

TEST CODE	7	1	3	3	0	4
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MGP 2024

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	KASHISH KALRA		
Roll No./अनुक्रमांक	1910108392	Medium/माध्यम	English ☒ हिंदी ☐
Center Code/परीक्षा केंद्र	1901	Date/दिनांक	6 th September

*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। 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 प्रदेश 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।
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Total/कुल अंक	250		For Student Only / केवल परीक्षार्थी प्रयोग हेतु
Examiner's Discretion/मूल्यांकन कर्ता का विवेक :			Start Time/प्रारंभ करने का समय : 9:30 AM
			End Time/समाप्त करने का समय : 12:30 AM
Total Marks/कुल अंक :			Mode Of Examination/ परीक्षा की विधि :
			Online/ऑनलाइन ☒ Offline/ऑफलाइन ☒
*Examiner's Discretion is the marks awarded at the discretion of the examiner based on your overall impression, on the basis of (but not limited to) your handwriting, presentation, use of diagrams, flowcharts, facts and figures or absolutely anything that he/she liked in your copy. मूल्यांकन कर्ता का विवेक अंक, आपकी लिखावट, प्रस्तुति, आरेखों के उपयोग, फ्लोचार्ट, तथ्यों और आंकड़ों या 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।			For Office Use Only / केवल कार्यालय प्रयोग हेतु
			ECN CODE/ ईसीएन कोड : EG/ईजी : 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) 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)

Free Trade Agreements are arrangements between countries and regions to reduce tariff and nontariff barriers. India has 14 FTAs. The focus is increasing.

REASONS FOR INCREASED FOCUS

- 1.7 FTAs lead to increased foreign investments; boost domestic manufacturing (17% of GDP)
- 2.7 Along with FTAs; there is transfer of technology and give push to KNOWLEDGE ECONOMY in India
(e.g. India-UAE CEPA)
- 3.7 FTAs with decreased duty - help improve Export competitiveness of Indian products.

4.7 coupled with one District one Product : it is in line — Local for Global

5) FTAs help in ensuring supply chain resilience
eg) being Negotiated — BTIA 2007 with EU.

6) FTA help give push to Friendshoring and Nearshoring; to avoid risk of weaponisation of supply chains.

eg) India-ASEAN FTA 2010.

7) FTAs are being renegotiated to better suit Indian needs.

↳ prevent large dumping of goods in Indian markets.

Need is for "Re-globalisation" in era marked with increased protectionism. Just, inclusive FTAs are way to achieve that

Feedback

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AWIS			
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S & F			
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Please put tick marks in the above table.

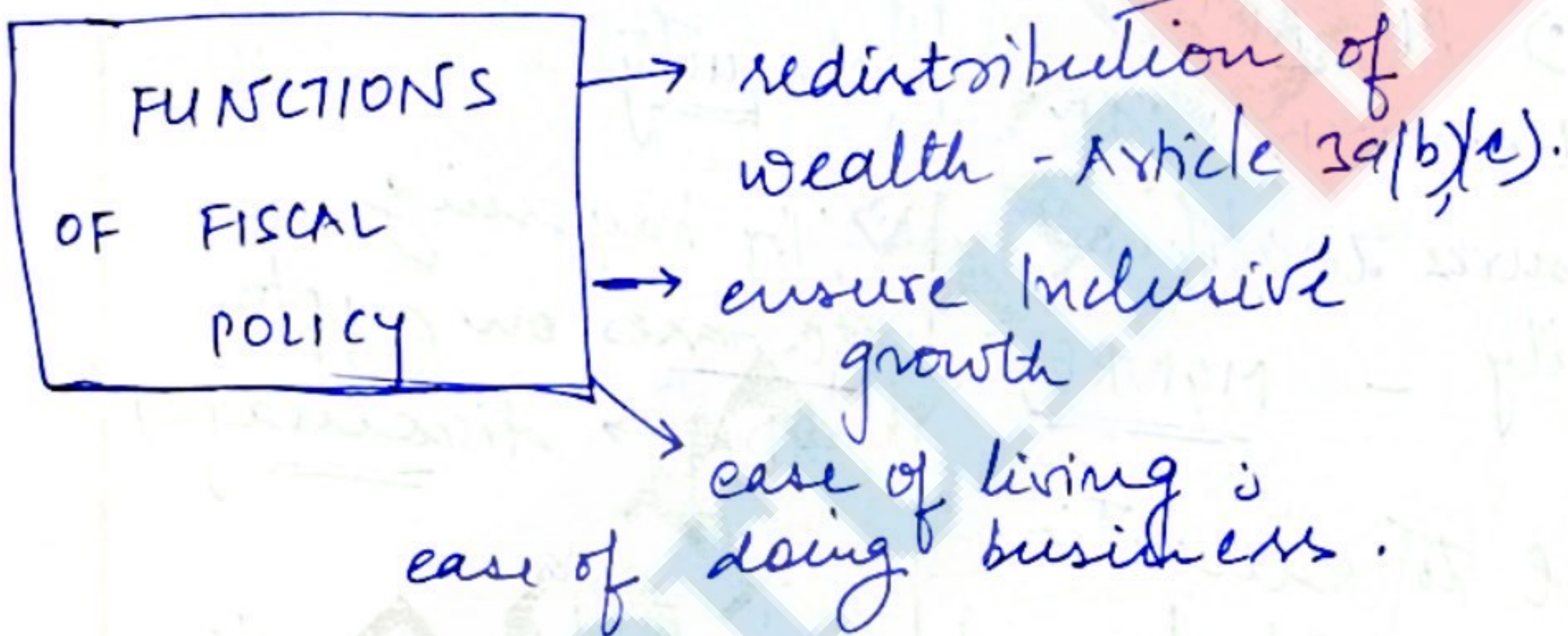
Here G is Good, Average and P is Poor.

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 defined as government's use of expenditure and revenue as tools to give impetus to economic growth.



EXPENDITURE	REVENUE
1.7 Government through <u>capital expenditure</u> - [Rs 11,11,111 lakh crore] * multiplier effect → generates employment	1.7 government uses <u>PROGRESSIVE taxation</u> - to higher tax on higher income groups

2) ensures agricultural production —
PM Krishi Vikas Yojana

3) gives push to HEALTH infrastructure

o) POSHAN

o) PM ABY

→ reduce IMR, MMR.

4) ensures livelihood security — MGNREGA

5) push to Education —

o) PM Shri Schools

o) BBSP scheme.

6) Food processing : MSME — through PLI; PMFME, etc

2) government [sin] imposes coal cess to discourage use of fossil fuels; and fund programmes

3) By imposing less GST on mass consumption goods → equity

4) By imposing high taxes on crypto, VDA → discouraged

5) Through — Special Economic Zones: Tax cuts; holidays → promote manufacturing, boost exports.

Robust Fiscal Policy — coupled with agile monetary policy — are key to achieve high income growth i.e. inclusive, sustainable

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.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 imported 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)

India is one of the largest producers of edible oil [5-7% of global production]. Yet; imports about [57%] of its consumption needs.

PRIMARY FACTORS - Reliance on imported edible oil

1.7 Increasing demand

↳ increasing population
[per capita demand = 17 Kg/-]

↳ increasing disposable income —
PRICE SENSITIVE ↔ 13% Rich
55% Middle Class.

↳ popularity of Fast Foods.

2.7 shortfall in production
only 12 Mt.

3.7 Poor extraction from oil seeds —

- 1) 30-40% as compared to 50-60% (global avg)
- 2) lack of technology.
- 4) DWARFISM in oil industries.
- 5) environmental damage; threat to biodiversity (e.g. orangutan in S.E. Asia)

MEASURES to increase production

- 1) increase production → PM Mission on
 - 1) edible oil - Palm oil
 - 2) New geographies - North East
- 2) increasing productivity
 - 1) integrating technology.
 - * DMH-11 Mustard * increase yield.
 - 2) PM FME to lead to ECONOMIES OF SCALE
- 3) cluster-based approach.
- 4) improve agriculture extension services

These measures can ensure ATMA NABARD ATMA in edible oil. Need to balance sustainability of environment with production

Feedback

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Please put tick marks in the above table.
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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)

Micro-irrigation involves use of sprinkler systems, drip irrigation etc. that ensure target delivery of water to crops

MICRO-IRRIGATION - SUSTAINABLE solution

India's Freshwater resources - 4%
Population - 17%

In this light - Micro way out -

- 1) improve ENERGY savings = 30%
- 2) enhance production = 45%
- 3) improve productivity = 50%
- 4) water use efficiency = 80-90%
Lat present = 50-60%
- 5) save fertilizers usage - 7-42%

6) Farmers help restored degraded land
[522 hectares] using micro-irrigation

usage of it remains SKEWED

1) heavy cost of adoption.

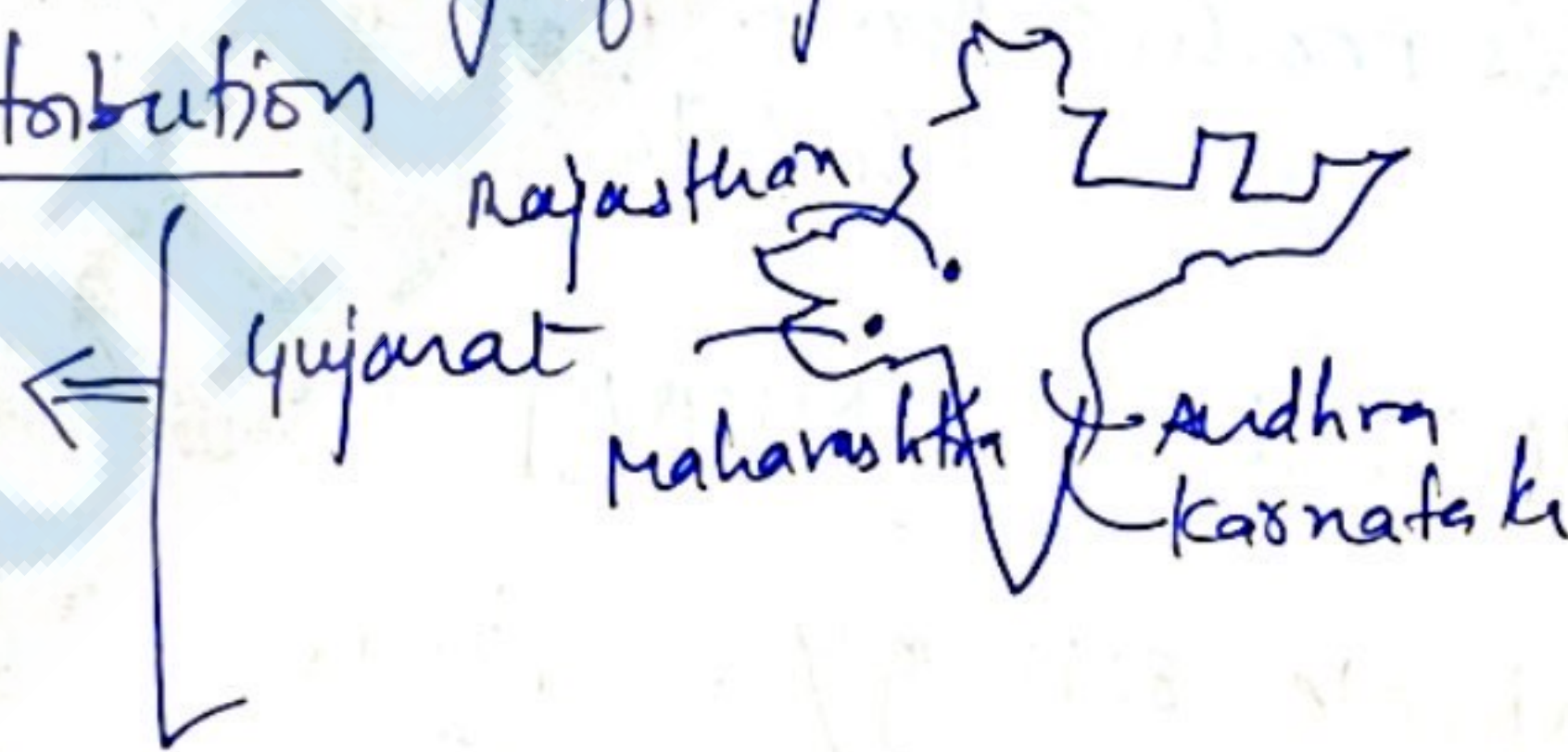
↳ [89%] farmers are small and marginal
average land holding 1.08 ha

2) high cost of maintenance

↳ regular services required —
•) clogging of sprinklers.
•) unavailability of experts.

3) skewed distribution

75% of
micro irrigation
adopted.



4) Poor awareness + lack of incentive

Way Forward → Micro Irrigation Fund - NABARD
→ Per Drop More Crop - PM KSY.

Micro-irrigation can help save water and help in climate resilient agriculture

Feedba

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Here G is Good Average and P Poor.

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)

Recent accidents in Jharkhand (2024) and Balasore (2023) brought to light urgent necessity for addressing challenges in Railways

MYRIAD CHALLENGES -:

I. safety

1) 26 lakh lives lost between 2010-11 to 2020-21 (NCRB)

2) lack of adoption of safety measures like KAVACH.

3) Unmanned crossings - accidents = 251.

II. Undercapacity

1) around 21,000 trains — operate with 23 million passengers every day; 3 million freight.

2.7 Vacancies in critical staff -
2.5 lakh

3.7 Freight take 2-3 Days more via rail than road.

III MODERNISATION

1.7 of 65000 km length - only
45000 km is electrified

2.7 silos based approach in working of railways

2.7 Poor adoption of technology -
~~coaches~~ LHB coaches - yet not completely adopted.

Way FORWARD

- eliminate all level crossings [Kakodkar Committee]
- establish Railway Safety Board [Khanna Railway Safety Committee]
- establish independent regulator - invite private sector [Bibek Debroy Committee]

Railways - safe; affordable, accessible, modern - can become growth engines of VIKAS YATRA

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TOTAL MARKS	
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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)

NISAR is collab between NASA and ISRO - in field of earth observation satellite

Exemplifies Int'l Cooperation in space

- 1) NASA to provide - L Band
- 2) ISRO → S Band

It will aid scientific research

1) First dual band synthetic aperture radar.

- 2) open data code - enable further research and innovation
- 3) pave way for future cooperation

Help in climate change monitoring and Natural hazard management

- 1) Help monitor the ice caps; ice cover loss → improve data aggregation
 - 2) Monitor the forest cover; help estimate carbon sinks; GHG levels :-
 - 3) Keep sight on soil moisture levels → help predict disasters: liquefaction
 - 4) as groundwater levels is monitored → enable its planned use; and monitor extraction levels.
 - 5) Keep track of ocean acidification levels; sea level rise → better risk management.
 - 6) It can help in formulation of management plans; build resilience; monitor response
 - 7) discovering alternate hydrocarbon; renewable sources.
- NIS/HR is exemplification of international cooperation

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
integrates the harnessing of
atomic nuclei energy in modern
day applications

transformative role in
food security and
agriculture sustainability.

1) Nuclear can help in gene
mutation

↳ enable better quality
seeds.

↳ improved productivity

↳ climate resilience

pest resistance.

2) using nuclear isotopes →
soil health can be improved in

improving NITROGEN absorption

3). sterile pest technology
↳ to decrease pest attacks
↳ reduce harvest losses.

4). using Nuclear in FOOD -
IRRADIATION (gamma rays)
↳ to check post harvest losses
(90,000 tonnes)

5). nuclear energy → electricity
can be used in each stage of
agriculture supply chain.

challenge) → high cost, less awareness
decreased trust on safety
of Nuclear.

Nevertheless; with
land holding; improved extension
services; better R&D; nuclear
energy can help in sustainable
agriculture

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)

Forest Fires defined as uncontrolled combustion in forest of Natural Fuel. Indian forests are vulnerable to Forest Fires.

36% Medium risk.
6% High Risk.
4% Very High Risk.

Cause

- 1) Monoculture
- 2) cigarette butts
- 3) slash and burn

Map:
Risk Map.



Multidimensional Impact

POSITIVE	NEGATIVE
1) regeneration ↳ Natural 2) weeds out invasive species.	1) burning of trees ↳ CARBON exposed soil cover ↳ SINK lost ↳ soil erosion 2) enhanced pollution

- Negative
- 3) risk to forest personnel;
forest dwelling communities
 - 4) loss of livelihood - NTFP; timber
 - 5) slowed regeneration -
 - 6) - Microclimate affected - heat
 - 7) loss of biodiversity - Animals
hunt

Measures

- 1) Hazard zone Mapping: Vulnerability
assessment
- 2) proper SOPs in relief measures.
- 3) early warning systems
- 4) integrate technology - DRONES -
to aid rescue operations
- 5) reduce MONOCULTURE - more prone
to forest fires.
- 6) gender sensitive; disability responsive
action plan.

Forest Fires although
~~unintentional~~ Natural; are now
human-caused due to negligence. Need
to reduce hazard risks.

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)

Recent surge in terror related incidents — in Jammu — Kathua and Reasi district is a distinct trend.

↳ it neglecting of pilgrims; migrants, personnel.

Causes

- 1) improved security in Kashmir → change in TACTICS → hitherto "peaceful" Jammu.
- 2) different geography → Hills; Forested → easy to target
- 3) forces deployment in LACs post Galwan
- 4) improved communication — between terror groups: technology.
- 5) disillusionment with forces — after Galwan Incident

Measures

- 1) CBIM + Bold BIT
smart Border management
- 2) increased troop deployment
- 3) better intelligence
↳ HUMINT + TECHINT
- 4) increased international coordination ↳ PATF —
build counter narrative
against terrorism (CCIT).
- 5) vibrant villages — community
engagement
- 6) cut funding sources of terror
networks
- 7) trust building efforts with
community

Terrorism is the
gravest threat. Need for stake holder
based approach to ensure
SECURITY

Feedb
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Average and
Poor.

TOTAL MARKS	
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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 is defined as coercing individual to carry out cyber warfare; espionage; attacks

5000 Indians - as cyber slaves in Cambodia

IMPLICATIONS

- 1) increased cyber attacks —
 - ↳ cyber web — chain hopping
 - ↳ crypto mixing
 - ↳ ransomware
- 2) Increased Honey trapping incidents using social media
- 3) cyber espionage — using dark web
- 4) terror recruitment and training using cyber web

1) 'Quest For Bush'
M Qaida Video Game

2) loss of revenue to Government
↳ increased money
laundering.

3) Terror financing - threat to
Indian security, unity and
integrity.

measures → inter agency
coordination [FIU-ND
NTA]
→ MEA + MoHA + MoD

↳ to recover cyber slaves and
integrate in society.

↳ international cooperation.

cyber slavery is
new weapon in arsenal of
Hybrid Warfare. need for better
smarten strategies to prevent it

Feedback
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P & R		

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

liberalisation policies of 1991 were comprehensive structural reforms in Indian economy with aim to integrate into global value chains.

LPY-1991 — ENHANCED ECONOMIC DYNAMISM

1.7 Ease of doing business —

1) liberal policies — ~~not~~ ease of entry reforms; ending the system of license Raj

2) enhanced credit availability — various private and foreign banks

2.7 Increased push to INFRASTRUCTURE development → efficient transport; communication systems.

- 3) currency devaluation - to
improve export competitiveness
- 4) began privatisation - to bring
efficiency in economy
- 5) eased FDI and FPI norms -
to bring capital investment
in country
- 6) focus on E-governance : to ensure
stability and inclusive growth

EVOLVING GLOBAL - DOMESTIC LANDSCAPE — → REFORMS 2.0

Reforms in 1991 helped achieve
growth rate of 10-12%; coming
out of 'Hindu rate' [3%].

(1) JOBLESS growth : service sector led
growth; premature-deindustrialisation
→ 51% of graduates unemployable
[ES-23-24]

(2) increased disparities : Top 10% hold

77% of wealth (or fam).

3) increasing push for DIGITAL and KNOWLEDGE ECONOMY

but lack of skilled labour —

4) increasing supply chain vulnerabilities in the geopolitical game.

difficult to secure raw materials.

⑨ REE: vitamins of modern industry

5) decreasing agricultural productivity

- ↳ lack of adoption of MECHANISATION
- ↳ monoculture.
- ↳ huge dependence on imports of edible oil, pulses.

6) Need to BALANCE economic growth with environment sustainability.

Way Forward → Lewis Model — reduce disguised unemployment
→ vocational education
→ re-globalisation.

comprehensive —
continuous reforms 2.0 key to sustainable growth

Feedback

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



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)

Infrastructure includes physical & social systems that improve connectivity; ensure ease of living and ease of business.

Need for INFRASTRUCTURE

In Budget 23-24: Rs 11,11,111 crore was earmarked for capex

1. ECONOMIC TRANSFORMATION

1) Infrastructure - CONNECTIVITY: transport connect market linkages -

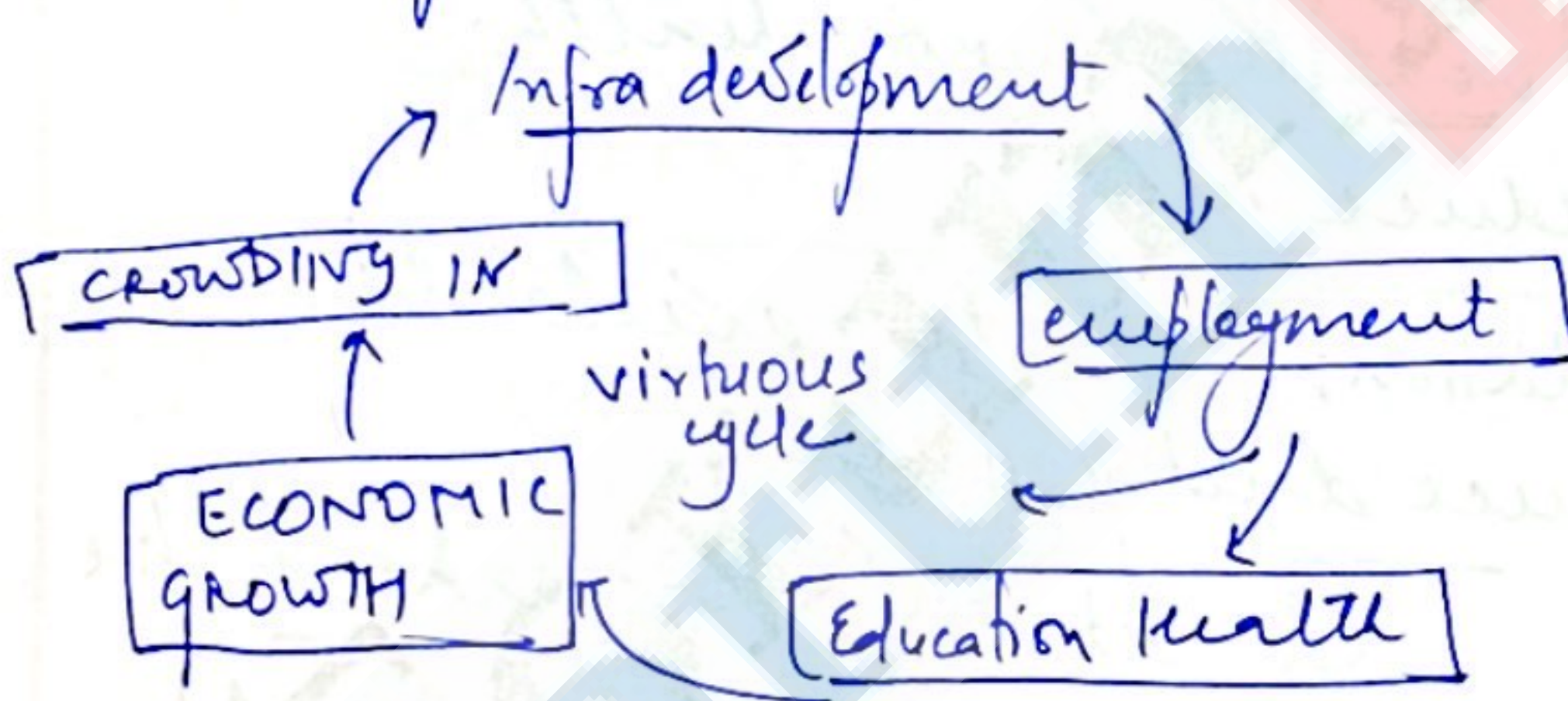
→ help in agri-price realisation
(eg) PM 954.

2) Work as MULTIPLIER; as incentivises private spending (CROWDING IN) in industries.

3) improve employment opportunities
 * EFFECTIVE LABOUR MARKET *

eg. with METRO ↑

4) Health infrastructure - hospitals, etc.
improve life longevity - strong.
Working force - contribute to
Economy.



II. SUSTAINABLE DEVELOPMENT and Wellbeing

1) infrastructure - GREEN CORRIDORS
renewable energy grids;
help in energy conservation

2) green buildings - reduce GHG
emissions

- 3.) Infrastructure — EDUCATION: HET, schools : improve livelihood opportunity, help escape poverty
- 4.) Better cold storages : help in food processing; reduce — rural distress.
- 5.) improved gas pipelines: PM Ujjwala help women — improve health, reduce risks.
- 6.) sanitation; tapwater availability — reduce dredging work.
④ Water Wives — Maharashtra
- 7.) Kar Ghar solar — help in household earnings + save energy.

Infrastructure has multidimensional impact. It helps in 4 fold capital — physical, social, cultural, human (Joseph Stiglitz).

Feedl
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TOTAL MARKS	

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 involves -
farming of fisheries, shrimp; aquatic plants; etc. With both inland and coastal farming: huge potential in India.

SIGNIFICANCE

I. Nutrition security

- 1) reduce hidden hunger:
cheap source of protein → 35% children stunted
- 2) improve women's health;
- 3) better omega 3 - micro-nutrient source.
- 4) cheaper than red meat - help solve - squeezed food budget problem

II livelihood generation

- 1) long coastline (7500+ km) -
integration of modern
techniques - can improve productivity
- 2) labour intensive - (eg) shrimp
farming
generate jobs

III ECONOMIC GROWTH

- 1) Fill the gaps in agricultural growth
[4% target].
- 2) ornamental fisheries - huge
export potential
- 3) reduce distressed, disguised
employment in agriculture.
- 4) development of auxiliary industries -
(eg) Food Processing

measures taken by government

- 1) PM Matsya Sampada Yojana -

- giving input support to marine fishermen.
- 2). credit availability - through Kisan Credit Card scheme
- 3). operation greens - include shrimp.
 ↳ assured price support.
- 4). inclusion of [Blue Economy] as one of the pillars of SAGAR initiative
- 5). giving training and education to fishermen. (eg) Lakshadweep
- 6). infrastructure development - [FIDF]
- 7). research and development. - marine fisheries research institute

aquaculture has huge potential in India. Need to harness it with integration of modern technology; and ensure environment sustainability as well.

Feedback

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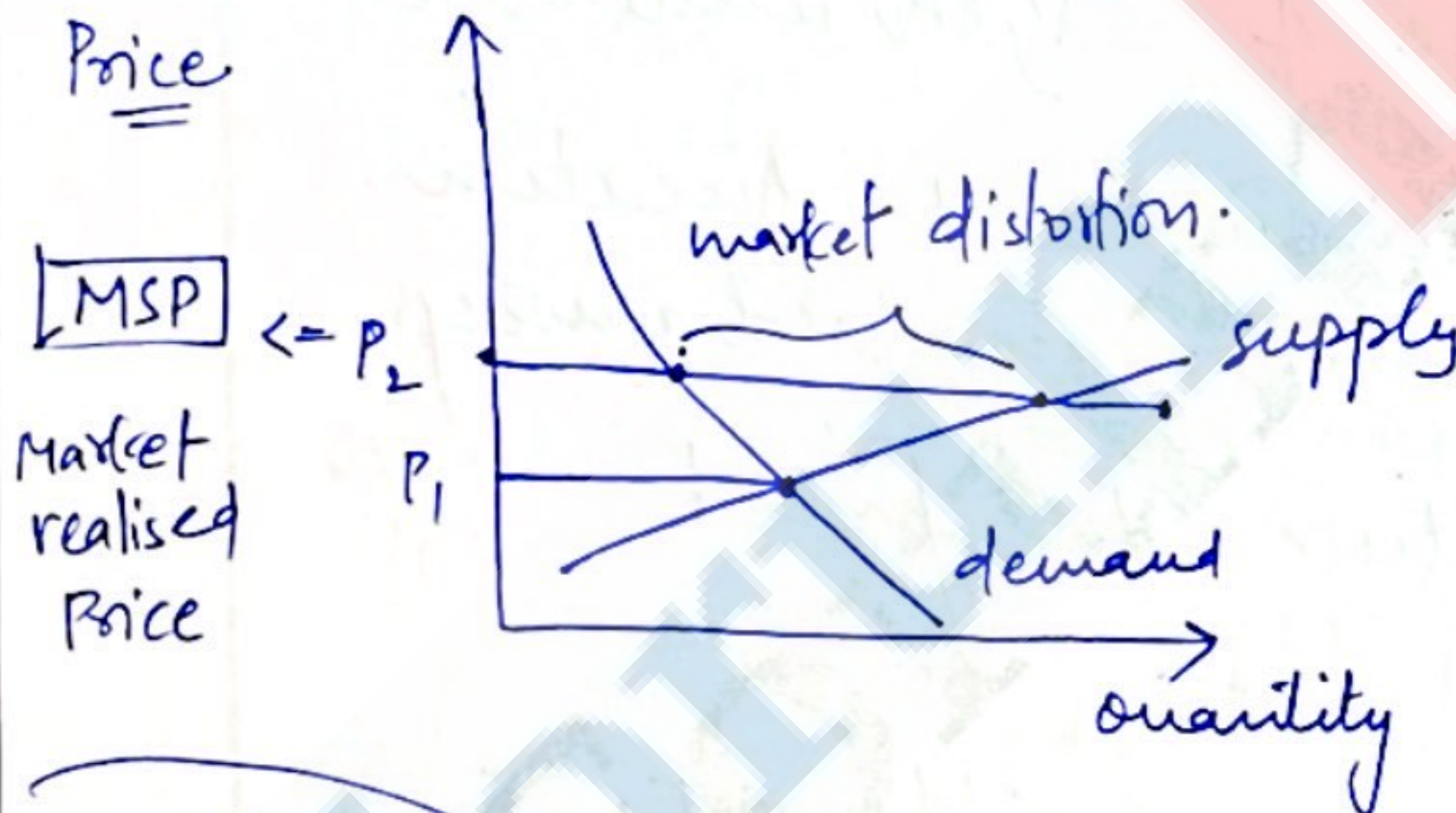


Q.14) The MSP system, though well-intentioned, has led to market distortions and ecological stress, necessitating reforms to make it more inclusive and efficient. Examine. (15 marks, 250 words)

MSP प्रणाली, हालांकि अच्छी नीयत से बनाई गई है, लेकिन इसने बाजार में विकृतियां 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 the guarantee by government
on 22 crops about assured procurement
Its main aim is to protect farmers
against distress sales.



Well intentioned → give farmers assured procurement
APMC-infrastructure → feeder for PDS system - food security
→ helps crop diversification

MARKET DISTORTION; ECOLOGICAL STRESS-

1.) Procurement - Regional disparity:

About 50-60% procurement of wheat and rice from Punjab, Haryana.

2) Shanta Kumar Committee —
only 6% of Farmers Benefitting.

3) Has promoted MONOCULTURES —
 1) wheat-rice system
 2) less procurement of others —
 (e.g.) pulses.
 ↳ high imports.

4) ecological distress —
 1) crops not suited to agro ecologies
 (e.g.) sugarcane in Rajasthan.

5) troubles at WTO — Amber Box subsidy issue

6) MSP has become political issue —
 ↳ created a PATRON-CLIENT relationship with Government.

7) burden on state — 2.2 lakh crore

REFORMS = Necessity

1) M.S. Swaminathan Committee —

different comprehensive MSP formula
[C2.]

- 2) PM AASHA : enhanced procurement of pulses and oil seeds
- 3) improve private participation in procurement.
- 4) enable crop diversification — through incentives, credit availability
- 5) Price deficiency scheme : to fill gap between MSP and market price.
- 6) improve infra — PSC 2017
 - cold chain coordination and management committee
 - value addition : PM FME; ^{PLI}
- 7) Model Contract Farming Law [Dalwai Panel].

With comprehensive agro-reforms; goal of doubling farmers' income + sustainable agriculture can be realised.

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 involves use of cellular biology in technology; harnessing the energy. It has wide applications due to immense potential:

I. SUSTAINABLE FOOD PRODUCTION

- 1) making drought resistant varieties of wheat; rice.
- 2) improve productivity
 (eg) Bt Cotton, ~~also~~ increased pest resistance
- 3) improve yields; oil extraction
 (eg) DMH-11 Mustard
 ↓
 reduce import dependence [57%].

II. Efficient Waste Management

using BIOREMEDIATION-

- 1) to fasten process of bio-degradation
- 2) reduce wastage; help improve soil fertility
- 3) ensure waste to energy.
using Bio-algal technology
- 4) with Bioinformatics: better waste procurement, segregation and recycling.

III. Health

- 1) Bio-tech enables better testing and diagnostics.
(e.g. ELISA)
- 2) enable personalised medicine - that suits person's genetic makeup
- 3) CRISPR - enables therapies like CAR-T cell therapy.
- 4) life saving technologies - STEM cell therapy

5) human genome India Project -
for better disease surveillance

6) faster development of vaccines

eg coraxin etc [subunit peptide vaccines].
[DNA; mRNA vaccines]
eg pfizer

challenges → ~~lack~~ lack of industry-academia linkage
→ 259 researchers / million population
→ threat - ETHICAL concerns
eg designer babies
→ impact on environment -
eg on pollinators with DMH-11.

Way Forward → multidisciplinary approach
→ improve research -
eg NRF

Biotechnology has huge potential. With better integration, awareness can improve PRODUCTIVITY; SUSTAINABILITY

Feedback

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TOTAL MARKS			



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)

Climate change is defined as alterations in climate; weather phenomena - due to anthropogenic causes. It is ALTERING ECOSYSTEMS

cascading effects on BIODIVERSITY

- 1) increased heat risks —
FOREST FIRES → destruction of habitats
→ loss of biodiversity.
- 2) climate-related disasters —
Floods; landslides → loss of tree cover → soil erosion
- 3) increased risks to threatened species. e.g. orangutan.
- 4) changing migratory patterns of birds.

effect on ECOSYSTEM SERVICES

- 1) as corals bleaching accelerating -
loss of other aquatic species
→ + increased risks of STORM SURGES
- 2) impact on pollinators -
impact agriculture production
- 3) sea level rise → ^{salt} ~~sea~~ water
ingression in coastal soils.
- 4) ocean acidification → loss of OCEAN-
- 5) Forest Fire → Carbon sinks

HUMAN LIVELIHOODS

- 1) increased disasters - life and property.
 (a) Kedarnath cloudburst → tourism affected.
 (b) Joshimath
- 2) landslides @ Wayanad → agriculture impacted.
- 3) wheat yield reduced by 42%
with HEATWAVE.
- 4) decreased productivity of Humans -
due to health risks.

integrated approach to CONSERVATION and climate adaptation

conservation

- 1) BIOCENTRIC ETHICS
(Rajivsinh case 2024)
→ for conservation
of species (eg) GIB:
- 2) shift to
renewables
| FAME; Surya-
ghar Yojana.
- 3) biosphere reserves-
integrated protection.
- 4) traditional
methods of water
conservation (eg) Johad
Kawane Bazar - MH.

adaptation

- 1) heat resilient;
climate resilient —
= CAOPS —
- 2) ~~eco~~ green building
- 3) improved EWS-
and information-
better analytics
- 4) improved relief
measures —
strengthen NDRAF
- 5) better hazard
zone mapping
[NDMA]
- 6) Patti- climate Neutral
Panchayat

Right against
climate change adverse effects is protected
under Article 21. With integrated
efforts and LIFE movements, sustainability
can be ensured.

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)

Urbanisation is fast increasing [by 50% by 2056]; with increased migration and development. This is leading to varying THREATS.

NATURAL DISASTERS

- 1) changed climate - vagaries of monsoon → increased EXTREME rainfall events: leading to urban floods @ Delhi 2013 Chennai
- 2) landslides risks due to tectonic plate movements @ Shimla, @ Wayanad 2024.
- 3) glacial lake outburst floods.

MANMADE DISASTERS

- 1) improved FIRE risks - due to

non-adherence to building codes.

2) lax procedural conformity -
① Bhopal gas tragedy.

3) flouting building regulations
↳ ① Delhi - ORV. death of
3 kids.

4) concretisation; grey infrastructure
⇒ urban floods ↳ lack of drainage

5) groundwater over-extraction →
land subsidence
① Joshimath.

This requires suitable

MITIGATION

1) creation of green spaces.
① sponge cities

2) proper EIA, SIA.
for infrastructure projects.

MANAGEMENT

1) improved coordinating in
SDRF - DDRF

2) community involvement.
in management.
① CSOs

- 3). Tree Banking Project -
Meeuangadhi to reduce vulnerabilities.
- 4). improved soil cover.
- 5). strict compliance to building codes, industrial rules.
- 6). Proper Early Warning system.
- 7). Hazard zone mapping; and vulnerability assessment [NDMA].

- 3). proper SOPs for rescue and relief operations
- 4). technology integration -
Datark - dual use robots
- 5). GENDER RESPONSIVE; DISABILITY sensitive management plan
- 6). information dissemination - faster using ICT.

Disaster Management in line with SENDAI framework must focus on mitigation and adaptation. Urbanisation - INCLUSIVE and sustainable needs to be agile and responsive.

Feedback
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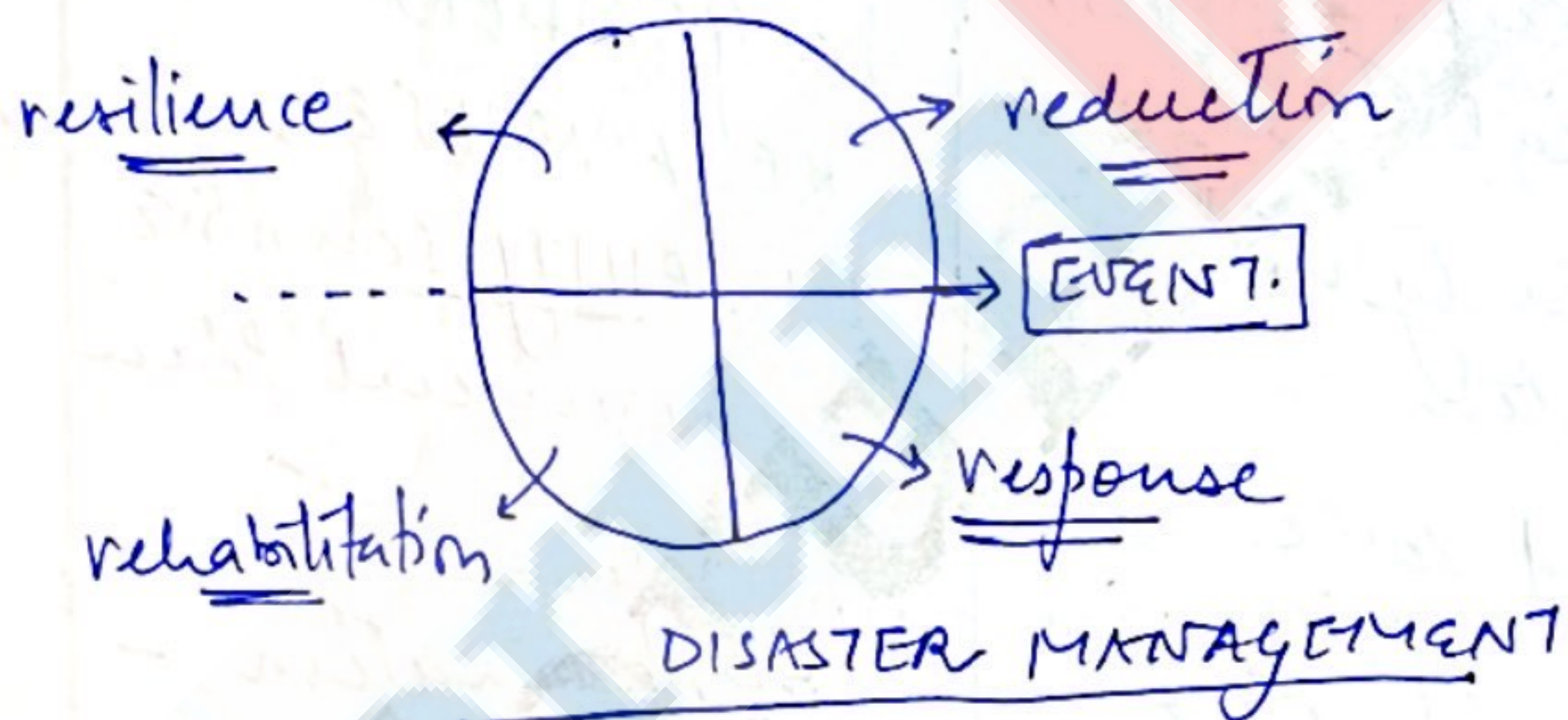
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TOTAL MARKS			



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)

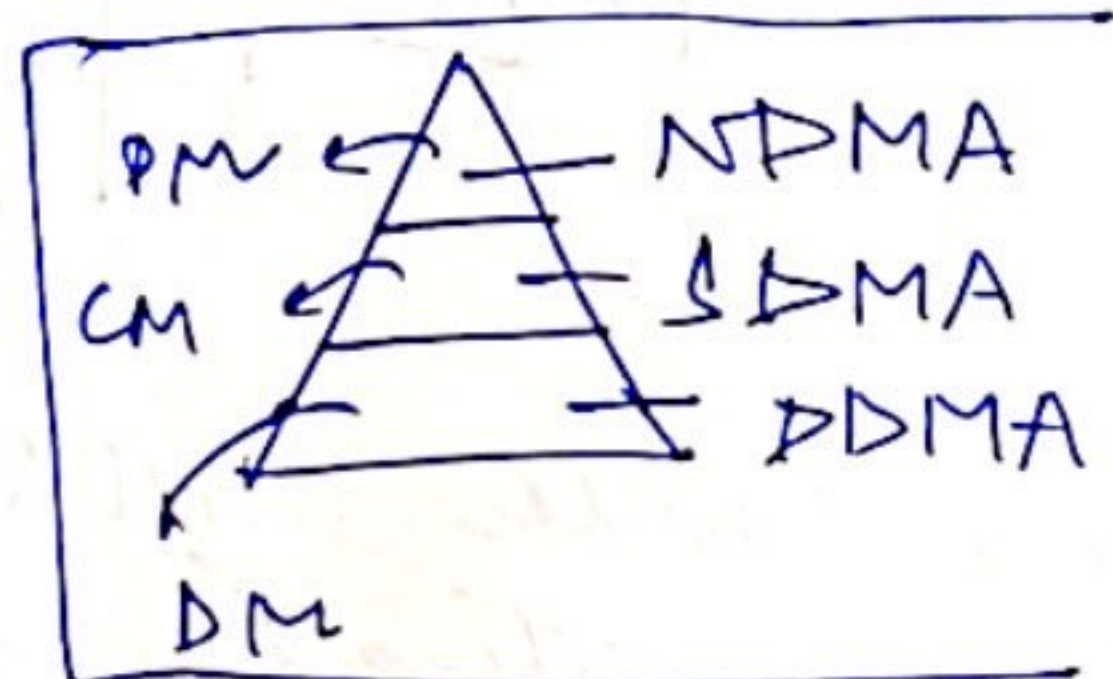
"भारत के आपदा प्रबंधन ढांचे ने 21वीं सदी में महत्वपूर्ण प्रगति की है, फिर भी संकट के दौरान समय पर प्रतिक्रिया और प्रभावी समन्वय सुनिश्चित करने में चुनौतियां बनी हुई हैं।" टिप्पणी कीजिए। (15 अंक, 250 शब्द)

India's disaster management framework has evolved over the years and is making progress in line with SENDAI.



SIGNIFICANT PROGRESS

1) three tier structure of response agencies management



2) creation of response agencies for faster mobilisation of forces

⇒ NDRF; SDRF

3) building capabilities -

integration of technology -

↳ using DRONES to help rescue operations

↳ 1870-based maps → vulnerability Mapping
↳ Hazard Zonation

4) creation of Disaster related FUNDS → National Disaster Management FUND.

challenges - however persist.

1) lack of coordination in ~~between~~ agencies at state, district and national level.

2) Poor adoption of technology - leading to differing capabilities

3) lack of involvement of communities in integrated planning and management

- 4). lack of awareness among communities about — colour coded warnings.
- 5). increased reliance on ICT for information — but gaps in access to internet; phones.
- 6). skewed focus in favour of relief — less on mitigation and adaptation
- 7). Flouting of building codes; Norms —
↳ leading to increased risks
- 8). lack of penetration of disaster resistant infrastructure

Way forward

- civil Model -
in responding to earthquakes
- better zonation
- gender-responsive,
disability sensitive plans.
- Community engagement.

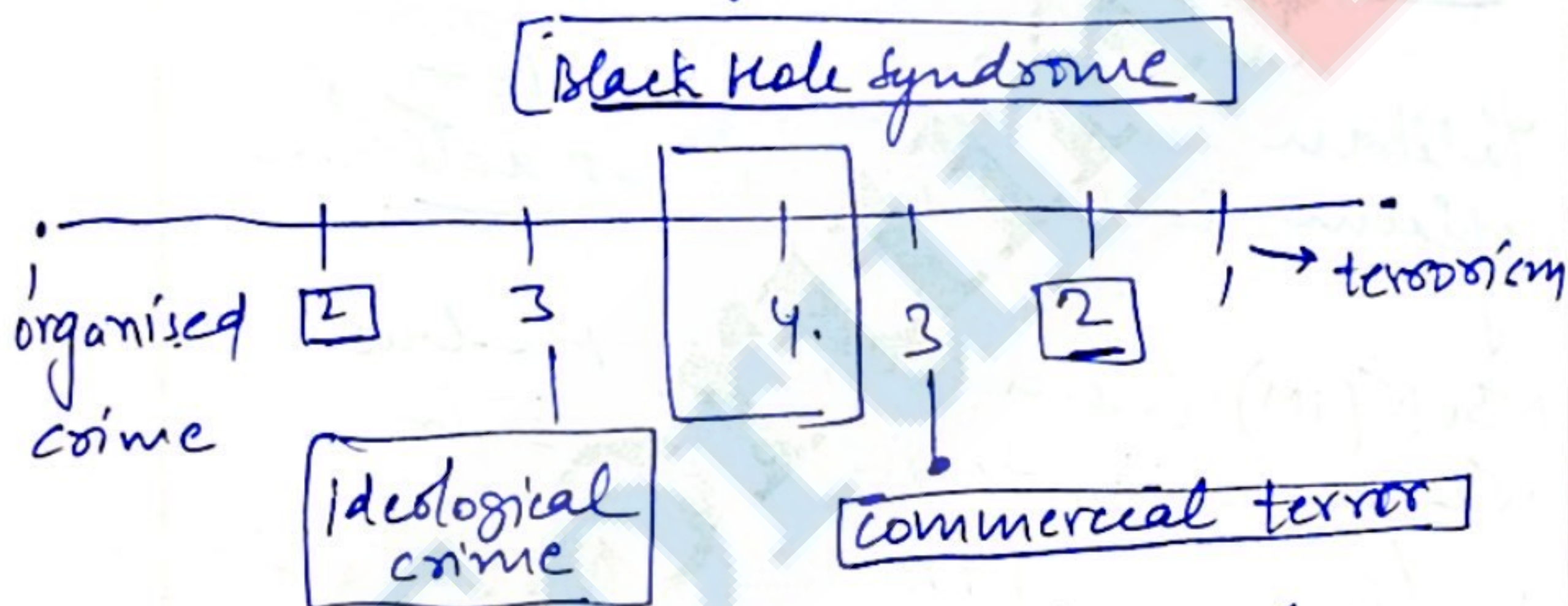
Including DM as
TOA in 16th Finance Commission important
step in right direction.



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)

organised crime and Terrorism are included in the Bharatiya Nyaya Sanhita. Together they reinforce each other - threaten human security and sovereignty.



1) organised crime - through illicit trade - narcotics;

human trafficking - money laundering

help in FINANCING terror

⑨ Dawood Ibrahim - Mumbai terror attacks.

- 2). Terrorism - using explicit violence create fear and give protection to the organised crime unit
- 3). Organised crimes - help create LOGISTICAL support for terror networks.
- 4). Together - they run - gun-smuggling arms trafficking; smuggling
- 5). Taliban through drugs trade - opium is funding terror activities.
- 6). NSCN(IM) - China Myanmar Module was planning terror attacks in Manipur [NA changed sheet].

steps to address the linkage

- 1). strengthen inter agency coordination to address Hybrid Warfare:
FII-NSD; MA; etc

- 3) legislative enactments must be strengthened | → PMLA
→ UAPA.
- 3) improved force deployment in border areas — BOLD Q17, CBIMS
| integrate technology.
- 4) capacity building of forces
- 5) improved intelligence —
HUMINT + TECH. INT.
- 6) international coordination
↳ compliance with FATF
special recommendations
↳ due diligence in money trails.
- 7) → improved governance — especially in border areas — to check radicalisation
- 8) cutting the source of fundings and logistics. (OGWs)
with increased SECURITY and human efforts; unity, integrity can be strengthened.

Feedback

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TOTAL MARKS			



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 shares long borders with its neighbours, along with ~7500 km long coastline. This necessitates robust border management.

strengthening security apparatus

- 1) different specialised border forces
 - ① Indo Tibetan Force - along Sikkim Nepal
 - ② BSF - Rajasthan
 - ③ Indian Army - LAE, LOC
- 2) increased funding support and capacity building
- 3) integration of technology - CBIMS; BOLD B17.

developmental partnerships with locals

- 1) This leads to INCREASED

Mutual Trust (eg. operation Sadbhawna

2) locals - help in Intelligence gathering

(eg. during Kargil War; shepherds
reported infiltration).

3) community engagement - leads
to less chances of disillusionment
with state; and no radicalisation

4) improve livelihood opportunities -
reduced outmigration

INITIATIVES BY GOVERNMENT

1) Border security

↳ Floodlights - along Indo-Pak border

↳ Fencing - ordered in Myanmar border

2) technology like - laser light

LOARDS

HHIT

3) Comprehensive BIM - building
of border outposts

4) Vibrant Village Programme
↳ To improve border infrastructure; livelihood security.

5) connectivity → Sela Tunnel

6) improve trade using Border Haats in North East, Nepal

7) suspension of FAK - with Myanmar to ensure regional security.

Way Forward) → (intra-service coordination)
→ remain suitable measures

Smart Border Management
with both HUMINT and TECHINT.
required to ensure Security of life and property.

Feedback
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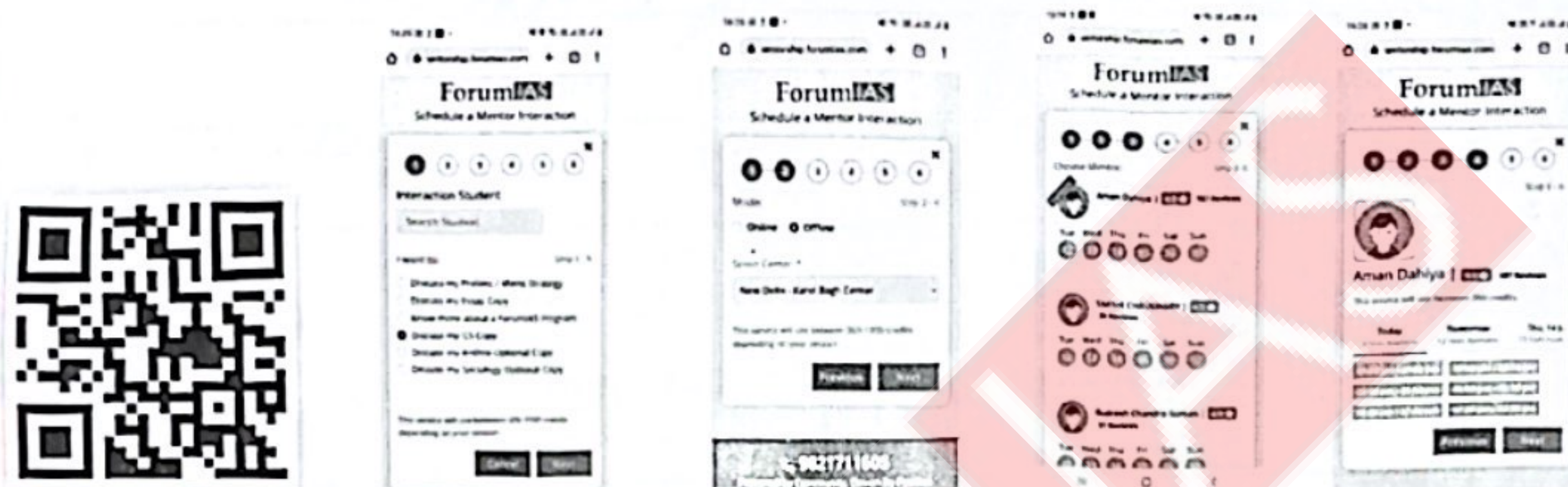
TOTAL MARKS

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