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GENERAL STUDIES (TEST CODE : 1515)

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Medium Eng./Hindi	ENGLISH	Registration Number	205231
Center	ONLINE	Date	04/12/2021

INDEX TABLE		
Q. No.	Maximum Marks	Marks Obtained
1	10	
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18	15	
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20	15	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

- Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न-पत्र कोड, विद्यार्थी क्रमांक आदि)।
- There are **TWENTY** questions printed in **ENGLISH & HINDI** इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
- All questions are compulsory.**
सभी प्रश्न अनिवार्य हैं।
- The number of marks carried by a question/part is indicated against it.
प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
- 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. No marks will be given for answers written in medium other than the authorized one.
प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
- Word limit in questions, if specified, should be adhered to.
प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
- Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

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EVALUATION INDICATORS

- 1. Contextual Competence
- 2. Content Competence
- 3. Language Competence
- 4. Introduction Competence
- 5. Structure - Presentation Competence
- 6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

1. Explain the meaning of off-budget borrowings and its role in helping the government raise funds for various expenditures. Also, comment on its desirability. (150 words) 10

बजट-बाहरी उधार (ऑफ-बजट बॉरोइंग्स) का अर्थ स्पष्ट कीजिए और विभिन्न व्ययों के लिए धन जुटाने में सरकार की सहायता करने में इसकी भूमिका का उल्लेख कीजिए। साथ ही, इसकी वांछनीयता पर टिप्पणी कीजिए।

off budget borrowings of the government refers to the borrowings to fulfill expenditure demands but do not form a part of the annual budget estimates. It can be incurred for unexpected or extra spending in the fiscal year.

Role in helping govt. raise funds :

1. Help government tackle unexpected situation + for example → COVID-19 Pandemic
2. Helps to fulfil extra demand of existing schemes + Eg MGNREGA
3. creates prospects for future growth as it can create infrastructure and structural changes.

4. Higher spending by govt. can spur up demand in the economy.

Desirability :

It is not extremely desirable as it compromises fiscal discipline and increases debt burden and fiscal deficit of the government.

Off budget borrowings should be sparingly used and that too in sectors which have higher multiplier effect. FRBM rules needs to be followed diligently.

2. It is argued that genetically modified food crops are required to ensure food security of India. Examine in view of concerns regarding introduction of GM crops. (150 words) 10

यह तर्क दिया जाता है कि भारत की खाद्य सुरक्षा सुनिश्चित करने के लिए आनुवंशिक रूप से संशोधित खाद्य फसलों की आवश्यकता है। जी.एम. फसलों की शुरुआत से संबंधित चिंताओं के आलोक में परीक्षण कीजिए।

Genetically modified (GM) food crops refer to those food crops that have been artificially injected with a different gene to attain desirable effects like colour, drought resistance etc.

Positives of GM crops:

1. Increase in resilience of crops to climate change → drought resistant, less water intensive, pest resistance
↳ reduce wastage and ensure food security.
2. yield can be increased → food security
3. inherent fortification is easily possible → help fight malnutrition and hunger.
4. easy to manage on sanitary standards.

Negatives :

Major concern associated with ^{GM} food crops is the 'fear of unknown'.

- ↳ It can tamper with human health and can lead to untoward consequences.
- ↳ Inhibits natural selection process.
- ↳ Legitimate fear of corporates misusing unawareness of farmers → Eg Monsanto'

food
GM crops need thorough research and trials before launching. Awareness and political support is also needed.

Indigenous
Crops like GM Mustard by DU & ICR approved by GAEC need to be given approval.

3. India's price intervention policies to support its agricultural sector not only create a broken system but also complicate matters related to international trade rules. Critically discuss. (150 words) 10

अपने कृषि क्षेत्र का समर्थन करने के लिए भारत की मूल्य हस्तक्षेप नीतियां न केवल एक अप्रभावी व्यवस्था का निर्माण करती हैं बल्कि अंतर्राष्ट्रीय व्यापार नियमों से संबंधित मामलों को भी जटिल बनाती हैं। समालोचनात्मक विवेचना कीजिए।

India provides price intervention to support the agricultural sector in form of input subsidies like free electricity, subsidised fertilizer, infrastructure subsidy as well as MSP support in purchasing of 23 food crops.

Creation of a broken system :

1. Marketing shackles → farmers are required to sell in specified APMC mandis → led to cartelisation and only 5% farmers sell 90% grains to govt.
2. Rice wheat system is developed due to open procurement → consumption patterns change → environmental problems like soil quality degrades, water table lower as well as runoff pollution.

3. ~~Change~~ Land degradation due to easy fertilizer access and skewed use. N:P:K $\rightarrow$ 8:6:2 whereas it should be 4:2:1.

Complication of International trade rules:

- ↳ According to WTO's agreement on agriculture (AOA) under Amber box, India is allowed 10% trade distorting subsidies but India surpassed this.
- ↳ The price intervention system disincentivises investment in storage, food processing rendering agricultural products uncompetitive.
- ↳ Lack of investment in increasing quality of products.

Price intervention by the govt. has created immense benefits for farmers and ensured food security. However an overhaul and equity is required in the system to ~~increase~~ double farmer's income by 2022.

4. India has an opportunity to become a leading global food supplier provided it has an efficient supply chain and the right marketing strategies.
Elucidate. (150 words) 10

भारत के पास एक अग्रणी वैश्विक खाद्य आपूर्तिकर्ता बनने का अवसर है बशर्ते उसके पास एक कुशल आपूर्ति श्रृंखला और सही विपणन रणनीति हो। विशदीकरण कीजिए।

India has been a net agri exporter for a decade and stands number one in global rice export.

Problems in our supply chain management:

1. Lack of infrastructure for storage, food processing → in competitive produce
2. Logistics cost in India is very high
→ 14% as compared to 6% of developed world.
3. High food wastage → 25% of produce.
4. Distress selling → Essential Commodities Act, 1954.

Marketing issues:

1. No flexibility of for farmers to sell in inter state markets, restricted by APMCs.

2. Lack of contract farming and agency of farmers to deal with corporates.
3. Lack of branding and market research.
way forward :

- ↳ expansion of eNAM portal for all India market integration
- ↳ strengthening the sunrise food processing industries to ~~need out~~ bring in forward and backward linkages.
- ↳ Database creation + AgriStack.
- ↳ social security benefit to farmers.

India's competitiveness in the global market is increasing with ^{help in} export with schemes like RoDTEP. More needs to be done to ease out our SPS quality barriers. SCRI is a laudable initiative in this direction.

5. Land banks are increasingly gaining prominence in India to encourage land-use efficiency and enable economic growth. In this context, discuss the benefits of a land bank and state the concerns associated with it.

(150 words) 10

भूमि उपयोग दक्षता को प्रोत्साहित करने और आर्थिक वृद्धि को सक्षम बनाने के लिए भूमि बैंक भारत में तेजी से प्रमुखता प्राप्त कर रही हैं। इस संदर्भ में, भूमि बैंक के लाभों तथा इससे संबंधित चिंताओं का उल्लेख कीजिए।

Land banks are institutions that hold information about available, unused, barren land across the district, state or country in one place.

Benefits of land bank:

1. Easy access to land for corporates.
2. Reducing legal disputes for land acquisition.
3. Certainty in policy making by governments and way ahead planning by private players.
4. Easy for land owners to get the best market price.
5. Bridge in supply and demand gap and easy monetisation of personal and governments' assets.

Concerns :

1. Land title issues → due to lack of digitisation.
2. Wrong estimation of land value.
3. Hesitation among individuals to put their land.
4. Land connected with social identity - hard to change beliefs.
5. Mostly barren and wasteland is accounted for.
6. Fragmented land available, disputes continue for continuous land.

Land Banks are a great initiative to ease in corporate as well as governments infrastructure development.

6. Desertification has been described as one of the greatest environmental challenges of our time and climate change is making it worse. Discuss.

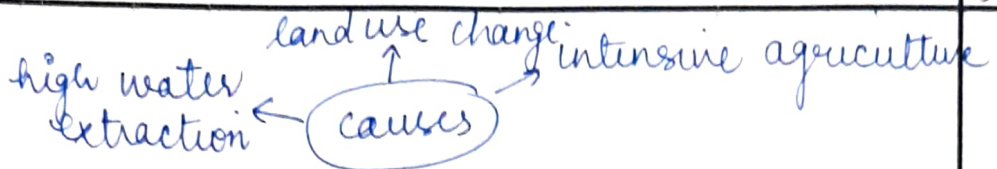
(150 words) 10

मरुस्थलीकरण को वर्तमान समय की सबसे बड़ी पर्यावरणीय चुनौतियों में से एक के रूप में वर्णित किया गया है तथा जलवायु परिवर्तन इसे और बदतर बना रहा है। चर्चा कीजिए।

Desertification refers to the degradation of fertile land into barren, dry and degraded land. Overtime it can turn into a desert. 54% of India's land is vulnerable to desertification.

Impacts of Desertification :

- Biodiversity loss due to change in landscape.
- Water shortages and unusable land.
 - decreasing agricultural productivity
 - high use of fertiliser → vicious cycle.
- Animal - Human conflicts.
- Social issues like increase in conflicts, women more burdened.
- Rise to other challenges like frequent droughts.



GLOBAL WARMING and CLIMATE CHANGE

- ↳ variability in seasonality → less rainfall in spurs.
- ↳ increasing temperature.
- ↳ CO₂ emissions and pollution
- ↳ deforestation and land distortion.

Desertification and Climate Change are interlinked and create a self sustaining cycle. Global initiatives like UNCCD's guidelines of afforestation, Nature Based solutions, CCUS, renewable energy, water conservation needs to be followed for adaptation.

7. In the context of intellectual property rights, discuss the advantages and disadvantages of releasing projects under an 'Open Source' license.

(150 words) 10

बौद्धिक संपदा अधिकारों के संदर्भ में, 'ओपन सोर्स' लाइसेंस के तहत परियोजनाओं को जारी करने के लाभ और हानियों पर चर्चा कीजिए।

Open source licensing of a project refers to granting the public the right to produce, market and sell it without restrictions of the original developer's claim of a patent violation.

Advantages of Open Source licensing :

1. Public benefit especially in case of socially benefitting products like vaccines, medicines etc.
2. Decrease in disputes and legal claims
3. Increase in equity and decrease in prices + eg generic medicine, open source softwares like Linux.

- 4. Easy access to emerging technologies
 - 5. Help developing nations to access tech.
- Disadvantages:

1. Disincentivises the production of high end technology as there is no personal benefit & discourages meritocracy and creativity.
2. Loss of revenue for the producers and their company.
3. Culture of complacency is fostered.

Open source licensing should be encouraged in ~~extremely~~ situations where public benefit is superior to individual merit. Public health and education requires it.

8. "Indian space sector has been dominated by a single umbrella of government and government institutions." In light of the statement, discuss the significance of Indian Space Association in providing an impetus to space technology in India. (150 words) 10

"भारतीय अंतरिक्ष क्षेत्र पर सरकार की एकमात्र संस्था का प्रभुत्व रहा है।" इस कथन के आलोक में, भारत में अंतरिक्ष प्रौद्योगिकी को प्रोत्साहन प्रदान करने में भारतीय अंतरिक्ष संघ के महत्व की विवेचना कीजिए।

India's space sector remains largely dominated by ISRO and its subsidiaries that ~~hinder~~ ^{challenge} the increasing demand of space services in India. Indian Space Association (InSpace) is an initiative to solve this.

Features of InSpace:

1. ~~Lo~~ Independent functioning with a chairman and members.
2. Manage private sector demand for space technologies.
3. Directly accountable to the Dept. of Space.
4. Foster ~~an~~ competitive and efficient space programme in India.

Significance of InSpace:

1. To Bridge the demand and supply gap for satellite launches.
2. Increase in revenue generation.
3. Efficient use of PSLV and SSLVs.
4. Bettering space research.
5. Help developing countries by offering cheap satellite technologies.

Indian Space Association along with Antrix and ISRO will make India's dream of Gaganyaan and its own space station a possibility in the near future.

9. Man and machine both have an important role in national security and making urban areas secure. In this context, discuss how technology is a major stakeholder in addressing the internal security challenges of India.

(150 words) 10

राष्ट्रीय सुरक्षा और शहरी क्षेत्रों को सुरक्षित बनाने में मानव और मशीन दोनों की महत्वपूर्ण भूमिका है। इस संदर्भ में, चर्चा कीजिए कि प्रौद्योगिकी किस प्रकार भारत की आंतरिक सुरक्षा चुनौतियों से निपटने में एक प्रमुख हितधारक है।

India is home to many internal security challenges like Naxalism, Insurgency, Separatism, Communalism, secessionist tendencies and so on.

Role of technology in addressing Internal security Challenges in India :

1. GPS and geospatial technology has various applications → insurgency activities, terrorist groups tracking.
2. Drones and aerial technology helps in closer look before eruption of problems.
3. Increase in intelligence capabilities.
4. Foster development in easier manner
e.g. virtual education in rural areas through internet.

5. CCTV cameras in urban areas have had great impact in reducing crimes.

6. Cyber security is highly dependent on technological superiority → ~~EC~~ I4C, Natgrid etc. are examples.

7. Use of AI and big data can recognise patterns. However technology is just a tool. An efficient ~~man~~ and trained force of dedicated people are required to use this technology efficiently. to prevent India's resources and critical infrastructure from damage.

10. National Security Guard (NSG) has emerged as a formidable force equipped to handle various manifestations of terrorism. Discuss the mandate and achievements of this force. (150 words) 10

राष्ट्रीय सुरक्षा गार्ड (NSG) एक पराक्रमी बल के रूप में उभरा है जो आतंकवाद के विभिन्न रूपों से निपटने के लिए सुसज्जित है। इस बल के अधिदेश और उपलब्धियों की विवेचना कीजिए।

The NSG is a specialised force of the government of India formed to tackle terrorism and insurgency.

Mandate of NSG:

1. Intelligence gathering and assisting.
2. 1

11. What do you understand by asset monetisation? Why is it needed in India? In this context, discuss the issues that need to be addressed for the National Monetisation Pipeline to succeed. (250 words) 15

परिमपत्ति मुद्रीकरण से आप क्या समझते हैं? भारत में इसकी आवश्यकता क्यों है? इस संदर्भ में, उन मुद्दों पर चर्चा कीजिए जिन्हें राष्ट्रीय मुद्रीकरण पाइपलाइन के सफल होने के लिए समाधान करने की आवश्यकता है।

Asset monetisation refers to leasing out of ~~asset~~ to the right to use the ^{public} asset by private players for advertisement and other uses. Eg. Delhi metro monetised its trains for advertisements.

Need for asset monetisation:

1. Huge amount of unused asset with the government with no revenue generation.
2. Declining revenue ~~gro~~ of government.
3. Demand of private players to use assets of government.
4. Increasing fiscal deficit and decreasing disinvestment returns.
5. Increase in efficiency and management of assets to optimise returns.

National Monetisation Pipeline is a GOI initiative to monetise brownfield assets of the government to generate revenue.

Issues with NMP:

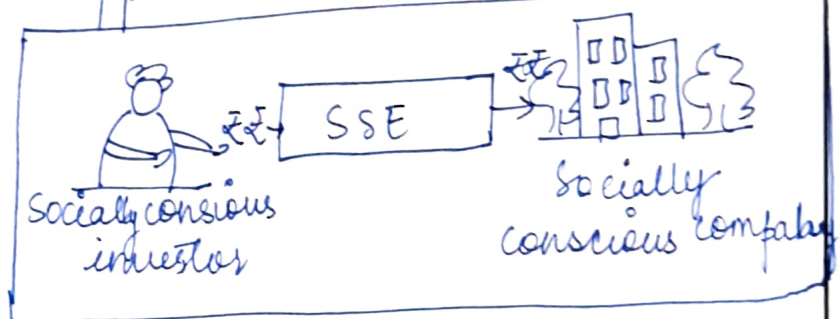
1. No clear demarcation of assets.
2. No clear formula to decide revenue collection from a particular asset.
3. Hesitation of private players due to delay in implementation.
4. Low quality of many assets + Eg government buildings are old.
5. No clear model of implementation.
6. Lack of investment provision to increase the value of assets.

NMP is a step to increase efficiency of ^{public} assets. However a confidence building mechanism is needed to tap in the potential of the private sector to be able to use it efficiently.

12. What is social stock exchange (SSE)? Discuss the need for setting up of SSEs and key challenges in their effective implementation. (250 words) 15

सोशल स्टॉक एक्सचेंज (SSE) क्या है? SSEs की स्थापना की आवश्यकता और उनके प्रभावी कार्यान्वयन में विद्यमान प्रमुख चुनौतियों पर चर्चा कीजिए।

Social Stock Exchange (SSE) refers to a market instrument where trade in socially conscious products can happen.



It helps to bridge the demand and supply gap for investment in social sector like education, health etc.

Need for setting up of SSE:

1. Socially conscious companies are able to generate low profits so are less likely to be discounted by investors.

2. Socially conscious investors' money ~~was to not~~ need avenues for investment.
3. Social projects create social change reflect in economic prospects later
Eg education.
4. Climate change threats need more investment ⁱⁿ of conscious business.
5. Lack of development in social sector in India.
6. Incentivise social enterprise.

Challenges :

1. Low profitability results in small investments.
2. Lack of awareness both among companies and investors.
3. Prone to misuse by claiming to be a social enterprise → checking mechanism is needed.

4. Feasibility challenges → need demonstration by successful companies.
5. No clear division of different social enterprises in various fields can create confusion among investors.

SSE is a commendable initiative and holds great prospects when implementation challenges are dealt with by more transparency, equity as well as clear division of various social initiatives.

13. In the context of India, highlight the importance of agriculture extension services. What are the challenges faced in provisioning of agriculture extension services? How does the National Mission on Agricultural Extension & Technology (NMAET) address these issues? (250 words) 15

भारत के संदर्भ में, कृषि विस्तार के महत्व पर प्रकाश डालिए। कृषि विस्तार सेवाओं के प्रावधान में सामना की जाने वाली चुनौतियां कौन-सी हैं? कृषि विस्तार और प्रौद्योगिकी पर राष्ट्रीय मिशन (NMAET) इन मुद्दों का कैसे समाधान करता है?

Agriculture extension services refers to services that enable efficiency in agriculture. For eg. Food processing, storage, cold storage, ~~of~~ marketing, branding etc. NMAET ^{helps to} ~~helps~~ make these services seamless.

Importance of agriculture extension:

1. Increase profitability of agriculture sector → by increasing efficiency.
2. Better price discovery in a quick manner reduce wastage.
3. Increase export prospects by investment in increasing shelf life and processing.
4. Save farmers' time and increase their income and secure from variability.

Challenges :

1. Lack of infrastructure development.
2. Lack of robust forward and backward linkages.
3. Less involvement of private sector.
4. Cartelisation.
5. The MSP regime and open procurement disincentivises farmers to take extra risk.
6. Lack of awareness among farmers due to illiteracy.
7. Lack of youth involvement in Agtech, startups.

NMAET is a government's initiative towards creating a robust extension service regime with technological help. How will it help -

- (i) Infrastructure development -
warehouses, cold storage.

- (ii) Focus on organising farmers through FPOs and unions to be self sufficient.
- (iii) Attraction of youth through startups.
- (iv) Incentivisation of private sector to take part in food processing sector.
- (v) Focus on increasing profitability of extension services.

To double farmer's income and weed out ^{disguised} unemployment from the agriculture sector, it is important to facilitate a robust extension service environment.

14. Clearly delineate the 'employment problem' that India currently faces. Also, explain the fundamental reasons behind existence of this problem. (250 words) 15

भारत वर्तमान समय में जिस 'रोजगार समस्या' का सामना कर रहा है, उसे स्पष्ट रूप से निरूपित कीजिए। साथ ही, इस समस्या के अस्तित्व के मूल कारणों की व्याख्या कीजिए।

According to the PLFS data, India's unemployment rate reached an all time low of 4% in 2019 which again increased to more than 8% amidst the pandemic. This is associated with low GDP leading to a situation of "growthless jobs" in general.

Employment Problem in India:

- ↳ Reduction in unemployment was due to increase in employment in agriculture sector which has high disguised unemployment.
- ↳ Majority of employed people were self employed with low paying jobs in informal sector.

- ↳ Feminisation of labour and feminisation of informal sector eats up majority of women workers.
- ↳ Increase in platform and gig workers in unskilled areas.
- ↳ Lack of skills → only 40% graduates were employable in 2019.
- ↳ Lack of women in labour force
 - ↳ 23% LFPR.
- ↳ Overall low LFPR of 40% as compared to 60% in China.
- ↳ Lack in formal sector jobs.

Reasons for these problems:

1. Employability v/s Dignity → graduates expect better jobs but lack skills.
2. Easy slipping out of women from the labour force → by marriage, childcare.

3. Increase in educational years
4. Lack of formal sector jobs forcing people to go back into agriculture sector.

Consequences:

- ↳ Low demand creation due to less disposable income.
- ↳ Increased burden on agriculture.
- ↳ Pandemic's burden increase unemployment.
- ↳ Increase in dependency.

For India to tap into its demographic dividend it is imperative that employment be generated in manufacturing and services sector along with social security benefits to ensure rapid growth to become a \$5 trillion economy.

15. Although steps have been taken for integrating the dispersed logistics activities of maritime trade, much more needs to be done to make India a maritime powerhouse. Discuss. (250 words) 15

हालांकि समुद्री व्यापार की बिखरे हुए लॉजिस्टिक गतिविधियों को एकीकृत करने के लिए विभिन्न कदम उठाए गए हैं, फिर भी भारत को एक समुद्री पावरहाउस बनाने के लिए और भी बहुत कुछ किए जाने की आवश्यकता है। चर्चा कीजिए।

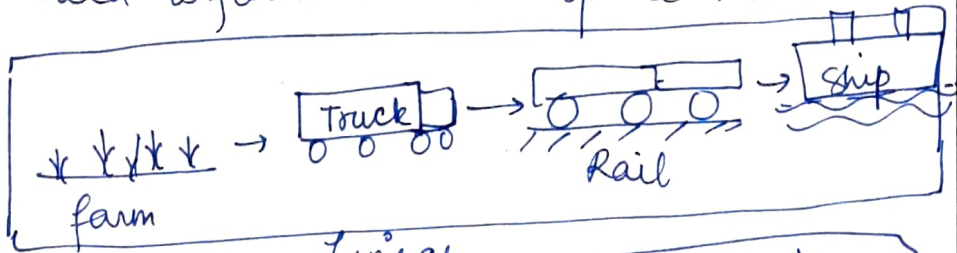
India's maritime trade is mostly export based and logistics eat up a chunk of revenue. (14%) making Indian products uncompetitive in foreign markets.

Steps taken :

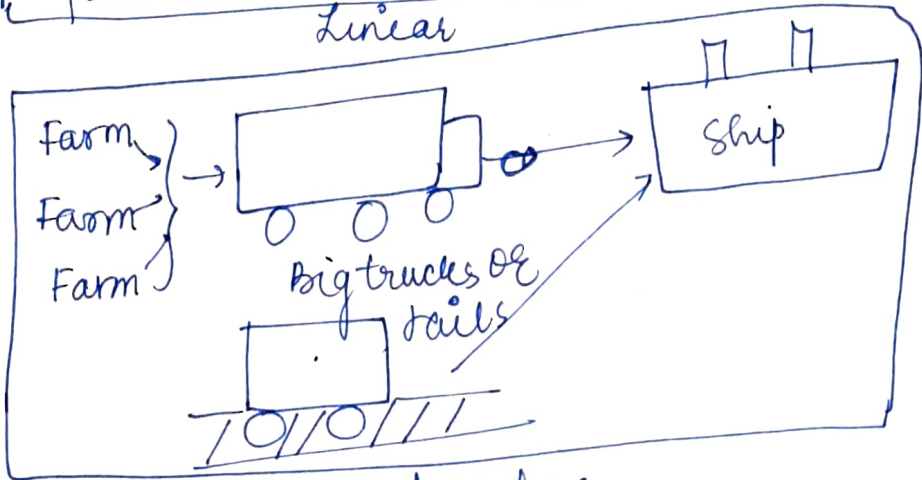
1. Multimodal transport system being developed → Kisan rail, etc.
2. National Waterways being developed.
3. Container usage is on international standards.
4. Rental model in port usage has increased efficiency.
5. Development of roadways for end to end connectivity.
6. Dedicated freight corridors.

Challenges:

1. Lack of connectivity issue in multimodal transport - we have a linear model, need is for a hub and spoke model.



Linear



Hub and spoke.

2. Use of waterways is negligible.
3. High proportion of roadways (64%) increase cost due to petrol/diesel cons.

Need for steps:

1. Hub and spoke model.
2. Increase share of rail and decrease in cross subsidisation.

3. Waterways to be developed for cheaper transport.
4. Port management to be strengthened.
5. Implementing international standards.

~~Now~~ India has a less than 2% share in global trade, to increase this it is important to reduce our logistics cost from 14% to 6%. • Logistics policy of government is a laudable step in this direction.

16. Accounting for natural capital and ecosystem services is crucial to understand the link between the economy and environment. Discuss with specific references to India's initiatives in this regard. **(250 words) 15**

अर्थव्यवस्था और पर्यावरण के मध्य संबंध को समझने के लिए प्राकृतिक पूंजी और पारिस्थितिकी तंत्र सेवाओं के लिए लेखांकन महत्वपूर्ण है। इस संबंध में भारत द्वारा की गयी पहलों के विशिष्ट संदर्भ के साथ चर्चा कीजिए।

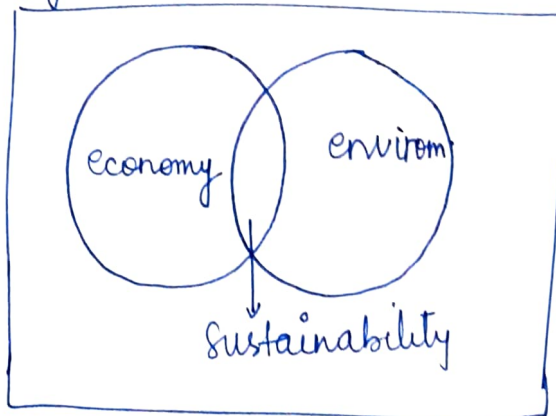
India has adopted the UN's SEEA framework for ecosystem services accounting and has become one of the five countries to launch the UN's NCAVES programme.

What is natural capital and Ecosystem Services accounting?

It refers to accounting for the stocks and flows of ecosystem and natural capital (forests, land, sea etc) available in the country and how humans are using the services. It helps to give a monetary value to taken for granted services. It involves stocks accounting, flows accounting, services accounting, thematic accounts and soon.

Need for NCAVES and natural capital accounting :

1. Assess the extent of ecosystem services available.
2. GDP's narrow definition can cause environmental harm and inequity in long run.
3. Climate change has necessitated it.
4. Achieve SDG goals by 2030.
5. Monetise services of nature for better use.
6. Meet the COP26 goals of reducing emissions, increasing renewable energy.



Challenges:

- ↳ No agreed global framework.
- ↳ No involvement of the developed world.
- ↳ more focus on GDP.
- ↳ balancing GDP v/s environmental sustainability for global south.

Natural capital accounting and ecosystem services accounting are novel steps to understand the interlinkages between humans, economy and environment.

It needs to be strengthened to meet NDC targets and SDG goals.

17. Rapid and unplanned urbanisation accompanied by population growth have increased both the risk and impact of natural disasters. Discuss the statement along with adequate measures to address the relevant concerns in India. (250 words) 15

जनसंख्या वृद्धि के साथ-साथ तीव्र और अनियोजित शहरीकरण ने प्राकृतिक आपदाओं के जोखिम और प्रभाव दोनों को बढ़ा दिया है। भारत में विद्यमान प्रासंगिक चिंताओं के निवारण हेतु यथोचित उपायों के साथ इस कथन की व्याख्या कीजिए।

More than 70% of India is prone and vulnerable to some or the other kind of disasters → natural or anthropogenic.

Reasons for increase in RISK of Natural Disasters —

1. Urbanisation → Rapid and unplanned

↳ increased concretisation → no water percolation area → flooding and flash floods.

↳ Heat island effect.

↳ Land use change → near the animal environment.

↳ No use of earthquake resistant tech.

↳ water shed hindered & ponds etc. leading to ~~intense~~ droughts etc.

2. Population growth :

↳ Increase in food demand & intense agriculture & water shortage & desertification.

- ↳ Increased burden on land.
- ↳ Increase in ~~low~~ residential demand
 - ↳ high rise buildings.

Increase in impact of natural disasters:

I Urbanisation :

- ↳ increasing swiftness in flash floods
- ↳ more damage due to cyclones
- ↳ earthquake creating more damage due to unplanned houses and buildings
- ↳ Eg Kedarnath floods + bad ecosystem management on hills.

II Population :

- ↳ higher impact even due to small disaster
- ↳ droughts affect larger population
- ↳ Eg Nepal Earthquake of 2014 created huge damage in highly populated urban areas.

Adequate Measures :

1. Early warning system for all natural disasters is needed for better

evacuation. Orissa has done tremendous work.

2. Creating of percolation surface in urban areas for groundwater discharge → Eg parking lots.
3. Watershed management and development of green belts → Nature based solution (Nbs)
4. Training of people and awareness drives.

In a changing scenario where natural disasters are intensifying due to anthropogenic activities adaptation is more important than mitigation. Resource allocation should be skewed towards the former.

18. National Hydrogen Mission can be a game changer for India's rising energy demands. Comment. (250 words) 15

भारत की बढ़ती ऊर्जा मांगों के लिए राष्ट्रीय हाइड्रोजन मिशन एक गेम चेंजर हो सकता है। टिप्पणी कीजिए।

National Hydrogen mission aims to increase the development of hydrogen from ~~natural~~/renewable sources to supplement India's energy needs.

Why is hydrogen a good fuel?

- ↳ High energy density
 - ↳ No emissions on burning → only H_2O
 - ↳ can be created from natural sources like hydrolysis of water → no carbon footprint.
 - ↳ Readily available and circular reaction.
- current situation → 70% hydrogen in India is produced using fossil fuels (Grey H_2) and 20% using natural gas.
- It is mainly used in industries as H_2 fuel cells and space missions.

Benefits for India in developing NHM:

1. Reduce emissions → help in achieving COP26 NDC targets.
2. Reduce ~~export~~ import dependencies of fossil fuels and natural gas.
3. Increase revenue generation from domestic production.

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Challenges:

1. Expensive technology is needed which requires high research for efficiency and parity in production price when compared to other renewable sources of energy.
2. Need for high amount of clean and fresh water.
3. Highly energy intensive reaction.
4. Lack of private participation due to profitability issues.

5. Technology will require high investment
6. No regulation mechanism.

Hydrogen is an abundant and energy efficient fuel with negligible carbon footprint and hold great prospects for India to tap into its potential to become a global leader to fulfill SDG goals by 2030.

19. Despite geo-strategic instability of its region and a keen awareness of the cyber threat it faces, India has made only 'modest progress' in developing its policy and doctrine for cyberspace security. Critically examine.

(250 words) 15

अपने क्षेत्र की भू-रणनीतिक अस्थिरता और इसके समक्ष विद्यमान साइबर खतरों के संबंध में व्यापक जागरूकता के बावजूद, भारत ने साइबरस्पेस सुरक्षा के लिए अपनी नीति और मिश्रित विकसित करने में केवल 'साधारण प्रगति' की है। समालोचनात्मक परीक्षण कीजिए।

Cyberspace security refers to mechanisms to develop competency through technology to deal with cyber threats to critical infrastructure. I4C, National Cyberspace policy are some initiatives in this direction.

Threats that India face:

1. Geostrategic instability of the region due to cross border terrorism, insurgency, standoffs with China, China's presence in the Indian Ocean.
2. Cyber threats towards critical infrastructure - Eg Kunkulkulem Nuclear Reactor.

3. Private data security threats towards competitive information.
4. Insurgency and terrorism also uses cyber security threats.
5. Riots, fake news menace due to social media.
6. Election manipulation threats -
eg Cambridge Analytica.
7. Privacy and personal data protection.

India's steps towards these:

1. National Cyber security policy.
2. BOS operating system for army.
3. MatGrid, 14c, women's portal.
4. Increase in intelligence infrastructure.

More measures needed:

1. Integration of diffing fragmented intelligence technology.

2. Artificial Intelligence and Big Data to be used to predicts attacks.
3. Use of private sector's expertise.
4. Sensitisation of pub. sector and incentivisation to invest in technology.
5. Training of ~~dedicated~~ employees.

The ~~world~~ risk of cyber security threat is ever increasing in a digitised world. Governments need to rapidly upgrade their systems to deal with it. Bombay Blackout is one such example which emphasises the need to invest in cyber security infrastructure.

20. Developmental interventions alone cannot play a defining role in the resolution of existing and protracted internal conflicts in various parts of India within a reasonable time frame. Discuss. (250 words) 15

भारत के विभिन्न हिस्सों में व्याप्त और दीर्घकाल से जारी आंतरिक संघर्षों को उचित समय सीमा के भीतर हल करने में केवल विकासात्मक हस्तक्षेप एक निर्णायक भूमिका नहीं निभा सकते हैं। चर्चा कीजिए।

India's approach towards existing and protracted internal conflicts like Naxalism, Separatism, insurgency has been a comprehensive development-based intervention to ensure social and economic growth.

Limitations of developmental interventions alone in a small time frame:

1. Inequity is apparent & a ^{poor} urban family is better off than a development projected rural family.
2. Lack of sensitivity to local issues
↳ Eg mall being created instead of a school.

3. Lack of significance of community participation

4. Definition of development can be contrasting especially for tribal culture

↳ lack of consideration for traditions

Steps required along with developmental interventions :

1. Community participation and ownership
↳ self governance and decentralisation
↳ eg 6th schedule states and Autonomous Councils.

2. Listening to demands and giving room to debates.

3. ~~Dea~~ Dealing with few groups with malafied intention and anti government and rational
↳ eg separatist views ~~the~~ or violent groups.

4. Autonomy to women

The definition of development is different for different communities in India, it is imperative to respect that along with comprehensive efforts like SAMWAD for Naxalism.