

NEXT IAS

GS MAINS ADVANCED COURSE 2024

(To be filled by candidate)

TEST CODE : GSMAC2403	Test No. : 03
Name of Candidate: <u>PRIZYANSHU MESHRA</u> Mobile No <u> </u>	
Roll No. : <u>0845090</u> Start Time <u>12:00</u> End Time <u>3:00</u>	
Date of Examination: <u>25/08/2024</u> Medium : English ☒ Hindi ☐	

Q. No.	Maximum Marks	Marks Obtained	Q. No.	Maximum Marks	Marks Obtained
1	10		1	10	
2	10		2	10	
3	10		3	10	
4	10		4	10	
5	10		5	10	
6	10		6	10	
7	10		7	10	
8	10		8	10	
9	10		9	10	
10	10		10	10	
TOTAL MARKS - 100			TOTAL MARKS - 100		

GRAND TOTAL -/ 250

EVAL CODE: **EVAL DTE:**

GENERAL INSTRUCTIONS	सामान्य निर्देश
- Immediately on receipt of the QCA booklet, please check that this QCA booklet does not have any misprint or torn or missing pages or items, etc. If so, get it replaced by a fresh QCA booklet. - Candidates must mention all relevant details like Name, Email, Roll No, Mobile, etc. in the space allocated. - Candidate is expected to attempt all 10 questions within the given timeline. - Answers must be written in the medium authorized at the time of admission. - Candidates must write answers for the specific question under the respective question itself. Any answer written outside the space allotted may not be given credit. - Please write neatly. Avoid illegible writing. - Do not write/mark irrelevant matters in the QCAB.	- QCA पुस्तिका प्राप्त होने पर कृपया तुरंत जांच लें कि इस QCA पुस्तिका में कोई पृष्ठ या सामग्री आदि गलत छपी हुई या फटी हुई या गायब तो नहीं है। यदि ऐसा है, तो इसे एक नई QCA पुस्तिका से बदल लें। - अभ्यर्थियों को सभी प्रासंगिक विवरण जैसे नाम, ईमेल, रोल नंबर, मोबाइल नंबर आदि का आवंटित स्थान पर उल्लेख करना होगा। - अभ्यर्थियों से अपेक्षा की जाती है कि वह आवंटित समय-सीमा के भीतर ही सभी 20 प्रश्नों के उत्तर-लेखन का प्रयास करें। - प्रत्येक उत्तर, प्रवेश के समय चुनी गयी भाषा के माध्यम में ही लिखे जाने चाहिए। - अभ्यर्थियों को विशिष्ट प्रश्न के उत्तर संबंधित प्रश्न के नीचे ही लिखने होंगे। आवंटित स्थान के बाहर लिखे गए किसी भी उत्तर को क्रेडिट नहीं दिया जाएगा। - कृपया साफ-सुथरा लिखें। अपठनीय लेखन से बचें। - QCAB में अप्रासंगिक तथ्यों को न लिखें / न ही चिह्नित करें।
REMARKS:	

FOR OFFICE USE ONLY

<u>Student Concerns / Query</u>	<u>Evaluator's Feedback / Response</u>
1	1
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.....	
2	2
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.....	
3	3
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<u>MARKING SCHEME *</u>			
Marks Per Ques	Below Average	Average	Above Average
10 Marks	Below 3.00	3.00 - 3.75	4.00 and above
15 Marks	Below 4.50	4.50 - 5.75	6.00 and above

* Subject to change without prior notice.

<u>IMPORTANT QR CODES</u>	
 Topper's Copy	 Common mistake and Correct Filled QCAB
 Copy Scanner App	 Next IAS Test Centre Location

MACRO COMMENTS

The Purpose of evaluation@nextias.com is to provide constructive suggestions on 'How to improve Answer Writing and thereby score better marks.

STRENGTHS OF THE CANDIDATE

AREAS OF IMPROVEMENT



IMPROVEMENT SUGGESTIONS

1. भारत में उच्च राजकोषीय घाटे में योगदान देने वाले कारकों पर प्रकाश डालते हुए, ऐसे घाटे के संभावित परिणामों पर चर्चा कीजिए तथा राजकोषीय समेकन (Fiscal consolidation) सुनिश्चित करने के उपाय सुझाइए। (10 अंक, 150 शब्द)
Highlighting the factors contributing to high fiscal deficit in India, discuss the potential consequences of such deficit and suggest measures to ensure fiscal consolidation.
(10 marks, 150 words)

Fiscal deficit is indicator of total borrowing of government. In 2023-24 FY according to Economic Survey India's fiscal deficit stood at 4.5%.

Factors behind high fiscal deficit -

1) - Low Private Investment - Thus creating necessity of government's intervention.

Ex - Share of Private sector in total investment $\rightarrow$ 9% while government's share 11%.

2) - Subsidy Burden - High subsidy burden also leads to inflated fiscal deficit.

Ex - Subsidy burden of PDS is above 2 lakh cr., while that of fertilizer is above 1.5 lakh cr.

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Candidates must not
write on this margin

3). Inefficient P.S.U - leading to cash drain from government.

4). Low tax to G.P.P ratio - Thus reducing fiscal capacity of Government.

Ex. - Tax to G.P.P ratio in India is 16.1 against China's 23.1.

5). Revenue expenditure - High revenue expenditure leads to reduced scope of investment expenditure.

Consequences

1). Hampers intra-generational equity - By increasing tax burden on next generation.

2). Credit ratings - Gets hampered due to high fiscal deficit.

3). Inflationary pressure - Gets accumulated due to high fiscal deficit.

4). Devaluation - of currency.

measures to tackle

- Following F.P.B.M act.
- Fiscal prudence.
- Reduce borrow deficit.
- Austerity measures to reduce expenditure.

These measures can prevent fiscal deficit challenges.

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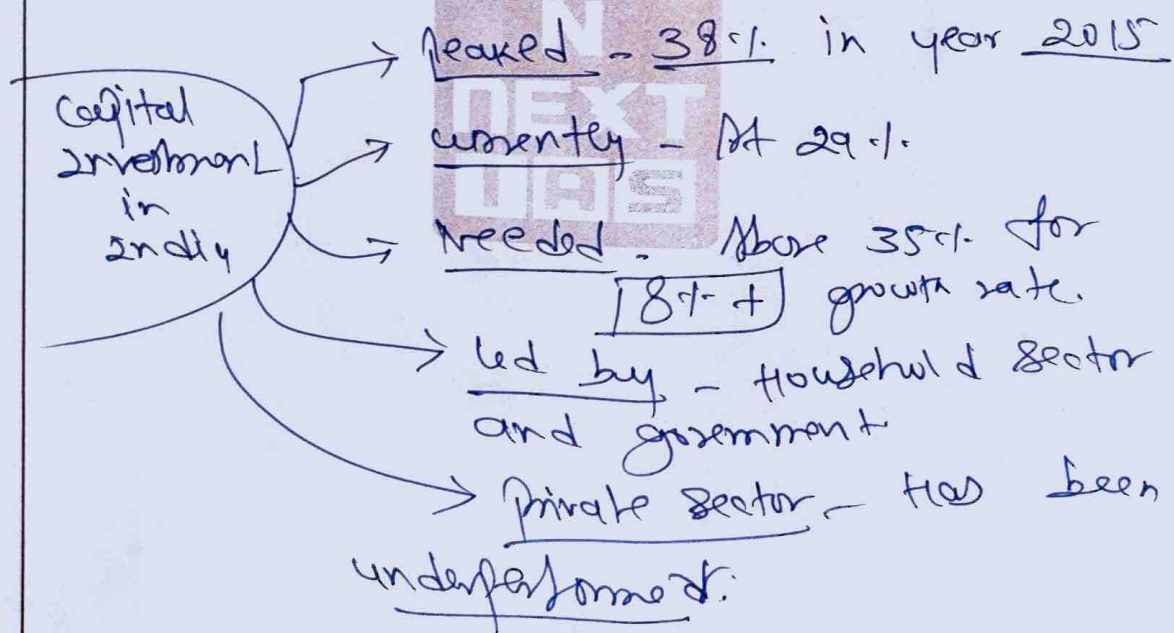
2. 2047 तक भारत के विकसित राष्ट्र बनने की आकांक्षा महत्वपूर्ण पूँजीगत निवेश पर निर्भर है। इसके आलोक में, इस लक्ष्य को प्राप्त करने में पूँजीगत निवेश की संभावनाओं पर चर्चा कीजिए। इस संदर्भ में भारत के समक्ष क्या चुनौतियाँ हैं?

(10 अंक, 150 शब्द)

India's aspiration to be a developed nation by 2047 hinges on significant capital investment. In light of this, discuss the potential of capital investment in achieving this vision. What are the challenges India faces in this regard?

(10 marks, 150 words)

Revenue expenditure refers to non asset creating expenditure, while capital expenditure refers to the expenditure that leads to capital creation in economy.



Potential of capital investment -

- i). creating virtuous cycle - as it leads to capital generation which further creates revenue.

Ex. - creation of road, railway infra.

2). Generating employment - Investment in manufacturing can lead to job creation, solving India's unemployment problem.

3). Enhancing quality of living - Through expenditure in quality infrastructure.
Ex. - time for travel between Delhi-Morokhpur reducing by 4 hours through Yamuna expressway.

4). High GDP growth rate - According to IMF, India needs a 35% plus investment rate to attain 8% plus GDP growth.

Challenges

→ Policy uncertainty - creating a deterrent impact among investors.

→ Infrastructure - Still substandard

Ex. - Average speed of moving cargo by train - 25 kmph.

→ Protection policy - imposed restrictions on Chinese investment

→ Skill requirements - Only 2% population formally skilled.
Thus India need to

tackle these challenges to attain objective of developed nation by 2047.

3.

"नगरीकरण में वृद्धि के साथ, पेरी-अर्बन/परिनगरीय कृषि (Peri-urban agriculture) ताजा कृषि उपज की आवश्यकताओं के लिए एक महत्वपूर्ण योगदानकर्ता के रूप में उभरी है"। इस संदर्भ में, सतत रूप से पेरी-अर्बन कृषि को बढ़ावा देने से सम्बंधित अवसरों और चुनौतियों पर चर्चा कीजिए।

(10 अंक, 150 शब्द)

"With growing urbanization, peri-urban agriculture is emerging as a significant contributor to fresh farm produce needs". In this context, discuss the opportunities and challenges associated with promoting peri-urban agriculture in a sustainable manner.

(10 marks, 150 words)

Peri urban agriculture refers to agricultural practices followed in and around metropolitan cities or urban areas.

[Ex] - Agricultural practices in and around Narela, Noida and other NCR regions.

[Opportunities in peri-urban agriculture] -

1) - [Availability] - of fresh farm produce has been a challenge that can be solved by periurban agriculture.

2) - [Promoting local for local] - Reduced logistics, reduced pollution and quality products to the consumers.

- 3/- Inflation - According to R.B.I.'s monetary policy, food inflation has been challenge, that can be addressed through peri urban agriculture.
- 4/- Boosting industries - Urban areas having manufacturing base can promote food processing industries.
- 5/- Employment and growth - This can add an avenue of employment and growth.

challenges

→ Electricity - cost charged at commercial rates can make it financially unviable.

→ Irrigation - Urban areas face water scarcity, thus irrigation would be challenge.

→ Credit availability - To urban farmers - through institutional route, can draw them to

Loan Schemes

Land availability - dense

Construction hampers land availability for agricultural practices.

Addressing above problems can help in promoting peri-urban agriculture serving multiple objectives.

4. दालों और वनस्पति तेलों में आत्मनिर्भरता प्राप्त करने के लिए भारत के कृषि क्षेत्र के समक्ष कौन सी प्रमुख चुनौतियाँ हैं? इन चुनौतियों के समाधान भी सुझाइए। (10 अंक, 150 शब्द)
What are the major challenges faced by India's agriculture sector to achieve self-sufficiency in pulses and vegetable oils? Suggest measures to address these challenges. (10 marks, 150 words)

According to recent Economic Survey (2023-24), India imported vegetable oils worth 20 Billion \$ while imports for pulses stood at 4 Billion U.S.D.

Imports of vegetable oil and pulses

- Soyabean oil - from countries such as Brazil.
- Palm oil - highest share from Indonesia, Malaysia.
- Pulses - from countries such as Mozambique and Madagascar.

Challenges in self sufficiency -

- 1). State policies - Such as M.S.P for crops such as Rice and wheat promote their cultivation at cost of vegetable oil, pulses.
- Ex) - Cereal production - 300 MMT -
pulses production - 15 MMT

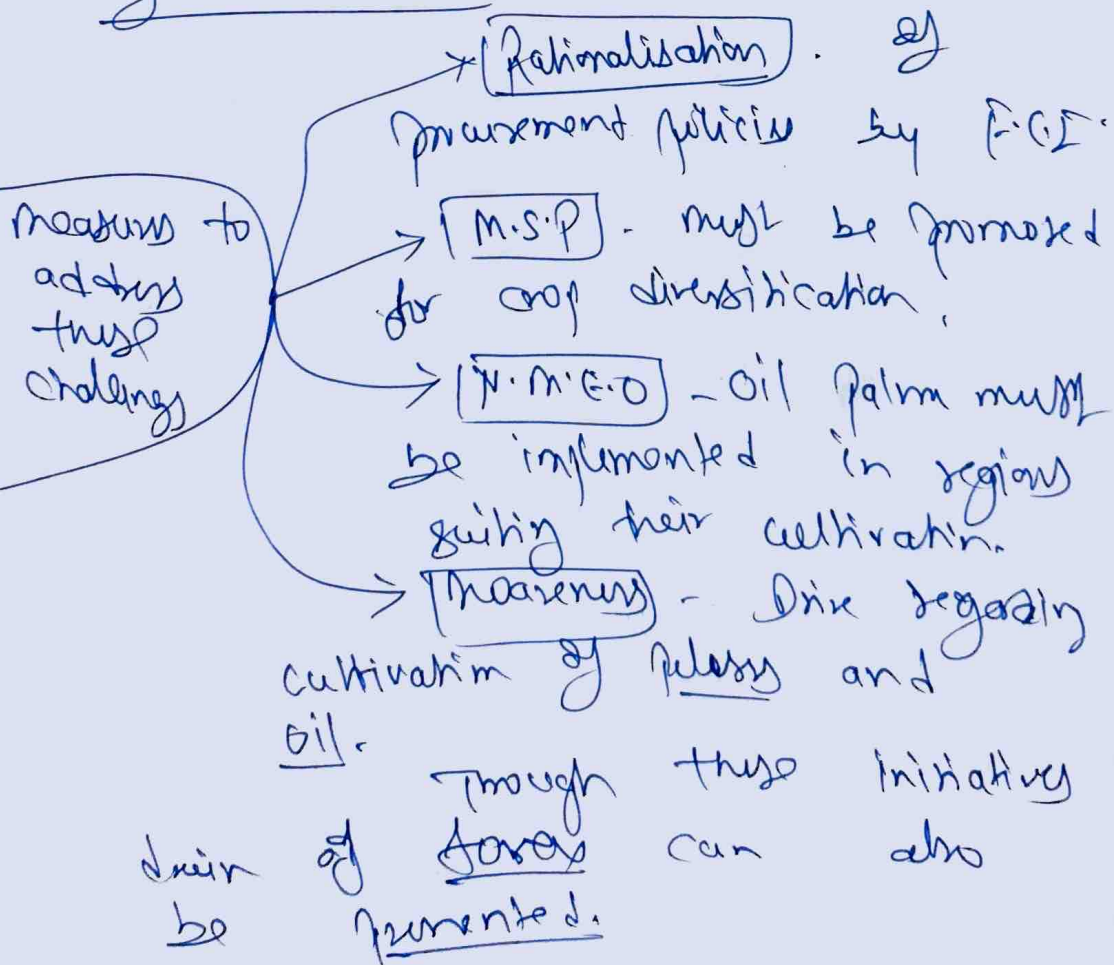
2). Procurement policies - FCI procuring wheat and rice with cereals not pulses thus creating income insecurity among farmers.

3). Traditional mindset - of farmers around cultivation of cereal crops.

4). Cobweb phenomenon - Generally in case of pulses production.

Ex - Elevated price promotes pulses production, however, increased production leads to reduced prices.

5). Increasing demand - India is scheduled to surpass China in demand for vegetable oils.



5. भारत को एक सतत हरित अर्थव्यवस्था बनाने में जैव-विनिर्माण (Biomufacturing) और जैव-फाउंड्री (Bio-foundry) की संभावनाओं का मूल्यांकन कीजिए।
(10 अंक, 150 शब्द)
Evaluate the potential of biomanufacturing and bio-foundry in driving India's future towards a sustainable green economy.
(10 marks, 150 words)

Bio-manufacturing refers to use of biological process to manufacture biological products having significant applications in industrial processes as well as daily life.

Potential of Biomanufacturing and Bio foundry in Sustainable green Economy.

1) - Biofuel generation - Biofuel policy's category III refers to biofuel generated by algae or genetically modified algae.

2) - Attainment of Ethanol Blending -
Government has targeted a
20% Blending by 2025.

Bio-manufacturing can be
critical in attainment of
same.

3). Reducing vehicular emissions - which
contributes 225% to global warming.

4). Saving of forex - India imports
oil (crude) worth 119 billion \$
annually, that can be saved.

5). Increasing employment - Specially for
Bio-engineering / Bio-Technology
graduates from Indian universities.

6). Boosting growth - with clean,
green energy India can
attain target of sustainable growth.

Thus steps taken in
this direction such ~~as~~ as
National mission on Synthetic
Biology are in right direction,
recognising the potential of
bio-manufacturing.

6. पुनः प्रयोज्य प्रक्षेपण यान (RLV) की कार्यप्रणाली के पीछे क्या सिद्धांत हैं? भारत के अंतरिक्ष वाणिज्य में आर.एल.वी. के उपयोग के महत्त्व और संभावित लाभों की व्याख्या कीजिए। (10 अंक, 150 शब्द)

What are the principles behind the working of Reusable Launch Vehicle (RLV)? Explain the significance and potential benefits of use of RLVs in India's space commerce.

(10 marks, 150 words)

Reusable launch vehicle refers to launch vehicle which can be available for reuse post attainment of its launching objectives.

Principle behind RLV -

- 1) Take off - As usual lifters such as P.S.L.V or G.S.L.V.
- 2) Launching - of the satellite to intended orbit.
- 3) Turning off the thrusts - Once it enters into gravitational field of Earth.
- 4) Landing - At a predetermined location.

Significance -

- 1) Cost effectiveness - RLV's can be

instrumental in bringing cost effectiveness.

Ex. Space-X RLV's launching satellite 5 times cheaply compared to ISRO

2). Increasing Share - In a 700 Billion\$ space market.

Ex - India's share remains low at only 2%.

3). Profitability - of space launches can be enhanced.

4). Reduced space debris - Due to space launcher coming back to earth.

5). Earning revenue - Due to reduced cost and scaling of operations.

6). Boosting space based m's.m.c's - Adding to growth and employment

According to recent ISRO document, ISRO has added 24 billion\$ to India's GDP in last 5 years, this can be multifold with addition of RLV's

7. कार्बन क्रेडिट ट्रेडिंग स्कीम (CCTS) 2023 की प्रमुख विशेषताओं का परिक्षण कीजिए। भारत में हरित गृह गैस (Greenhouse gas) उत्सर्जन को कम करने की इसकी संभावनाओं का विश्लेषण कीजिए। (10 अंक, 150 शब्द)
Examine the key features of the Carbon Credit Trading Scheme (CCTS) 2023. Analyze its potential for mitigating greenhouse gas emissions in India. (10 marks, 150 words)

Carbon credit trading system is introduced by ministry of environment and climate change with objectives of attainment of India's climate targets.

Features of Carbon credit trading scheme.

- 1). Tradeability of carbon - Scheme makes carbon emission reduction a tradable instrument.
- 2). Notified sectors - Scheme is notified for some specific sectors.
Ex. Cement manufacturing, Steel manufacturing etc.
- 3). Private sector participation - Scheme promotes private sector participation aiming at green manufacturing.

4). Market determined rates - Carbon credits to be on market determined rates.

Potential in mitigating greenhouse emissions

1). Attainment of L.N.D.C. - Goal of reduction of CO_2 emission intensity by 45% by 2030.

2). Decentralising - The efforts of carbon emission mitigation leading to coherent efforts towards mitigation objectives.

3). Encouraging private sector - can enhance scalability of the carbon emission reduction objectives.

4). In line with global commitments - under Paris climate deal and life initiatives of India.

Carbon trading scheme if taken off can be beneficial for India's climate change prevention objectives.

8. पिछले दशक में हीट वेव की बढ़ती गहनता, आवृत्ति और अवधि के मद्देनजर, क्या "हीट वेव" को अब आपदा प्रबंधन अधिनियम, 2005 के तहत एक अधिसूचित आपदा के रूप में शामिल किया जाना चाहिए? (10 अंक, 150 शब्द)
In light of the increased intensity, frequency and duration of heat waves in the last decade, do you think the time has come to include "heat waves" as a notified disaster under the Disaster Management Act, 2005? (10 marks, 150 words)

Heat waves showed increased intensity and frequency during 2024 summers with more than 45 days with temperature above 40°C in northern plains.

Heat waves and its impact

1). Temp definition - temperature above 40°C in plains and 35°C above in hilly areas.

2). Deviation - 2°C upside shows signs of heat wave.

3). Marine heat waves - has also been on increasing trends.

4). Increasing frequency intensity - Due to rise in global temperature, climate change.

Need to add in notified disaster.

1) - Disastrous impact - on human life.
This heat wave season, it claimed
lives of more than 500 individuals
across country.

2) - Loss of productivity - leading to
loss of livelihood.

3) - Impact on fishery - mass death
event in aquaculture due to
reduced O_2 levels.

2d notified then -

1) - Precautionary measures - can be
taken by government in coordination

2) - Warning systems - can be placed
warning people of heat wave events

3) - Rehabilitation - of people impacted
by heatwaves can be actualised.

4) - Compensation - to those hampered
economically can be realised.

with increasing tendency,
addition of heat waves in
N.D.M.A warrants necessary attention

9. भारतीय सशस्त्र बलों द्वारा हाल ही में तैयार किए गए 'साइबर-अंतरिक्ष अभियान (Cyberspace operations) के लिए संयुक्त सिद्धांत' से पारंपरिक ऑपरेशनों के साथ-साथ ग्रे जोन युद्ध दोनों के लिए साइबर-सुरक्षा स्थिति मजबूत होगी। परीक्षण कीजिए।
(10 अंक, 150 शब्द)

Recently formulated 'joint doctrine for cyberspace operations' by Indian armed forces will lead to strengthening of the cyber-security posture for both conventional operations as well as gray zone warfare. Examine.
(10 marks, 150 words)

According to National cybersecurity doctrine, cybersecurity refers to safeguarding of India's cyber space from scrupulous actors within and abroad.

Non recognition
of gray zone
warfare

(Coordination) - Between
CERT-IN, NTRC and other
agency lacking.

Problems with
India
cyber
security
policy

(Unified command) - was
missing regarding cyber
space warfare.

(Bureaucratic setup) - Thus
leading to slow
response to cyber
security threat

(low awareness) - Due
to low literacy levels further
aggravate problems.

Joint Doctrine for cyberspace operations

- 1) - Promote Coordination - Joint doctrine aims for coordination among various stakeholders.
Ex. - CERT-IN, from internal threats, and N.T.R.O from external.
- 2) - Recognition - of grey zone warfare
Ex. N.S.A Ajit Doval → Next space for warfare is civil society.
- 3) - Unified Command Structure - Regarding cyber space and greyzone warfare.
- 4) - Promoting Cohesion - and cooperation among various bodies with objective of attainment of cybersecurity.

According to ~~inter~~ International telecom union, India is 2nd most vulnerable country in terms of cyber security, thus this doctrine is a timely intention.

10. पाकिस्तान और बांग्लादेश से सटे राज्यों में सीमा सुरक्षा बल (BSF) के प्रादेशिक क्षेत्राधिकार के विस्तार की आवश्यकता एवं संभावित मुद्दों पर चर्चा कीजिए। (10 अंक, 150 शब्द)
Discuss the necessity and potential issues surrounding the extension of the Border Security Force's (BSF) territorial jurisdiction in states adjacent to Pakistan and Bangladesh. (10 marks, 150 words)

Border security forces raised
in aftermath of 1965
Indian-Pakistan war are known
as first line of defence.

Threats Facing
Pakistan Border

- 1) Increasing drug
- trade across
Jammu, and
Punjab borders.



- 2) Use of technology - Such as
drones to deliver drugs and
weapons.
- 3) Illegal infiltration - of terrorists
(Ex.) - Recent terror attacks in
Jammu

Challenges ^{face} by B.S.F

- 1/- Limited Jurisdiction
- 2/- Bureaucratic Hurdles.
- 3/- Operational difficulty.

Extension of territorial jurisdiction

- 1/- Act - Done under B.S.F act.
- 2/- Extension - of jurisdiction to 50 km across the border in Punjab.
- 3/- Providing - operational flexibility in operations.
- 4/- Helps - in tackling problems of drug use in weapon delivery.
- 5/- Reduced - Bureaucratic hurdles in tackling threats emanating from Pakistan.

There has been federal tensions regarding the issue, however such tensions must be resolved in spirit of Cooperative federalism.

11. भारत की आर्थिक विकास की कहानी प्रायः बेरोजगारी की निरंतर चुनौतियों से प्रभावित होती है। संरचनात्मक बेरोजगारी की अवधारणा का विश्लेषण कीजिए और भारत की वर्तमान आर्थिक स्थिति के संदर्भ में इसकी प्रासंगिकता पर चर्चा कीजिए साथ ही समावेशी रोजगार को बढ़ावा देने के लिए नीतिगत उपाय सुझाइए। (15 अंक, 250 शब्द)
- India's economic growth story is often overshadowed by the persistent challenges of unemployment. Analyze the concept of structural unemployment and discuss its relevance in the context of India's current economic situation. Suggest policy measures to promote inclusive job growth. (15 marks, 250 words)

According to recently released
Periodic Labour Force Survey,
unemployment rate in India
stood at around 6-1.

High growth
Low Employment

- Post 1991 - India has averaged growth rate above 7%
- G.D.P size - Has become 5th largest economy in world
- Forex Reserve - From 200 million to 640 Billion\$
- Unemployment - levels remain elevated, raising question on sustainability of economic growth.

Structural Unemployment.

1. mismatch - of skills

required in economy.

- 2). Duality - of graduates from colleges determines the levels of structural unemployment.

Relevance in India's current economic situation.

- 1). Service sector growth - demands highly skilled labour force.
- 2). Low level of formal skilling - As per P.L.F.S - only 2% of India's total population is formally skilled.

- 3). Needed for manufacturing sector - India's stunted manufacturing sector demands more number of skilled labour.

GOI Target of National manufacturing policy - 25% share in GDP from current 14%.

- 4). Employability - of Indian graduates

has been in question.

[Ex] - According to NASSCOM, only 15-20% of India's engineering graduates are employable.

5) - [Breeze of industry academia] - connections, leading to further deterioration of structural unemployment.

[Policy measures to promote industry job] -

1) [Skill Development] - Recognition of prior learning also needs to be promoted.

[Ex] - Skill India mission - Building + Recognition.

2) [Apprenticeship] - From industrial corridors must be promoted.

3) [Internship] - Can be made mandatory while graduation.

4) [Role of industry] - In shaping curriculum.

[Ex] Role of Intel in shaping M.T.T syllabus.

Thus through above measure, problem of structural unemployment can be tackled.

12. भारत में क्षेत्रीय विकास को बढ़ावा देने में सूक्ष्म, लघु और मध्यम उद्यमों (MSMEs) की भूमिका पर चर्चा कीजिए। औद्योगिक विविधीकरण और उन्नत प्रौद्योगिकी प्राप्त करने में डेढ़े किस प्रकार योगदान दे सकते हैं?

(15 अंक, 250 शब्द)

Discuss the role of Micro, Small, and Medium Enterprises (MSMEs) in fostering regional growth in India. How can MSMEs contribute to achieving industrial diversification and technological advancement?

(15 marks, 250 words)

MSMEs account for 40% manufacturing, 27% Exports and providing employment for more than 10 million people.

Role of MSMEs in Regional growth -

- 1) Balanced Regional growth - can be promoted through decentralised nature of MSMEs

[Ex.] - Jalandhar's Utensil manufacturing MSMEs.

- 2) Localised Employment - Thus tackling problem of migration from home to far away locations.

[Ex.] - Leather industry in Uttar Pradesh
Kanpur → preventing migration.

3) - Functional specialisation - can be attained through promoting MSME traditionally been existent in various part of country.

[Ex] - Channarayana toy industry.

4) - Increasing woman's participation - Women 2: F.P.R $\rightarrow$ 30%; against global average of 40%. Promoting Handicraft MSME can boost women C.F.P.R.

[Ex] - Bandhani art MSME's in Rajasthan.

5) - Inclusive & equitable growth - Benefits distributed evenly preventing concentration of wealth.

Role in industrial diversification and technological advancement

1) - Help in ancillary activities - Such as manufacturing of small parts such as screws, bots etc.

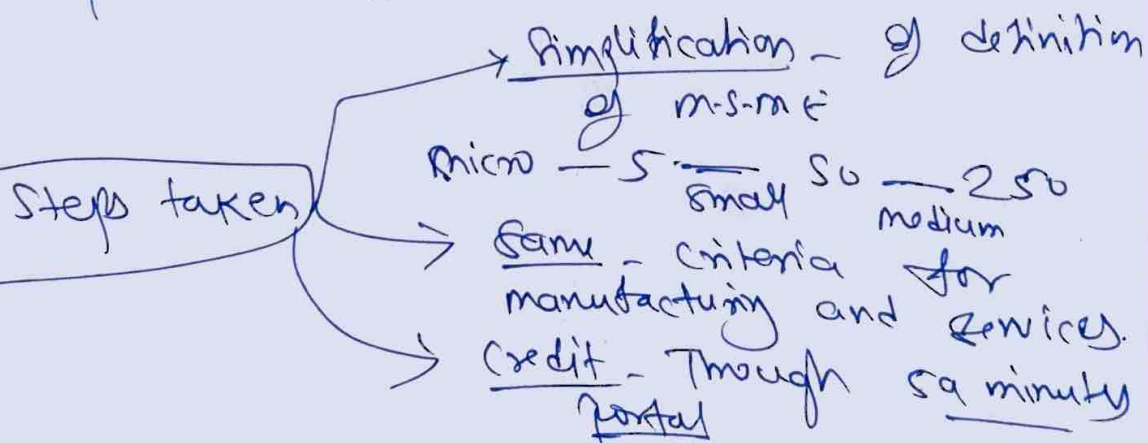
Ex. M-S.M.E's around Manesar's automobile cluster.

2) Price Competency - Local availability of components can increase price competency of industries.

3) Burden Sharing - Big complexes can focus on R&D, thus leaving small part manufacturing in hands of M-S.M.E.

Ex - L.S.R.O → Passing manufacturing task to M-S.M.E to focus on R&D.

4) Investment growth - These M-S.M.E's once profitable can help in boosting investment growth, promoting private investment



M-S.M.E can be helpful in attaining objectives such as 5 trillion \$ economy as well as developed country by 2047.

13. "MSP का एकमात्र उद्देश्य किसानों को आकस्मिक मूल्य परिवर्तन के आघात से बचाना है"। क्या आपको लगता है कि MSP को वैधानिक बनाने से किसानों को आकस्मिक आघातों से बचाया जा सकेगा? MSP आधारित खरीद को प्रभावी बनाने के लिए अन्य कौन से उपाय किए जा सकते हैं? (15 अंक, 250 शब्द)
- "The sole point of MSP is to protect farmers from sudden price shock". Do you think legalization of MSP can insure farmers from sudden price shocks? What are the other measures which can be taken to make MSP-led procurement effective? (15 marks, 250 words)

Minimum Support Price is not statutory price announce d by government for more than 22 crops before sowing season to promote crop sowing by farmers.

Advantages of M.S.P. -

- 1). Ensuring valuation - For the crops grown by farmers.
- 2). Food security - As with MSP government encourage farmers to grow crops ensuring food security.
- 3). Saving from distress - Though MSP government aims at saving farmers from agri. distress in season of abundance.

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4). Ensuring financial viability - of
the agricultural sector.

5). Supporting small farmers - from
any economic distress.

Negative implications -

1). Few Benefitted - According to report
by P.M E.A.C, benefits of m.s.p
has been accrued by merely 15%
large farmers.

2). Regional variations - In procurement
policies of government.

Ex - More than 80% procurement takes
place in Haryana, U.P., Punjab and
Madhya Pradesh.

3). Cereal orientation - Preventing
crop diversification.

Ex - Share of cereals in total
crop production $\rightarrow$ $\geq 80\%$.

Rice + wheat $\rightarrow$ > 300 mmt.

Pulses $\rightarrow$ $20 <$ mmt

4) - Fiscal Burden - on government increases.

Legalisation of M.S.P

Advantages

1) ensured income for farmers.

2) Support - in terms of agri distress.

3) Growth of Agri-Sector - < 3% in FY-22-23, 23-24.

4) Preventing Farmer suicide.

Disadvantages

1) Fiscal Burden of legalisation of M.S.P will be above 10 lakh crore.

2) Fostering unproductivity due to ensured prices and procurement.

3) Procurement capacity of FCI is not adequate for legalisation of M.S.P.

Measures for Improvement

- Indivinity must be ensured in existing regime.
- Promoting - crop diversification
- Procurement - of FCI must be regionally balanced.
- Ensuring - benefit to more than 80% small and marginal farmers.

efficiency of existing regime before searching proper of legalisation.

14.

भारत में खाद्य सुरक्षा सुनिश्चित करने के लिए सार्वजनिक वितरण प्रणाली (PDS) में भारतीय खाद्य निगम (FCI) की भूमिका पर चर्चा कीजिए। भारतीय खाद्य निगम की दक्षता और प्रभावशीलता को बढ़ाने के लिए इसकी कार्यप्रणाली में आवश्यक सुधारों को सुझाए। (15 अंक, 250 शब्द)

Discuss the role of the Food Corporation of India (FCI) in the Public Distribution System (PDS) to ensure food security in India. Suggest necessary reforms in the functioning of FCI to enhance its efficiency and effectiveness. (15 marks, 250 words)

Food corporation of India is
a legal entity entrusted with
important responsibilities of
public distribution system.

Role of F.C.I in P.D.S -

1). Procurement - F.C.I is responsible
for foodgrain procurement for
purpose of P.D.S

Ex. - necessity of 34 mmt, F.C.I
has procured 64 mmt in Fy 23-24.

2) - Logistics - F.C.I also ensure
safe delivery of foodgrains to
state government.

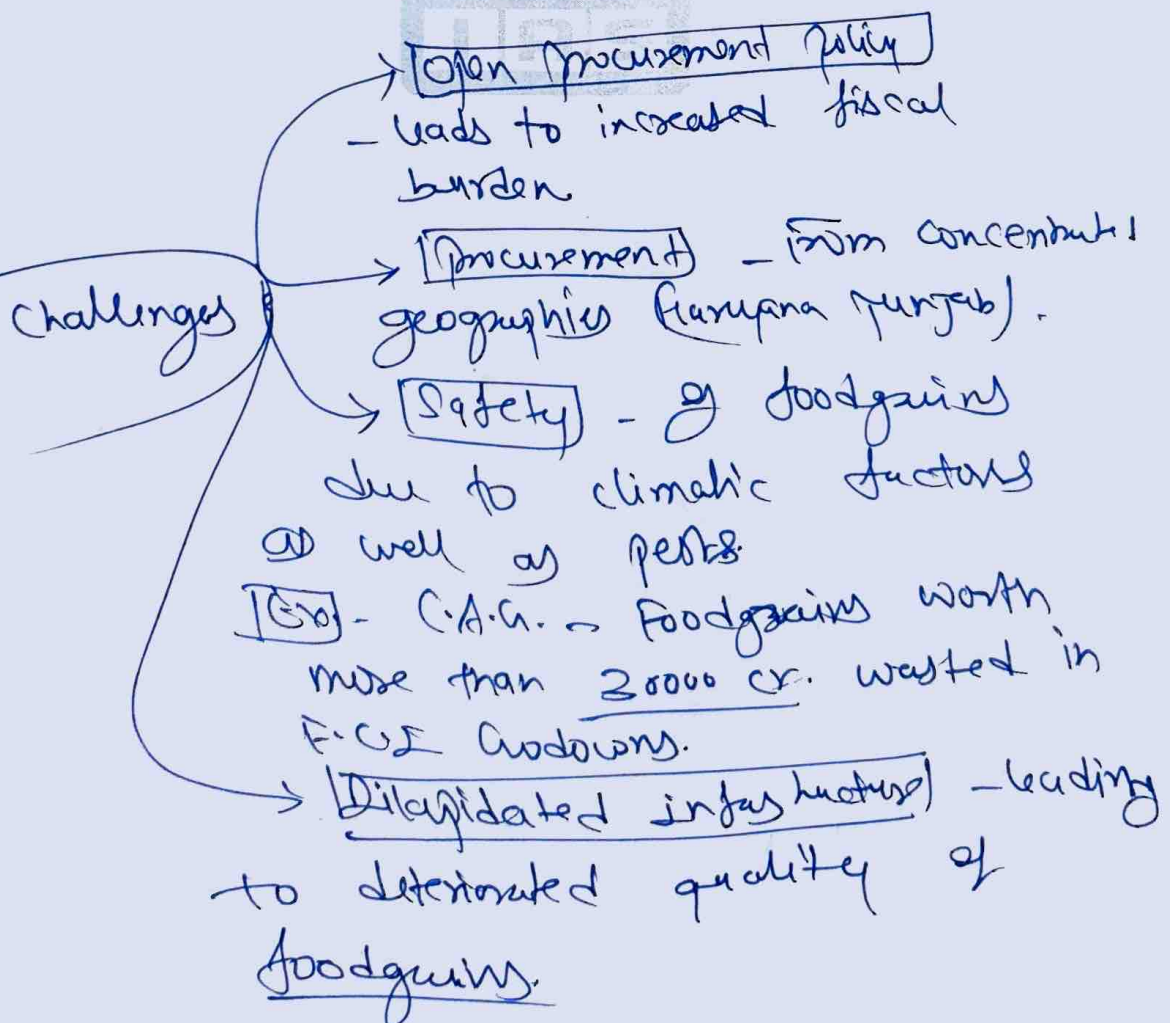
3) - Open market procurement policy -
without any limitations on

procurement from market.

4). [Storage] - of foodgrains procured from farmers in silos and keeping safe from various problems such as rain, pests etc.

5). [Maintaining quality] - of the foodgrains procured from farmers and stored in silos.

6). [Ensuring fair price] - to the farmers under M.S.P regime.



Necessary reforms

- 1) Close ended procurement policy should be followed by FCI instead of open ended, thus maintaining efficiency in operations.
- 2) Balanced procurement - Procurement must be regionally balanced from geographies.
- 3) Crops procured - Must not be only cereals, promotion to pulses, and oilseeds procurement.
- 4) Revision of CIP - In government hands, must be done to increase financial efficiency.
- 5) Improving infra. - To store food grains safely.
- 6) Increasing capacity - of procurement from 25 MMT to required 40 MMT.

Shantay Kumar committee

recommendations regarding FCI reforms must be followed to enable its functionality to sup-

15. भारत में कृषि उत्पादकता और खाद्य सुरक्षा बढ़ाने में नैनो प्रौद्योगिकी की भूमिका पर चर्चा कीजिए। नैनो-उर्वरकों और नैनो-कीटनाशकों के उपयोग के हाल के विकास/प्रगति और संभावित लाभों एवं जोखिमों पर प्रकाश डालिए।

(15 अंक, 250 शब्द)

Discuss the role of nanotechnology on enhancing agricultural productivity and food security in India. Highlight recent developments and potential benefits and risks of use of nano-fertilizers and nano-pesticides.

(15 marks, 250 words)

Nanotechnology works on the principle of changes functioning, nature and role of elements at nano scale.

[Ex]. Changing role, nature of carbon at nano scale.

Role of Nano technology in agri. productivity and food security

1) Development of H.Y.V seeds - Nano-technology can be helpful in developing H.Y.V seeds leading to boosting of agri. production.

2) Pest resistant crops - can be developed with use of nano technology.

[Ex] - Development of B.T, cotton, B.T Brinjal.

3). Increasing fertilizer efficiency -
leading to reduced cost of
fertilisers in agriculture.

[Ex] - Nano Urea $\rightarrow$ reduces need of
urea by 30-1.

4). Producing Bio-fertilisers - Nano-
technology can be helpful in
developing Bio-fertilisers.

5). Improving soil health - Through
necessary intervention, soil health
can be improved by Nano-tech.

[Ex] - Farmer in Fazilpur (Punjab)
improving soil salinity situation with
help of nano-tech.

Benefits of nano technology in
Agriculture and food security -

1). Reduced cost - of agriculture
for farmers making it

Commercially beneficial,

(Ex) - Nano urea has potential to reduced fertiliser cost by 30%
(L.P.P.C.O)

2/ - Productivity growth : can be attained.

(Ex) - India 2nd largest rice producer, despite cultivating more land than China.

3/ - Boosting farmers income - Through boosting productivity and improving cost competency,

Risky → Fall in production - can also happen. (Ex) - Silankan experiment.
→ may increase cost - in absence of initial govt support.
→ Capital intensive - Thus placing entry restrictions.
→ low skills - in areas of biotechnology, and Nanotech.

Nanotech. Biotechnology applications have promising benefits given their rational, planned application.

16.

2023 का भौतिकी का नोबेल पुरस्कार क्वांटम डॉट्स के संश्लेषण की खोज के लिए एकिमोव, ब्रस और बावेन्डी को संयुक्त रूप से दिया गया। इस संदर्भ में क्वांटम डॉट्स के अनुप्रयोगों पर चर्चा कीजिए। (15 अंक, 250 शब्द)

The Nobel Prize in Physics of 2023 was jointly awarded to Ekimov, Brus and Bawendi for the discovery of synthesis of quantum dots. In this context, discuss the applications of quantum dots. (15 marks, 250 words)

Quantum dots are nanotechnology
particles of few nanometer size
having bioluminescence properties.

Applications of quantum dots -

- 1) - Agricultural operations - can be crucial in developing sensory preventing water wastage.
- 2) - Crop situation - Awareness can be enhance due to their size, and capacity enabling better information of crop status.
- 3) - Development of internet of things -
Developing a connected ecosystem
enabling ease of living.

4). [Encrypted communication] - Through method of quantum key distribution.

5). [Developing advanced sensors].
Enabling further advancement in manufacturing applications.

6). [Boosting connectivity] - Through application, high bandwidth, capacity communication equipment can be manufactured.

7). [Promoting next economic growth] -
Quantum dots applications can boost next phase of global economic growth in the times of stagnation.

[Challenges] -

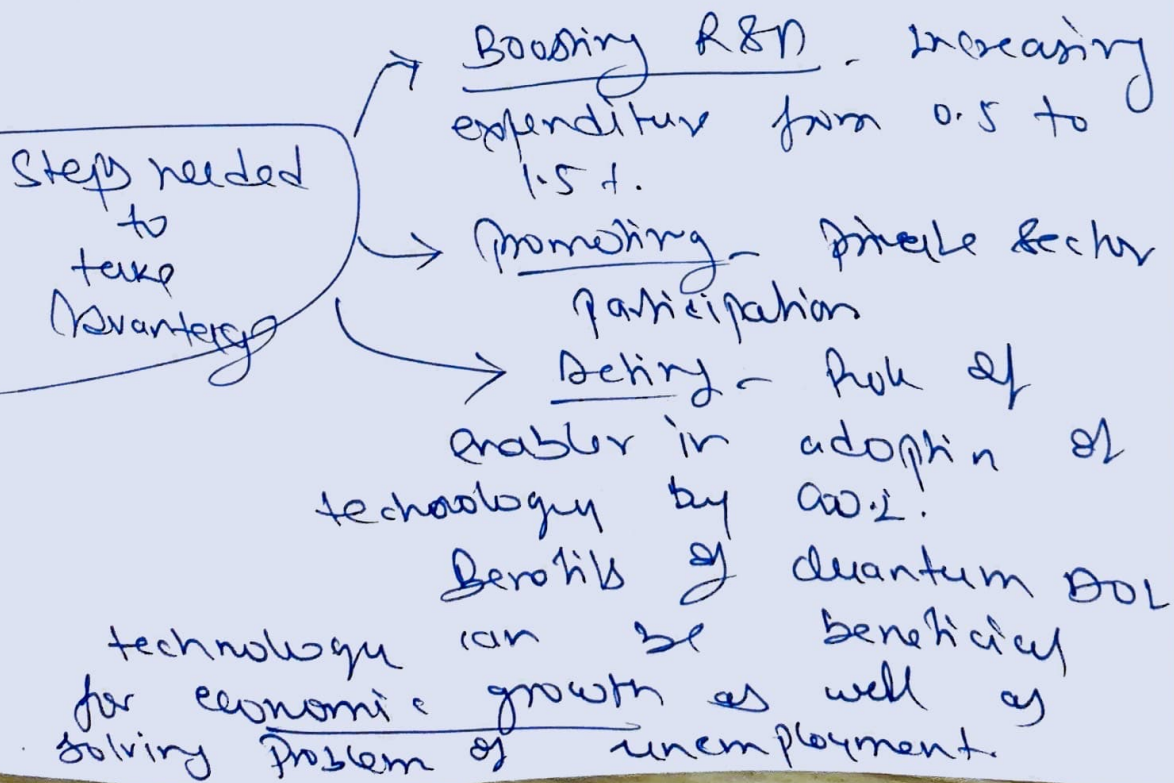
1). [Capital requirement] - Application of quantum dot technology

requires capital intensive investment.

2). Technology transfer - From technologically advanced countries such as USA, and Europe has always been challenge.

3). Skillset - To match quantum dot application is not adequate in developing countries including India.

4). Expenditure on R&D - Remains below 0.5% of GDP, thus hampering research in field of application of quantum dot technology.



17. भारत में जैव विविधता संरक्षण में आरक्षित क्षेत्रों (Protected areas) की भूमिका का मूल्यांकन कीजिए। भारत की जैव विविधता को संरक्षित करने में राष्ट्रीय उद्यान, वन्यजीव अभयारण्य और बायोस्फीयर रिजर्व (जैवमंडल निचय) कितने प्रभावी रहे हैं? (15 अंक, 250 शब्द)

Evaluate the role of protected areas in biodiversity conservation in India. How effective have national parks, wildlife sanctuaries, and biosphere reserves been in preserving India's biodiversity? (15 marks, 250 words)

Protected area method is a method of in-situ conservation of biodiversity. In India these protected areas are regulated under wildlife protection act 1972.

Status of protected area networks in India.

→ Area - Total less than 5% total area of India's 328 M.H.

→ wildlife sanctuaries - numbered more than 500 across all states of India.

→ National Park - numbered more than 100 with most numbers in MP and Andaman Nicobar.

→ Conservation Reserves and

Community reserves - to promote role of individuals in biodiversity conservation

→ 18 Biosphere reserves to promote holistic conservation of Biodiversity.

Role of protected areas in biodiversity conservation

1) - Regulation of activities - Thus trying to keep biodiversity safe.

[Ex] - Wildlife Sanctuaries has some protection, while National Parks has complete restriction on human activities.

2) - Preventing deforestation - Through regulation of human activities.

3) - Securing Habitat - For endemic as well as other species.

[Ex] - Namdapha Flying Squirrel in Namdapha National Park, Dachigam N.P for muscle deer.

4) - In line with global practices - of wildlife conservation.

5) - Preventing man animal conflict - Through demarcation of territories and increased levels of protection.

Achievements of Protected Areas -

1) - Species regeneration - As seen from

6 times increase in number of tigers (20% of world), preserving only population of Asian Lion in Gir national park.

2) - Preventing habitat destruction - This approach has been helpful in preventing habitat destruction.

[Ex.] - Palpur Kuno → Area for tiger.

3) - Coexistence - of human habitations in Biosphere reserves.

4) - Fulfilling global obligations - Under UNESCO MAB programme.

[Ex.] - India's 12 B.R. out of 18 are part of MAB programme.

Challenges → Encroachment → Protected areas is increasing.

[Ex.] - Non compliance with eco sensitive zone in Kerala.

→ Monied parks - Due to small size of India's national parks.

→ Increasing man animal conflicts.

- [Ex.] - Sattkosia Tiger killing 2 villagers.

Thus Reserved area policy has been a mixed bag calling for necessary intervention for further improvement.

18.

भारत में पार्टिकुलेट मैटर (PM_{2.5} and PM₁₀) और ओजोन प्रदूषण के उच्च स्तर होने के क्या कारण हैं? पार्टिकुलेट मैटर और ओजोन प्रदूषण को कम करने के लिए सरकार द्वारा किए गए विभिन्न प्रयास कितने प्रभावी रहे हैं?

(15 अंक, 250 शब्द)

What the causes of high levels of particulate matter (PM_{2.5} and PM₁₀) and ozone pollution in India. How effective are the various steps taken by the government to mitigate particulate matter and ozone pollution?

(15 marks, 250 marks)

According to WHO air quality reports India was among top-3 most polluted country with Delhi being most polluted capital city.

High particulate matter and ozone pollution

1) - Population density - In urban areas causes potential of particulate matter (2.5, 10) concentration.

2) - Construction activities - is single most significant source of PM 2.5, 10 pollution.

Ex. - Huge construction activities around metropolises due to metro projects and highway projects.

3) - Vehicle emission - is an

Significant source of pm 2.5
pollution

4). [Non-treated waste] - Acts as
enabler of particulate matter
pollution as well as ozone
pollution

[Ex] - Ghazipur waste site in Delhi →
contributes to pm pollution, and ozone
pollution due to emission of Sox and
Nox.

5). [Inadequate waste handling] - leads
to generation of pm pollution
and ozone concentration

6). [Global warming] - Has been
primary contributor of formation of
ground level ozone.

7). [Industrial waste] - and their
dumping at inappropriate places
leads to ozone pollution.

[Ex] - Bellandur lake pollution in
Bengaluru

Steps taken by Government -

- 1) - National clean air programme -
 - (a) - Announced in year 2021.
 - (b) - Multi-ministerial approach.
 - (c) - Targeted PM 2.5, 10 pollution.
- 2) - Target - of reducing PM concentration by 30% by year 2025 in more than 100 cities.
- 3) - C.A.Q.M - replacing C.R.A.P in Delhi N.C.R, acts in graded manner to solve problems of ozone and PM pollution.
- 4) - Montreal Protocol - Addressing issues of formation of ground level ozone.
- 5) - Waste management policy - preventing nitrogenous waste getting dumped in open.
- 6) - B.S II norms - with 50% NO_x and 30% SO_x reduction.

Further steps needs to be taken as preventive measure to prevail clean air in cities of India.

19. अंतर्राष्ट्रीय नारकोटिक्स नियंत्रण बोर्ड (INCB) रिपोर्ट 2023 दक्षिण एशिया में मादक पदार्थों की तस्करी के बढ़ते खतरे को प्रदर्शित करती है, जिसका कि भारत एक प्रमुख केंद्र है। भारत के संदर्भ में इस चुनौती के विभिन्न आयामों का विश्लेषण कीजिए। साथ ही, इससे निपटने के लिए बहु-आयामी दृष्टिकोण भी सुझाइए। (15 अंक, 250 शब्द)
- The International Narcotics Control Board (INCB) Report 2023 highlights a growing menace of drug trafficking in South Asia, with India being a major hub. Analyze the various dimensions of this challenge with respect to India. Also suggest a multi-pronged approach to address it. (15 marks, 250 words)

Narcotics poses various multi-dimensional challenges to India's internal as well as external security through its disastrous impact on society as well as its potential to be used in various other activities.

Dimensions of Narcotics challenge to India -

1/- Geographical.

(A) - Golden Crescent - Areas of Iran, Afghanistan, Pakistan form a corridor, in India's neighbourhood, thus vulnerable from western side.

(B) - Golden Triangle - Areas of Laos, Camodia, Thailand, Myanmar, poses threat from eastern side.

2) - Organised crime networks - Involved in drug trade adopting sophisticated means.

3) - State sponsored - States like Pakistan pursuing policy of Narco terrorism against India.

(Ex) - Smuggling of opium, cocaine across Punjab border through drones.

4) - Support to terrorism - Pakistan has been using proceeds from Narco trade to promote state sponsored terrorism in India.

5) - Regional instability - In region of Golden triangle making further vulnerable.

(Ex) - Civil war in Myanmar, and recent instability in Bangladesh creates challenge in prevention of Narcotics movement across borders

6). Increasing seizures. suggest increased attempts to penetrate narcotics across India.

Ex. - Consignment worth 2000 cr. caught at Mundra port.

Approach to Address Narcotics Concerns -

- 1). Strict monitoring - Across the airports as well as seaports.
 - 2). Using technology - For detection of Narcotics at airports and seaports.
 - 3). Spreading awareness - Specially among youth regarding ill effects of drug use on society and individuals.
 - 4). Mental counselling - of people already addicted to drug use.
 - 5). Global cooperation - with UNODC and bilateral cooperations with regional countries to tackle problem.
 - 6). Strengthening of, P.M.L.A and P.S.A to deal with drug crime.
- A multi pronged approach coupled with international cooperation can be helpful in tackling menace of drug crime.

20.

वामपंथी उग्रवाद के प्रति भारत की प्रतिक्रिया (कारवाई) में नक्सलवाद के मूल कारणों को दूर करने के लिए कठोर सुरक्षा उपायों के साथ-साथ सामाजिक-आर्थिक नीतियों और संवाद जैसे नरम दृष्टिकोणों/उपायों (Soft approaches) को एकीकृत करने की आवश्यकता है। चर्चा कीजिए।

(15 अंक, 250 शब्द)

India's response to left wing extremism needs to integrate soft approaches like socio-economic policies and dialogue along with hard security measures to address the root causes of Naxalism. Discuss.

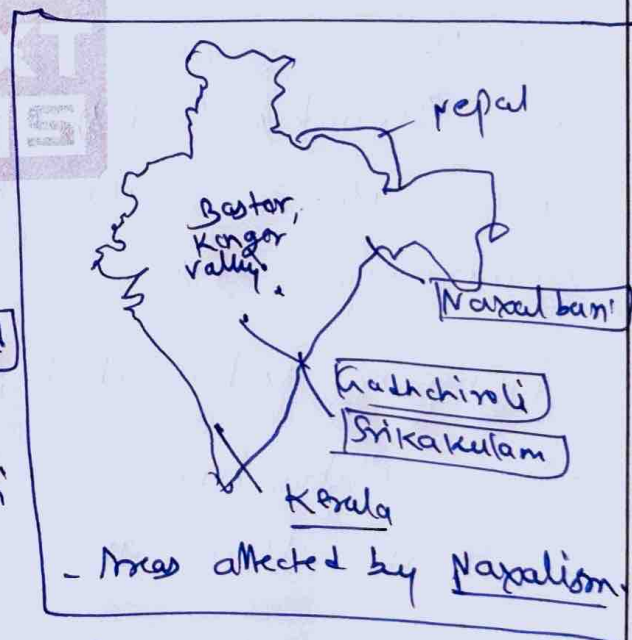
(15 marks, 250 words)

Naxalism, Maoism, left wing extremism has been interchangeably used. It was considered as most significant internal security threat by National Security Policy makers.

Extent of problem

1) - (Emergence) Due to failure of land reforms.

2) - Geographical spread
- once spread from Tripuri-Pashupati (Nepal)



3) - Hampered - more than 150 districts at its heyday during early 2000s.

4) - Objective - To sabotage democratically elected government.

Soft approaches to tackle Naxalism -

1) - Promoting development - In Naxalism affected areas through special packages.

[Ex.] - Special allocation to Chhattisgarh under 13th FIC for development of Naxal prone areas.

2) - Promoting Human development - in areas to enable population joining mainstream.

[Ex.] - Aspirational District Programme includes districts such as Srikakulam, Adilashahi, Rashtar.

3) - Promoting industrial development - through active collaboration of private sector.

[Ex.] - D.R.L unit in Srikakulam.

4) - Forest rights act 2006 - Ensuring forest right to tribals thus reducing motivation to join militancy.

5) - Minimum Support Price - To
minor forest produce through
T.P.R.F.E-d.

[Ex] - Tendu leaves fetching m's.p
thus earning revenue for states.

Hard Security measures -

1) - Paramilitary - C.R.P.F has been
engaged in fighting naxalists.

[EX] - C.O.B.R.A force an elite formation
specialising in naxal conflict.

2) - State's own forces - Andhra Pradesh
Grayhound force can be quoted.

3) - Civic action programmes - Aiming
at gaining ground local
intelligence.

4) - Target - M.H.A Amit Shah
aiming extinction of L.O.C by
2026.

These efforts have led to
reduction in number of
districts affected from over 100
to current 25, with commensurate
reduction in casualties.

NEXT IAS

Space for Rough Work

NEXT IAS

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