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NEXT IAS

NEXT IAS (Head Office): 27-B, Pusa Road, Metro Pillar no. 118, Near Karol Bagh Metro, New Delhi-110060
Bhopal Centre: Plot No. 46, ZONE-2, M.P. Nagar, Bhopal-462011
Ph: 8081300200, 8827664612 | E-mail: mts@nextias.com | **Web:** www.nextias.com

(To be filled by candidate)

Name of Candidate : SUMAN SAURABH

Roll No. : MT 23 MA CEN 205

Registration Number : ..... Date of Examination : 9/8/23

Exam Centre : Old Rajinder Nagar ☐ Bhopal ☐ Online ☑

Test - 3 **Code : TC073**

MTS IGP Batch 2023

GENERAL INSTRUCTIONS

This Question-cum Answer (QCA) Booklet contains 56 pages. Immediately on receipt of the 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 read the instructions on this page and the following pages carefully before attempting the paper.

Candidates should attempt the questions strictly in accordance with the instructions specified in the question paper and in the space prescribed under each question in the booklet. Any answer written outside the space allotted may not be given credit.

Question paper will be provided separately and can be taken by the candidates after conclusion of the exam.

.....

SUBJECT/PAPER
GENERAL STUDIES

Invigilator's Sign. : .....

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(For filling by Examiners only)

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			
13	27			
14	30			
15	33			
16	36			
17	39			
18	42			
19	45			
20	48			
Grand Total				

Signature

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MACRO COMMENTS

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Q.2 नई मौद्रिक नीति समिति (एमपीसी) व्यवस्था के अंतर्गत मुद्रास्फीति लक्ष्यीकरण को क्रियान्वित करने की कथित सफलताओं और चुनौतियों पर चर्चा कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

Discuss the perceived successes and challenges of implementing inflation targeting under the new Monetary Policy Committee (MPC) regime. (Answer in 150 words) 10 Marks

New monetary Policy committee had the target to contain inflation within the range of 2 to 6%. MPC regime has been quite successfull in containing

Successes of MPC regime

(1). Inflation was within the range mostly till Fin anvil year 2021-22.

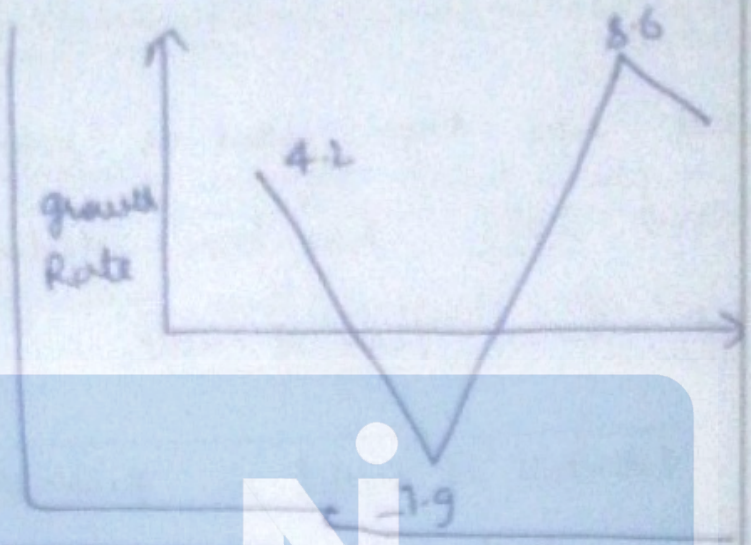
(2). MPC regime was able to deal with challenges of covid-19 pandemic with reduced and negative growth.

(3) Rising fuel price, Russia Ukraine war had also been challenging during which inflation limits were breached.

(4) Repo rate has been able to balance both growth and controlling

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inflation after covid-19.



Challenges of MPC regime

(1) Balancing growth which requires low repo rate and inflation (High repo) is challenging.

(2) Emerging global polycrisis (covid, Russia Ukraine, US monetary policy, capital flight).

(3) Climate change can affect agriculture, causing drought and crop failure leading to inflation.

(4) Challenge of deglobalisation, increasing cost of commodities.

Overall, MPC has been able to deal with inflation challenges in our country.

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Q.3 भारत में सतत् कृषि को बढ़ावा देने और खाद्य सुरक्षा में सुधार के लिए मोटे अनाज उत्पादन की क्षमता का आकलन कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

Assess the potential of millet production in promoting sustainable agriculture and improving food security in India. (Answer in 150 words) 10 Marks

Millet has been called as 'wonder crop', and 2023 has been declared as International Year of Millets.

Potential of Millet in promoting sustainable agriculture

(1) Land sustainability

- Millet has less need of fertilizer like rice, wheat preventing land degradation.
- Fast growing season leading to better soil health.

(2) water sustainability

- It will prevent water scarcity.
- It is a hardy crop and less uses of water is there in millets.

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(3) millet would help in promoting dryland farming.

(4). It would help drought prone areas.

(5) overall, efficiency will increase due to millets.

Food security

(1) Rich source of protein, solve problem of wasting, hunger.

(2) It has low glycemic index and is good for diabetic patients.

(3). It also act as antioxidants.

Thus, we need to promote millet using better technologies. MS Swaminathan Foundation has promoted customised technology for better processing of millets.

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Q.4 जल जीवन मिशन में पेयजल की उपलब्धता और पेयजल तक पहुँच में क्षेत्रीय विषमता को समाप्त करने का सामर्थ्य है। मिशन के महत्त्व पर प्रकाश डालते हुए, वांछित उद्देश्यों की प्राप्ति में अंतर्निहित बाधाओं पर चर्चा कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

Jal Jeevan Mission has the potential to end the regional disparity in the availability and accessibility of drinking water. Highlighting the significance of the mission, discuss the underlying impediments in achieving the desired objectives. (Answer in 150 words) 10 Marks

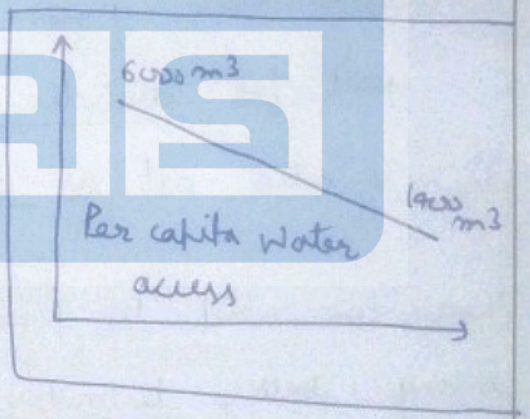
Jal Jeevan mission aims to provide Piped water supply to all household. (1)

Both rural and urban areas have been covered under this. (2)

Potential to end disparity in water access

(3)

(1) Overall, per capita availability of water has decreased, JJM has potential to increase this.



(4)

(2). Regional disparity between area having high rainfall and low rainfall can be solved by help of JJM. (5)

(3) JJM aims to finish its mission within a timeline of 2024.

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* Availability of piped water is a challenge particularly in rural areas, where dependency on well, tubewell is high due inf contructural challenge.

Impediments

(1). Infrastructural challenge in rural areas of water Norms, pipelines.

(2) Funding constraints as saving and investment declined to less than 20%.

(3) Climate change affecting rainfall pattern and more runoff to seas.

(4) Problem of water contamination due to fertilizers, geological factors.

(5) Problem of corruption, diversion to already affluent section.

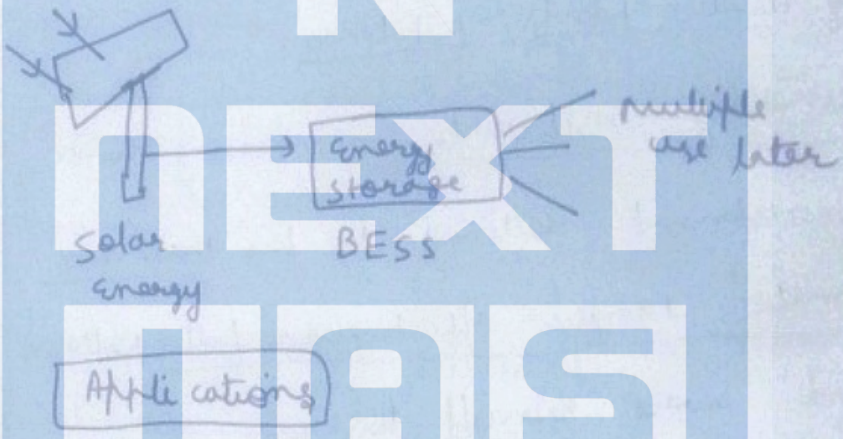
Thus, JJM has potential to solve water crisis but much action is needed.

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Q.5 बैटरी ऊर्जा भंडारण प्रणाली (बीईएसएस) से आप क्या समझते हैं? इसके अनुप्रयोगों पर चर्चा कीजिए और यह भारत के ऊर्जा कार्यक्रम में किस प्रकार क्रांतिकारी बदलाव ला सकता है। (150 शब्दों में उत्तर दीजिए) 10 अंक

What do you understand by Battery Energy Storage Systems (BESS)? Discuss its applications and how it can revolutionize the energy program of India. (Answer in 150 words) 10 Marks

Battery energy storage system refers to tumology of storing the energy which can be used later.



(1) It can solve the problem of intermittent nature of renewable source of energy.

(2) It can solve energy crisis in solar deficit region.

(3) It can help to capture solar energy and promote interstate

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transfer of energy.

(4) It would help in achieving our (INDC) Intended Nationally Determined Contribution of 500 GW by 2030.

Potential to revolutionize energy program

(1) India has numerous reason, accordingly solar energy varies. But battery storage can solve this.

(2) It can help in enhancing our renewable from 160GW to 500GW in fast manner.

(3) It will promote startups, investment in solar and wind energy.

(4) It would increase per capita energy consumption from 1/3 of world avg.

Thus battery energy storage is future of our energy program.

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इसरो के गगनयान मिशन में हुए विकास और उपस्थित चुनौतियों पर संक्षिप्त चर्चा कीजिए। समाज के लिए मिशन के संभावित लाभ क्या हैं? (150 शब्दों में उत्तर दीजिए) 10 अंक

Discuss in brief developments and challenges in the Gaganyaan mission of ISRO. What are the possible benefits of the mission for the society? (Answer in 150 words) 10 Marks

Gaganyaan is the human space program of ISRO. It would send astronauts in space.

Developments in gaganyaan

(1). GSLV Mk-III will be used to send the astronauts.

(2) Before sending them trials would be conducted to study various parameters.

(3) Low earth orbit is the destination for gaganyaan mission.

(4) currently training program of selected astronauts is being done in USA.

Challenges in gaganyaan

(1) Risk during going outside earth

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atmosphere.

(2) Risk of human life

(3). Isolation behaviour of astronauts in this mission.

Benefits for the society

(1) Contributes in space research program which would help in future missions.

(2) Also has potential to promote future mission and space tourism.

(3). It would promote curiosity among students and act as motivation for (STEM) sector in India.

(4) Also help in understanding human aspects at zero gravity and possibilities in medical science.

Yaganyaan has the potential to add new dimension to ISRO.

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Q.7 "जलवायु परिवर्तन और प्रदूषण से निपटने की हमारी खोज में हरित हाइड्रोजन एक सरल और जादुई समाधान हो सकता है"। भारत के राष्ट्रीय हरित हाइड्रोजन मिशन के आलोक में कथन का आलोचनात्मक विश्लेषण कीजिए।
(150 शब्दों में उत्तर दीजिए) 10 अंक

"Green hydrogen can be the silver bullet in our quest to tackle climate change and pollution". Critically analyze the statement in light of India's National Green Hydrogen mission.
(Answer in 150 words) 10 Marks

National Green Hydrogen Mission aims to achieve 5 MMT of H_2 by 2030. It would promote usage of green H_2 which can be the silver bullet.

green H_2 – climate change

(1) green H_2 would reduce per capita greenhouse gas emission through thermal power plants.

(2) It can also be directly used as a fuel to change transport sector. eg H_2 based train, cars.

(3). It can also be used in the manufacturing sector and change

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industries eg green steel.

Tackle Pollution

(1). emission of CO_2, CO, NOx, particulate matters from thermal power plants will reduce.

(2) vehicular emission will also decline from usage of H_2 based cars and public transport.

Challenges

(1) High initial cost of green H_2.

(2) Tech. like electrolysers are quite new and require a lot of research and development.

(3). Storage of H_2 tech. is needed and also it is needed to prevent inflammability of H_2.

Multiple intervention in storage, electrolysis is needed to fresh green H_2 in our country.

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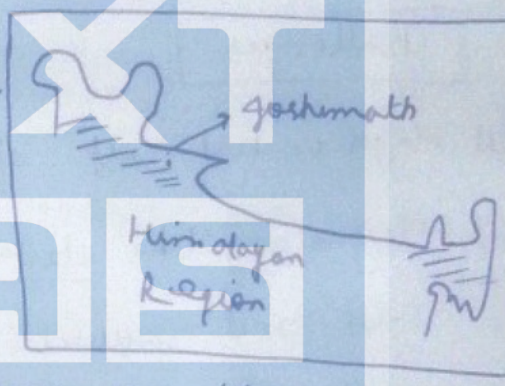
हाल ही में जोशीमठ, उत्तराखंड में आई आपदा के आलोक में, हिमालय क्षेत्र में आपदा प्रबंधन और पर्यावरण संरक्षण के लिए मुख्य सबक क्या हैं? (150 शब्दों में उत्तर दीजिए) 10 अंक

What are the key lessons for disaster management and environmental conservation in the Himalayan region, in light of the recent disaster in Joshimath, Uttarakhand? (Answer in 150 words) 10 Marks

Recently land subsidence has been witnessed in Joshimath. Before that GLOF was seen in the Chamoli district of Uttarakhand.

Key lessons for disaster management

(1). Proper geomorphological study of the region should be done before any HEP is made. eg Mcmishra committee report on Joshimath crisis.



(2). Preparedness mechanism

(a) Land zonation strategy to reduce the risks of disaster. Proper land zonation was not followed in Joshimath incidence.

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mitigation mechanism

(b) HEP projects in Himalayan region must be reevaluated to prevent future disasters.

(c) Road construction should take into account slope instability, geology, lithography, stratigraphy aspects.

environmental conservation

(1) Such incident like Joshimath is a lesson to promote eco-centric mode of development.

(2) It is a lesson to increase afforestation, promote homestay tourism which are environment friendly in nature.

(3) Circular mode of development is needed here.

Thus multiple lessons can be learnt for Himalayan region wrt disaster management & environment conservation

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Q.9 पंजाब में हालिया कट्टरपंथी रुझानों से पता चलता है कि खालिस्तान का मुद्दा अभी भी उबल रहा है।" हालिया घटनाक्रम के संबंध में कथन पर चर्चा कीजिए और इससे निपटने के उपाय सुझाएँ। (150 शब्दों में उत्तर दीजिए) 10 अंक

"The recent radical trends in Punjab show that the Khalistan issue is still simmering." Discuss the statement with respect to recent developments and suggest measures to handle it. (Answer in 150 words) 10 Marks

Khalistan issue in Punjab is a internal security issue which wants to create a separate Khalistan state out of Punjab and adjoining areas.

Recent developments

(1) Social media has been used to promote Khalistan activities.



(2) Foreign countries like Canada, Australia further augment regional sentiments of Punjab and promote Khalistan activities.

(3). Disillusioned youth due to drug proliferation are vulnerable to such hate speeches.

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4) Border nature of Punjab help in access to arms for such group which leads to violence.

5) Involvement of external states like Pakistan to use such sentiments to propagate terrorism.

Measures needed

(1) Rajiv gauba committee has suggested to make social media accountable.

(2) Diplomatic outreach with country like canada, Australia.

(3) Promote development of industries in Punjab.

(4) Prevent cross border smuggling of illegal arms and drugs by ISIS.

(5). Use of NGOs to prevent radicalisation of youth

Multiple action of investment, NGO. is needed to arrest khalistan tendencies in Punjab.

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Q.10 ड्रोन संचालन में आसानी और साथ ही इसके संचालक की अनामिता, भारत की सीमा सुरक्षा की चुनौतियों में वृद्धि करती है। विस्तारपूर्वक वर्णन कीजिए और सीमावर्ती क्षेत्रों में ड्रोन समस्या से निपटने के लिए सुझाव दीजिए।
(150 शब्दों में उत्तर दीजिए) 10 अंक

The anonymity and ease of drone operation contribute to the challenges of India's border security. Elaborate and give suggestions to tackle the drone problem in border areas.
(Answer in 150 words) 10 Marks

Recently drone operation have led to drug, arms trafficking across Indian borders.

Challenge of drone operation

(1). It becomes challenging as we cant know who is operating it.

(2). It can be used to easily provide arms and ammunition and promote insurgency.

(3) It can also be used to attack on military establishments.

(4) It is quite easy to use like simple video games.

(5). Difficult geography of India makes it difficult to guard every part of border adding to vulnerability.

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Suggestions to tackle drone problem

(1) Madhukar gupta committee had suggested to use (CIBMS) combined integrated Border management to guard our borders.

(2). Digital fencing in areas have difficult terrain.

(3) Tatnology transfer from other countries like Israel which also faces border challenges.

(4) Rope in private experts to use non destructive techniques to disrupt drones.

(5) Alongwith this border area development using vibrant village program to prevent radicalisation and use of drones.

We need to integrate tatnology in border management to deal with emerging challenges like drones.

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Q.11 विद्युत संशोधन विधेयक, 2022 उपभोक्ताओं, डिस्कॉम के साथ-साथ पर्यावरण के लिए कई लाभ प्रस्तुत करता है। संक्षेपवार वर्णन कीजिए। साथ ही इसकी कमियों को भी सूचीबद्ध कीजिए और उन्हें दूर करने के लिए कुछ उपायों का भी सुझाव दीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

Electricity Amendment Bill, 2022 brings several advantages for consumers, DISCOMs as well as the environment. Elaborate. Also, list out its shortcomings and suggest some measures to overcome them. (Answer in 250 words) 15 Marks

electricity is under concurrent list and recent bill aims to transform this sector. Bringing multiple advantages of this bill are:

Consumers

(1) Prevent frequent power cuts by fostering competition among DISCOMs.

(2) Quality of power would increase with investment in infrastructure bringing private players.

DISCOMs

(1) Debt level of DISCOMs will come down.

(2) competition among DISCOMs would

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promote efficiency.

(3). Independent regulatory board will fix price according to market demand & supply making DISCOMs profitable.

(4). Commercial & Technical losses would come down.

Environment

1) Renewable Purchase Obligations would reduce thermal power.

(2) It would push renewable source of energy in our country.

(3) It will reduce emissions and help in preventing climate change.

Shortcomings

(1). No provision on how to change culture within DISCOMs.

(2) Also, what will be status of State DISCOMs which fail to

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adapt to competition.

(3). challenge of retrenchment of people working in DISCOMs.

Measures to overcome

(1). Bring cultural changes within DISCOMs promoting use of technology.

(2) Behavioural change among people by introducing smart metering.

(3). UDAY scheme to provide performance based incentive to DISCOMs.

Transformation of DISCOMs have multiple benefits reducing fiscal deficit, improving energy access and green growth.

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Q.12 भारतीय प्रतिभूति एवं विनिमय बोर्ड (सेबी) शेयर बाजार के नियमन और निवेशकों के हितों की सुरक्षा में महत्वपूर्ण भूमिका निभाता है। दिये गए कथन के आलोक में, सेबी के समक्ष आने वाली चुनौतियों पर प्रकाश डालिए और इस संबंध में सुधारों का सुझाव दीजिये।

(250 शब्दों में उत्तर दीजिए) 15 अंक

Securities and Exchange Board of India (SEBI) plays an important role in the regulation of the share market and safeguarding the interests of investors. In the light of given statement, highlight the challenges faced by the SEBI and suggest reforms in this regard.

(Answer in 250 words) 15 Marks

SEBI is a regulatory body which safeguards the interest of investors.

It prevents manipulation of stock market.

Important role of SEBI

(1). Prevent practices like insider trading.

(2) It prevents crisis like 2007 Global Financial crisis.

(3) It also prevent share market bubbles.

(4). Critical role played by SEBI in past include Harshad mehta scam, Satyam scam

Challenges faced

(1) Shell company showing false shares.

(2). Corporate frauds like ILFS crisis.

(3). Banking failure eg PMC bank.

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(4) Lack of capacity to deal with manipulation of private player.

(5) Private player not following compensation regarding independent audit, board of directors.

(6) Family business culture in India.

(7) Less manpower and lack of experts in SEBI.

(8) Politics - business nexus also create lack of independent working culture within SEBI.

Reforms needed

(1). Hiring of experts through lateral entry.

(2). Independent working culture within SEBI and prevent political interference.

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(3). Financing of SEBI to use tech. like AI to prevent frauds.

(4). Strict penalty power against violations of companies act.

(5) Longer tenure to develop expertise in regulation of SEBI.

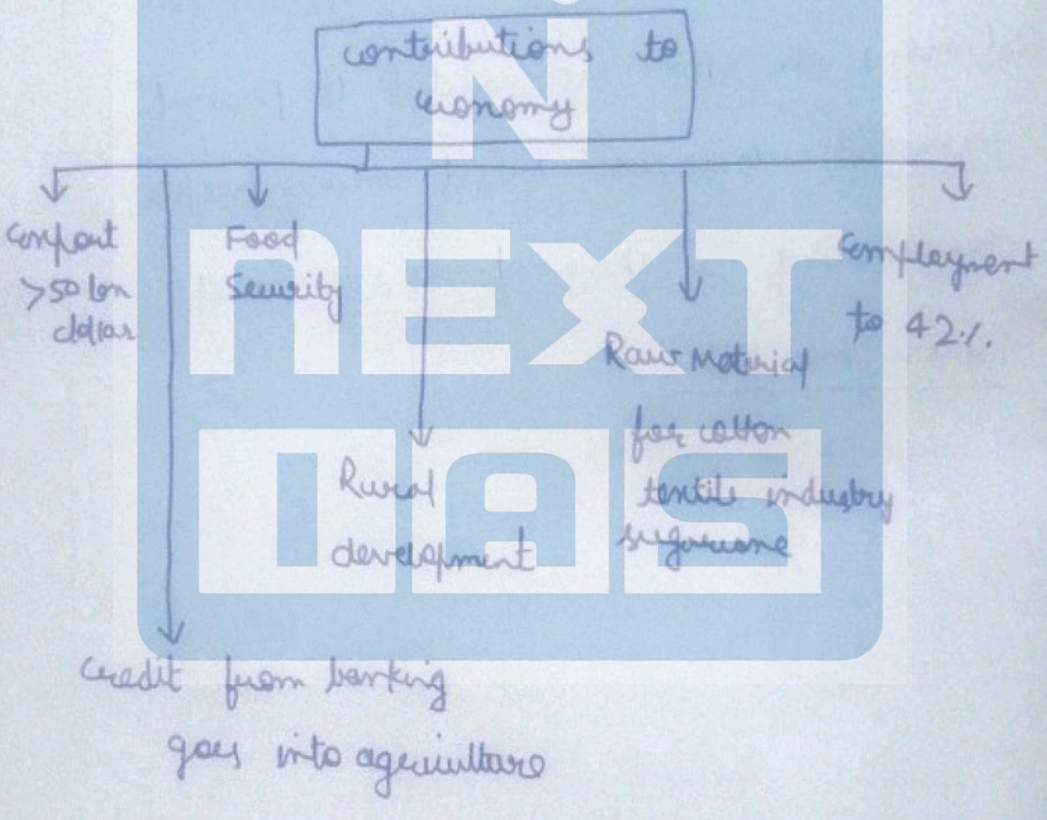
Reforms in SEBI is needed to prevent frauds, increase trust among people regarding working of SEBI and share market.

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Q.13 भारतीय अर्थव्यवस्था में एक प्रमुख योगदानकर्ता होने के बावजूद, कृषि क्षेत्र कई बाधाओं से ग्रस्त है जो इसकी वृद्धि और विकास में बाधा डालते हैं। इन बाधाओं पर काबू पाने में प्रौद्योगिकी की भूमिका पर चर्चा कीजिए।
(250 शब्दों में उत्तर दीजिए) 15 अंक

Despite being a major contributor to the Indian economy, the agriculture sector is plagued by several constraints that impede its growth and development. Discuss the role of technology in overcoming these constraints.
(Answer in 250 words) 15 Marks

Agriculture sector employs around 42% of workforce but provides ~~job to only 16~~ only 16% of total GDP.



Several constraints Hayung agriculture

(a) Infrastructural factors

(i) Input quality is poor eg seeds

(2) Wastage of resource eg fertilizer overuse

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(2). Lack of irrigation infrastructure
of only 35% has been

(b) Institutional factors

(1). Fragmentation of lands eg only 4% small & marginal farmers

(2). Lack of corporate participation in agriculture

(3) Low investment in R&D.

Role of technology

(a) Biotechnology

(i) It can be used to improve the quality of inputs. eg GM cotton.

(ii) It can increase productivity of crops

(iii) Also be used to enhance productivity of fisheries, animal husbandry.

(b). Nanotechnology

(i) Nanofertilisers can promote efficient resource use.

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(2) Nanopesticides can be used to reduce the input cost, promote efficiency.

(c) use of technology

(1) eNAM has potential to provide market access to agriculture.

(2). Kisan SMS Portal can be used to provide better information access.

(d). use of Artificial intelligence

(1) AI can be used to promote precision agriculture enhancing the productivity, better utilisation of resources.

(e) Drones.

(1) It can be used for insurance claim, input usage from drones.

Thus technology has potential to disrupt agriculture, as coined by Schumpeter regarding 'creative disruption'.

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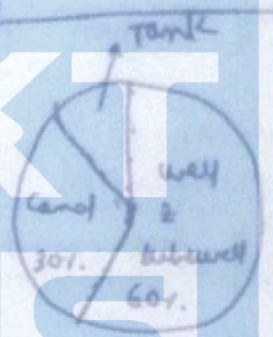
Evaluate the impact of irrigation on the environment and natural resources, and suggest measures to ensure the sustainability and equity of irrigation practices in agriculture.
(Answer in 250 words) 15 Marks

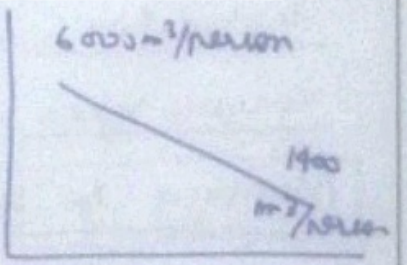
India has around 50% of land which are under coverage of irrigation. It has helped in increasing productivity but at the same time affected natural resources and environment.

Impact of irrigation

(1). It has led to creation of water stress region specially in green revolution belt.

eg Punjab, Haryana belt





Per capita availability of water.

(2) Overirrigation in green revolution region has led to problem of salinity and land degradation.

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(3). River linking projects like Ken-Betwa in order to increase irrigation has caused deforestation, submergence of tiger reserves.

(4). Species have been affected due to irrigation projects eg Narmada Bachao Andolan.

(5) In hilly region irrigation projects have increased vulnerability to disasters eg Joshimath crisis.

(6) Irrigation has changed cropping pattern promoted wheat, causing land degradation, water scarcity in various region.

Measures to sustainability

(1) PMKSY focuses on efficiency through Per drop more crop / command area development program.

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(2). Watershed management initiatives have helped in various region to promote sustainability eg Neeru Bazar.

(3) Nihir Shah committee suggested participatory irrigation to ensure equity.

(4). Rainwater harvesting under Jal Shakti Abhiyan by converging the MGNREGA scheme.

(5) Use of microirrigation techniques like Per drop more crop (drip, sprinkler irrigation).

(6). Utilise existing irrigation potential by Warabandhi scheme, dam silt management.

Thus, irrigation needs a paradigm shift to community based, use of technology to promote sustainability.

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Q.15 परमाणु ऊर्जा और अंतरिक्ष प्रौद्योगिकी के क्षेत्र में क्रमशः डॉ. होमी जहाँगीर भाभा और डॉ. विक्रम अंबालाल साराभाई के योगदान से भारत को रणनीतिक रूप से किस प्रकार लाभ हुआ? (250 शब्दों में उत्तर दीजिए) 15 अंक

How India benefitted strategically from the contributions of Dr. Homi Jehangir Bhabha and Dr. Vikram Ambalal Sarabhai in the fields of atomic energy and space technology respectively? (Answer in 250 words) 15 Marks

Atomic energy and Space technology are strategic areas which determines both socio economic development & geopolitical power.

contributions

Vikram Sarabhai

(1). Establishment of ISRO

(2). First launch of rockets.

(3). use of technology in textile mills

(4) establishment of IIM, IIT

Homi Jehangir Bhabha

(1). 3 stage nuclear Program

(2) Bhabha Atomic Research centre

(3). Pioneer in nuclear energy.

(4) Research in atomic bombs

(5). Utilisation of thorium

(6) Establishment of tata Institute of Fundamental Research

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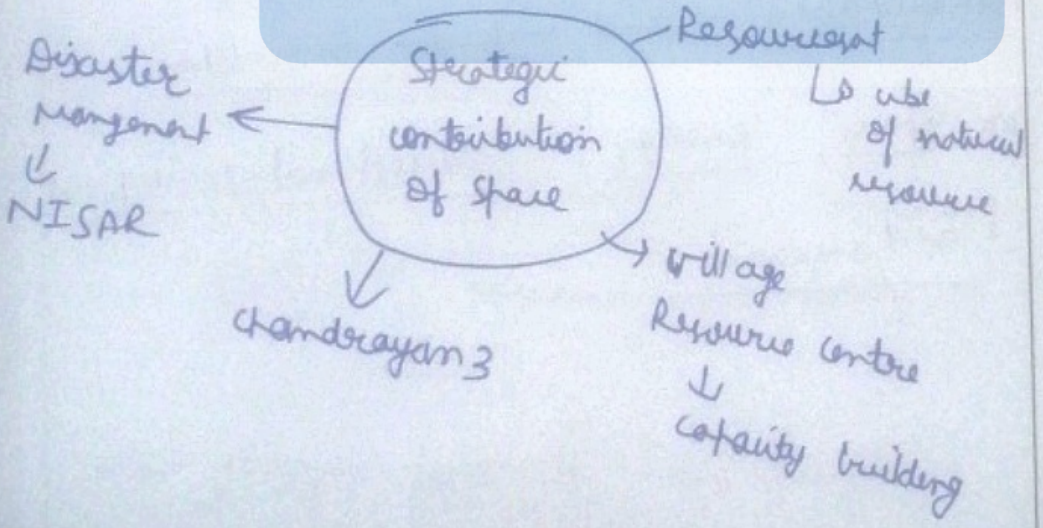
Strategic benefits to India

(1) Pioneer in space and nuclear energy provided first mover's advantage.

(2) very advanced theory on how to use thorium for energy security.

(3) Helped in India becoming nuclear power by Pokhran tests.

(4) Various socioeconomic contributions of space was pioneered by Vikram Sarabhai



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(5) It increased geopolitical power of India and helped in international collaboration eg Indo-Russia earlier in nuclear power, space and recently Indo-USA eg Artemis Accord.

(6) culture of research, and development

(7) Educational institute like IIT, IIM have provided engineers, scientists, bureaucrats which has helped our country.

Thus India benefitted immensely from Homi Bhabha and Vikram Sarabhai in space, energy, educational development and research.

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Q.16 जेनरेटिव एआई निकट भविष्य में नवाचार की सीमाओं को आगे बढ़ाने का सामर्थ्य रखता है, फिर भी इसका सामाजिक प्रभाव पर्याप्त चुनौतियाँ खड़ी करता है। सविस्तार उत्तर दीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

Genreative AI holds the potential to push the boundaries of innovation in the near future, yet its societal impact raises substantial challenges. Elaborate. (Answer in 250 words) 15 Marks

Recently, advent of <u>crotgpt</u> has led to immense debates about the potential of <u>generative AI</u>.

Potential of generative AI

(a) <u>Coding</u>

(i) generating AI can help create <u>codes</u> with ease promoting <u>computing</u> and <u>innovation</u>.

(ii) It can replace <u>manpower</u> and focusing investment on <u>research</u> and <u>developments</u>.

(c) Assist the <u>researchers</u>, improving quality of research promoting <u>innovation</u>.

(d). Larger <u>datasets</u> can further enhance the effectiveness of <u>generative AI</u>.

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(c) Various sector like media, education, IT company would transform with use of generative AI.

Substantial challenges

(1) Challenge of retrenchment, layoffs, job loss would affect a lot of workers.

(2). Perceived biasness and subjectivity of generative AI would lead to misinformation effect.

(3) It also would reduce creative thinking of human beings.

(4). Digital divide which is there in India between rural; urban (37:70) would further led to increased inequality.

(5). Economic inequality would increase further. Already 1% earns 6o to

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for. weaken as for enfam report.

(5) Audio / video from generative AI can lead to creation of deep fake

(6) culture of cheating in colleges & universities.

Measures needed

(1) Upskill and Reskill individuals to get benefits.

(2) CSR by tech giants like Facebook (Sri means business).

(3). use of diverse and unbiased data to promote balance and prevent biasness.

(4). Promote startups under National Strategy for AI in India.

India needs to embrace positive idea of technology with measures to reduce adverse effects.

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Q.17 नवंबर 2022 में मिस्र में COP27 संयुक्त राष्ट्र जलवायु परिवर्तन सम्मेलन में लॉन्च किये गए 'जलवायु के लिए मैंग्रोव गठबंधन' के उद्देश्य को स्पष्ट कीजिए। उष्णकटिबंधीय देशों की तटीय पारिस्थितिकी को बनाए रखने में मैंग्रोव के महत्व पर विस्तार से प्रकाश डालिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

Explain the purpose of the "Mangrove Alliance for Climate" launched at the COP27 UN Climate Change Conference in Egypt in November 2022. Elaborate on the importance of mangroves in maintaining the coastal ecology of tropical nations. (Answer in 250 words) 15 Marks

Mangrove is fragile ecosystem and facing the impact of climate change. In light of this 'Mangrove Alliance for Climate' is crucial.

Purpose for 'Mangrove Alliance for climate'

(1) Conservation of mangrove ecosystem which is vulnerable to rising sea level.

(2) collaboration among countries to learn best practices in protection of mangrove.

(3) Mangrove are transboundary in nature, which requires international collaboration eg Indo-Bangladesh for sundarban protection.

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(4) Share technology & finance for small island and developing nations.

Importance of mangrove

(1) Mangrove protects the coastal ecosystem from incoming disasters like cyclones, Tsunami
eg 2004 Tsunami in India.

(2) It also helps in increasing carbon stock in plants preventing climate change.

(3) Crucial role of water purification

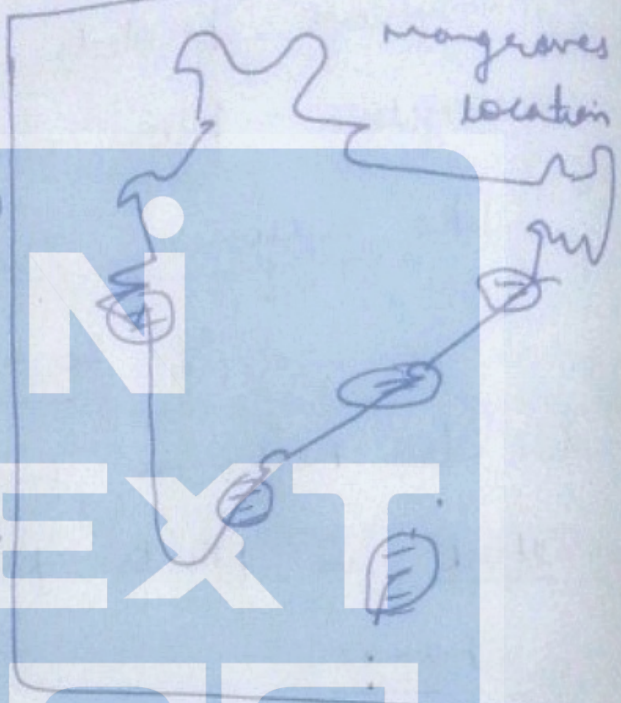
(4). Species diversity is associated with mangrove ecosystem.

(5). Promotes sustainable development in coastal areas by promoting tourism, increasing income for people.

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(6) Regulates of salinity of aquatic ecosystem

(7) Bird species are also attracted to such promoting faunal diversity.



India has also launched 'MISHTI' program for the conservation of mangrove ecosystem.

It would help in maintaining coastal ecology of our country.

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Q.18 आपदा प्रतिरोधी बुनियादी ढाँचे के लिए गठबंधन का गठन भारत में आपदा प्रबंधन दृष्टिकोण को और अधिक मजबूती प्रदान करता है। टिप्पणी कीजिए। भारत में आपदाओं से निपटने के लिए एक नई रणनीति की आवश्यकता के औचित्य सिद्ध कीजिए।

(250 शब्दों में उत्तर दीजिए) 15 अंक

The Formation of the Coalition for Disaster Resilient Infrastructure brings more robustness to the Disaster Management approach in India. Comment and justify the need for a new strategy to tackle Disasters in India.

(Answer in 250 words) 15 Marks

Coalition of Disaster Resilient Infrastructure

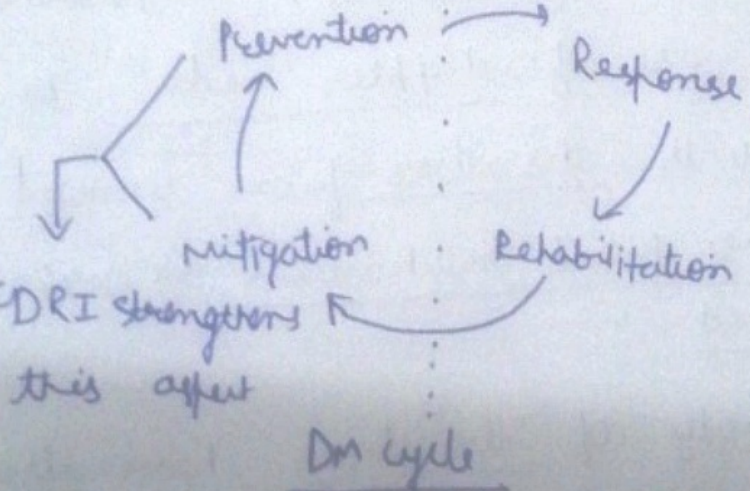
focuses on disaster reduction by making risk free infrastructure.

Robustness

(1). It is in line with Sendai framework for disaster risk reduction.

(2). It strengthens existing socio-economic infrastructure by conduction of Early warning, capacity building, preparedness.

(3).



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(4) It fosters international collaboration in knowledge sharing, joint mock drill, technology sharing etc.

(5) It reduces the impact and provides more time for response mechanism.

But the recent examples of Delhi flood, Jharkhand crisis, urban fires in Delhi requires new strategy.

Need for new strategy

(1) Climate change has increased the frequency of floods, cyclones due to which new strategy is needed.

(2) Focus on prevention, early warning system, use of doppler radar to deal with disasters from current response based mechanism eg Delhi flood.

(3). Intensity of disasters have also

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increased with more potential for damages eg Biparjoy cyclones.

(4). Need to promote better coordination between various departments.

(5). Focus on community participation in order to mitigate disasters eg SHG like Jeevika, Kudumbshree.

(6). Interstate coordination is needed to manage disaster. eg Haryana & Delhi collaboration in Delhi floods.

(7) Disaster resilient infrastructure is needed. Shift from HEP to small hydros, Sponsored management approach.

Thus there is need to shift from current structure & mechanism to new mechanism in line with Sendai Framework.

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Q.19 The recent rise in ransomware attacks targeting critical infrastructure and major corporations has highlighted the urgent need for stronger cybersecurity measures and policies. Discussing the key factors contributing to this trend, analyse the impact of these attacks on various sectors.

(Answer in 250 words) 15 Marks

India ranks among top 10 vulnerable countries in cybersecurity index. Recent attacks also highlight need for robust measures.

Recent rise in attacks

- Attack on Kundankulam Nuclear Plants
- Attack on Aiims
- Attack on Serum Institute for covid vaccines
- Wannacry
- Blue whale

Key factors contributing to this

(1) Rapid digitisation (800 mn subscribers) to internet, with lacking information and security standards.

(2) Imported Chinese devices also make vulnerable to attack eg Huawei Pro

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(2). New frontiers of warfare changing from conventional to cyber based eg Chinese attack on critical infrastructure.

(4) Lack of specialised agencies and poor coordination.

eg Multiplicity of agencies like NCIIPC, CERT-IN, NCCC.

(5). Lack of legal mechanism on data protection in India.

Impact of attacks

Economic impact

(1) Affect foreign direct investment in a sector.

(2). Theft of major intellectual property rights.

(3) Lead to investment on strengthening cyber security.

Social impact

(1). Affect middle class by

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cyberattacks causing tensions, loss of money.

(2) Distraction of youths towards shortcut of cyber crime eg jamtara in India.

Political impact

(a) critical infrastructure like nuclear power, ISRO, DRDO can lead to breach of security.

(b) Attack on AIIMS can compromise privacy by data leakage on diseases, ailments of politicians, bureaucrats.

Measures

(1) Foster coordination among agencies.

(2). Invest in research & development.

(3) Focus on semiconductors to develop indigenous technology to deal with such attacks.

Multipronged action on strengthening agencies research, awareness is needed to deal with such attacks.

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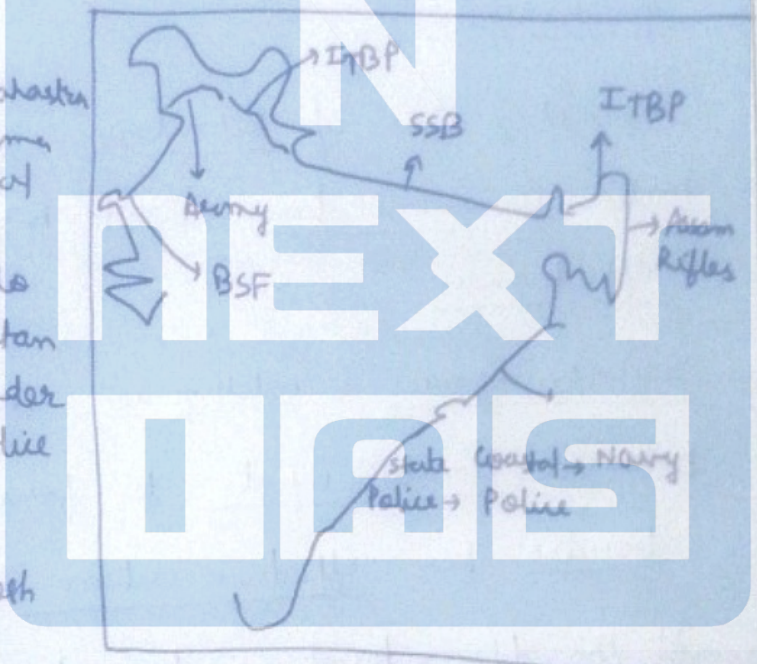
सीमा सुरक्षा के संदर्भ में, तटीय और स्थलीय सीमाओं के प्रभावी और कुशल प्रबंधन को सुनिश्चित करने के लिए विभिन्न सुरक्षा एजेंसियों के बीच सहयोग और समन्वय को कैसे बेहतर बनाया जा सकता है?

(250 शब्दों में उत्तर दीजिए) 15 अंक

In the context of border security, how can cooperation and coordination between different security agencies be improved to ensure effective and efficient management of coastal and terrestrial borders?

(Answer in 250 words) 15 Marks

India employs different security forces along various borders. This causes challenge of cooperation & coordination.



(a) Nepal Border → Sashastra Seema Bal

(b) China - Indo Tibetan Border Police

(c) Pakistan & Bangladesh

↓

Border security Force except POK (Indian Army)

(d) Myanmar → Assam Rifles

(e) Coastal → State Police → Coastal Police → Navy

↓

Territorial waters — EEZ — Beyond EEZ

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(4) Apart from this we have intelligence agencies, external (RAW) and internal intelligence (IB).

Measures to improve cooperation

(1). Conducting joint mock drill would help in better coordination mechanism.

(2). Promoting use of Technology for faster communication would help in effectiveness.

(3). Security agencies (intelligence) should provide timely input to forces at border for effective action.

(4). At the officer level, transfer from one force to other would help in better leadership and management.

(5). One country one border forces principle would promote cooperation

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(6) Use of satellite like EMISAT can help in access of quality information promoting collaboration.

(7) Infrastructural upgradation along border would promote faster mobility and help in quick action promoting collaboration. eg Barlat by Chile along Indo-China border.

(8) Clear demarcation of area of jurisdiction and powers.

We need to foster collaboration among security forces to strengthen our borders.

NEXT IAS