability and mitigating the disaster risk.

Key strategies

1. Localization of sustainable development and adaptation measures for democratization and decentralized measures

Eg: iFlows app by BMC (Mumbai)

Tsunami Ready villages in Odisha

Panchayati Raj Plan for Disaster Reduction effectively calls for local resilience

2. Leverage local community's traditional knowledge systems

Eg: use of bamboo in Bihar for earthquake resistant construction

Eg: Bhunge homes in Gujarat

3. Create a dedicated funding mechanism and use new sources like blended finance

4. Build local capacity (Eg: Apda Mitra scheme aims for volunteer approach in building community resilience)

5. Streamline & harmonize the matrix of responsibility & accountability

6. Adopt cheap, affordable nature based solutions

7. Use international best case studies
(Eg: sponge cities in China, Netherland model for flood control)
8. Forum like G20 be used for discussing new ideas (DRF engagement working group)
9. Promote technology and apps for training (Eg: AR/VR tools)
10. Conduct micro-zonation studies
11. Adopt locally relevant construction practices (as noted by Himachal CM)
12. Take a whole of society approach to include most vulnerable
13. Provide easy access to early warning system (EWS)

In this context, we can adopt PM-10 point guideline.

19. मेटावर्स और वर्चुअल एसेट्स जैसी नई और उभरती प्रौद्योगिकियों के उपयोग के माध्यम से आतंकवाद का परिवर्तन चिंता का विषय है। हम आतंकवादी उद्देश्यों के लिए नई और उभरती प्रौद्योगिकियों के उपयोग का मुकाबला किस प्रकार कर सकते हैं? इस संबंध में "दिल्ली घोषणा पत्र" के महत्व को स्पष्ट कीजिए।

(250 शब्दों में उत्तर दीजिए) 15 अंक

The transformation of terrorism through the use of new and emerging technologies like metaverse and virtual assets is a matter of concern. How can we counter the Use of New and Emerging Technologies for Terrorist Purposes and Elucidate the importance of the "Delhi declaration" in this regard?

(Answer in 250 words) 15 Marks

Terrorism is becoming a challenge with globalization and newer technologies like cryptocurrencies, metaverse, dark net, social media etc

Counter new & emerging tech

1. Adopt risk based framework against new technologies like AI
2. Promote global coordination (eg: FATF forum against terror financing)
3. Effective monitoring & surveillance of social media (social media herbs)
4. Adopt Christ church call of Action to remove violent content online

5. Bring framework/regulations against crypto currencies & NFT (Eg: EU draft law can be adopted)
6. Enhance coordination among security agencies at national & international level (Eg: LEFT-M, NRTD, IB, RAW)
7. Use technology for better coordination (Eg: NAT GRID)
8. Dismantle financing networks & sources (Eg: strict money laundering counter provisions, neutralize drone networks)
9. Under cover operations on dark net

Role of Delhi Declaration

India hosted Now Money for Terror conference (and also UNSC ^{Anti Terrorism} conference) which adopted Delhi Declaration

↳ It calls for unanimous action against terrorism

- ↳ support for international convention on terrorism
- ↳ global cooperation against terrorist financing.
- ↳ recognize role of new technologies & new methods (like smuggling of idols for terror financing)

Thus, we should work at both local, regional & international levels. Given the changing dynamics like rise of lone-wolf attacks, it is equally important to ensure de-radicalization measures.

Further there should be local community support in areas most prone to terrorism (like I&K). We should ensure calling out on state sponsored activities like in Pakistan.

20. "अग्निपथ योजना हमारे सशस्त्र बलों के लचीलेपन और प्रभावकारिता के लिए आवश्यक एक कड़वी गोली है।" प्रासंगिक तर्कों के साथ कथन का आलोचनात्मक विश्लेषण कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

"The Agnipath scheme is a bitter pill needed for the resilience and efficacy of our armed forces." Critically Analyze the statement with relevant arguments. (Answer in 250 words) 15 Marks

Agnipath scheme is a marquee initiative by the Government in consultation with defence forces that will revolutionize our armed forces.

Positives

- 1) Make the armed forces more lean (with only one-fourth retained after four years)
- 2) It will lead to reducing the average age of armed forces and have more dynamic and youthful, alert profile
- 3) It will ensure sufficient resources for capital investment in the army through reduced pension burden

- 4) It will emphasize on all India cadre rather than current recruitment on regional lines
- 5) Overall for those absorbed in civil society later, the savings will help to start new startup or join industry with more discipline (Eg: in Israel it complements defence forces with creation of defence startups)

Recently, Supreme court has upheld the scheme calling it as initiative which will increase resilience & efficiency.

Challenges ↔ A bitter pill

- 1) In short term as we shift to scheme there could be hurdles like how to best ensure those leaving service are absorbed in society
- 2) There could be grievances related to pensions (also Nidhi fund may be inadequate given high cost of living)

- 3) Transition phase would involve changing traditional SOPs and guidelines
- 4) Government should proactively measure the performance and bring reforms as and when required
(Eg: Later CAPF announced recruitment upto 10% for Agniveers)

Way Ahead

Overall it's a positive development for armed forces as we transition to newer generations of warfare involving hybrid warfare, space wars, cyber wars (non-kinetic & non-contact warfare).

Agniveers as they return to economy will further act as assets with high human capital and contribute towards building Manirbhar Bharat.