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GENERAL STUDIES (TEST CODE : 1515)

Name of Candidate	Nidhi Broyal		
Medium Eng./Hindi	English	Registration Number	733764
Center	Online	Date	20/12/21

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	10	2.5
2	10	5.5
3	10	3.5
4	10	4.5
5	10	3.5
6	10	3
7	10	3
8	10	5
9	10	3.5
10	10	2.5
11	15	5.5
12	15	6
13	15	6.5
14	15	6
15	15	6.5
16	15	4
17	15	5.5
18	15	7
19	15	5
20	15	3

Total Marks Obtained: 91.5

Remarks: Good effort

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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Delhi- 110009

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:

Dear Student,

We have gone through your answer sheet and we have the following major feedback/observation on same:

1. Content in some questions needs enrichment. Refer comments on Question no. 1,5,6 etc
2. Kindly introduce questions giving contextual background. Refer comments on 5,13,14 etc
3. Take a multidimensional approach in your answer. For example in Answer to Question no. 7, creator is a major stakeholder and his right to be addressed. Also refer comments on Question no. 20
4. Please plan and structure your answer in a comprehensive manner according to the need of the question. It will fetch more marks. Refer comments on 9,16 etc
- 5.
- 6.

We have also observed a few good things in your answer sheet:

1. Pointwise replies to the question.
2. Legible handwriting
3. Good introduction, conclusion and content in most of the answers
4. Good language flow without grammatical error

It was a very good effort. Well done

All the best

All the Best

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

वजेटेतर उधारी (ऑफ-वजेट 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 are the kind of borrowings raised by PSUs, government agencies like FCI and are not shown in the government budget ✓

Role in raising fund for various expenditures

- Raising of funds by FCI help to fulfill food security mandate ✓
- PSUs raise fund for their investment purpose - contribute to capital formation
- DISCOMS raise funds and thus continue to provide electricity supply without

No PSU has done capital formation from off budget borrowing

Desirability of the off Budget Borrowings

Benefits

→ lower the fiscal deficit ✓

→ Maintain the credit rating of government ✓

Able to attract foreign investment ✓

This is not the objective

Disadvantages

→ Against the transparency in Budget expenditure ✓

→ People not able to hold government accountable ✓

→ No check on the efficiency of utilisation of resource ✓

Also include:

1. To fulfill social obligation
2. To reduce burden of Govt.
3. To meet fiscal consolidation commitment under FRBM Act

Also include:

1. Bypassing Parliamentary control over government expenditure.
2. Units are pushed into debt and might require recapitalization

Government stated fiscal deficit and actual borrowing differ by around 3-4% of GDP

In spirit of transparency and accountability, it is important that government disclose its off budget borrowing to public. ✓

Good conclusion

2.5 marks

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 शुरूआत से संबंधित चिंताओं के आलोक में परीक्षण कीजिए।

Genetically modified crops are those whose genetic structure has been changed with help of gene editing technologies to impart benefit like drought resistance, pest resistance.

Till now, only GM-cotton is approved in India for commercial cultivation.

GM food crops - food security

→ Climate proofing by imparting drought resistance, heat resistance to crops →

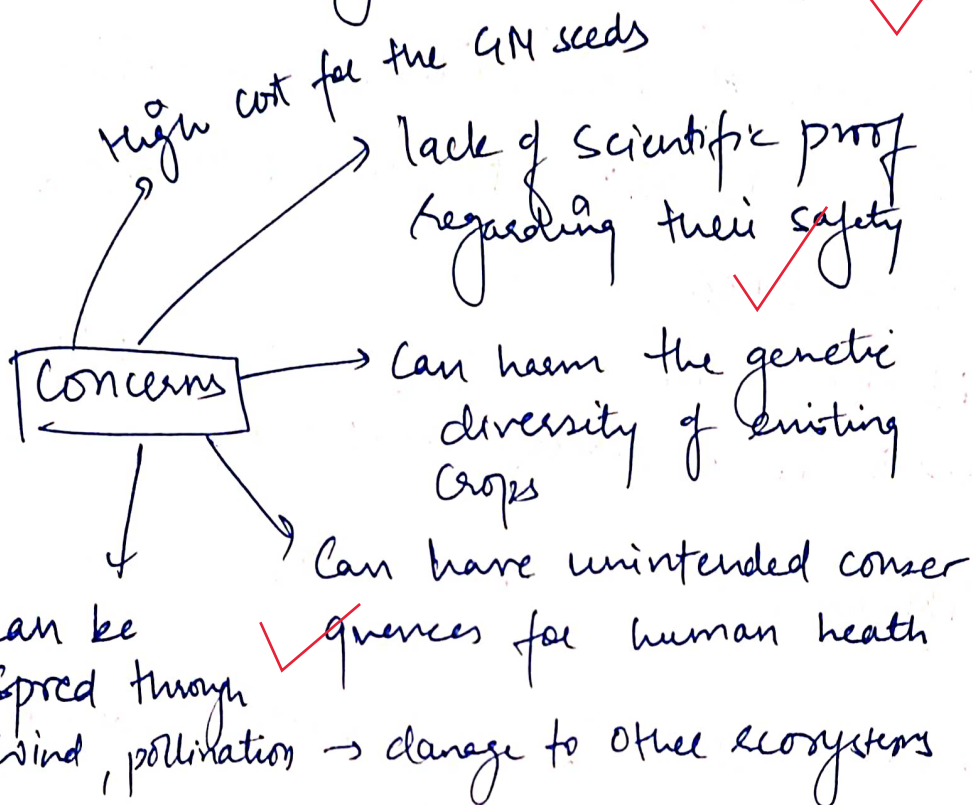
↓ damage to crop → food security

→ GM crops → Better yield than traditional crops → food security

→ Can be fortified by genetically adding nutrients → ↓ malnutrition

→ Can be edited to consume less water
→ solution to rising water crisis

→ By offering pest resistance (Eg. Bt-cotton)
⇒ less damage to crops → food security



Good content

GM crops are needed now in view of rising climate change associated drought, pests but its scientific efficacy need to be established through research.

5.5 marks

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 offers variety of subsidies to its farm sector and price support in form of Minimum Support Price is one such incentive system. ✓

Price intervention - create a broken system

- May crowd out the private trading of agriculture produce ✓
- Purchase at MSP → Rising food subsidy bill ✓
- Excessive accumulation of stock with government → loss of pilferage, wastage ✓
- Excessive focus on wheat and rice → Ignore pulses, ragi nutri cereals → malnutrition ✓

Introduce what is Price intervention policy and why is it needed: Price is product of demand and supply. When government through its policy measures intervenes in demand side or supply side to control purchase or sale price, It is called Price intervention policy

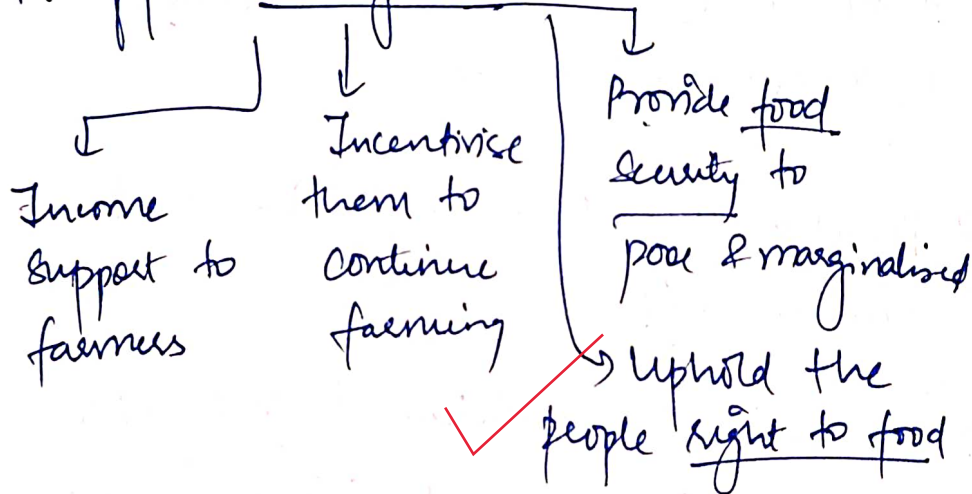
Price Intervention → complicate international trade rules

→ WTO issue on India's food security programme.

→ Developed countries oppose India's price subsidy programme

Address with respect to Agreement on Agriculture (AoA) and limitation on subsidy. Given recent case in WTO against India as example

But despite its complex system and difficulties in international trade rules it offers benefits



India's price intervention mechanism need overhaul in terms of rising MSP for pulses, price deficiency payment system etc but its importance in food security can't be denied.

Good conclusion

3.5 marks

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 वशर्ते उसके पास एक कुशल आपूर्ति श्रृंखला और सही विपणन रणनीति हो। विशदीकरण कीजिए।

India's food processing sector and agriculture sector has huge potential reflected in India being world's second largest producer of rice, second largest producer of vegetables ✓

Potential for global food supplier

- Wide variety of crops grown ranging from wheat to rice, sugarcane
- 282 mn of food grain production in the country ✓
- Large arable land & large population engaged → can enhance production.

Also include that India have diverse agro climatic zone, various soil type and long duration of sunshine which add to the potential of India as global food supplier

Need of an efficient supply chain

- Lack of cold storage facilities → wastage of food crops & horticulture crops ✓

→ Lack of integrated transport system →
high logistics cost → less competitiveness
of India's produce. ✓

→ Multiple intermediaries involved →
Rising profit margin → High prices. ✓

Also include:

1. Developing markets and APMC reforms
2. Negotiating globally for favorable custom and export regulation
3. Need for Insurance

Need for right marketing strategies

→ Mechanism like e-NAM to integrate
national market for agriculture produce ✓

→ Build a brand India for International
recognition

→ Promote the use of e-commerce to
reach global ✓

→ Adoption of grading, labelling and
packing technologies. ✓

India is self sufficient in food grain
production now it need to enhance
its role to a global food supplier ✓

4.5 marks

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 bank is a concept where government encourages land holders to voluntarily give their land to government at good prices which may be used for infrastructure development or for private sector investment.

Introduce in context of land being scarce resource and need judicious use

Benefits of Land Bank

- Encourages efficient utilisation of land which is unutilised ✓
- Infrastructure development on land → promote economic growth. ✓
- Easy availability of land → encourages private investors → ↑ Economic growth ✓
- PSUs can monetise their land assets thus unlocking its value. ✓

Also include
1. Provide more information to investor such as infrastructure, connectivity, natural resource availability
2. Reduce land disputes in future
3. Improves ease of doing business

→ voluntary approach of land acquisition
no coercion involved ✓

Concerns

- Not truly voluntary, people can be forced to part with land ✓
- collusion between business and government to get better land ✓
- Threaten food security if farmers give up fertile land for profit motive ✓
- Breeds corruption in allotment process

Give concrete concerns:

1. Land being State subject. Some state still have not joined
2. States who have joined are not updating portal on regular basis
3. Price determination of land for acquisition still uphill task
4. Multiple coordinating authorities Revenue authority, forest department, agriculture dept

Land Bank can be an effective medium to unlock india's infrastructure potential thus achieving \$ to dollar economy target. ✓

3.5 marks

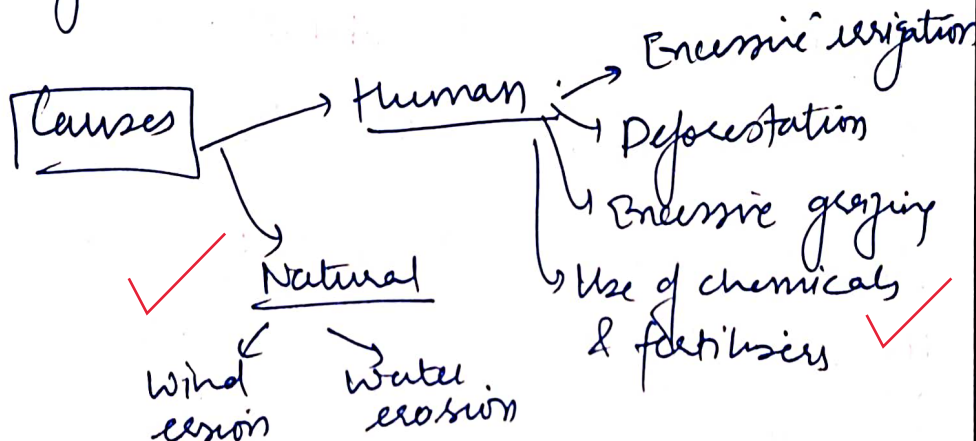
6. Desertification has been described as one of the greatest environmental challenges of our time and climate change is making it worse. Discuss.

(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 is the reduction in the biological productivity of land in arid & semi-arid areas. ✓

India's around 30% area has been degraded due to desertification ✓



Desertification → greatest environmental Challenge

- Threaten India's food security due to reduced productivity of land ✓
- Threaten the biodiversity survival → endangered species ✓

- Exacerbate the effect of droughts
- Can create water scarcity due to reduced rains ✓
- More vulnerability to people to loss of income, crop damage. ✓

Good points. Also include:
Outmigration

Role of Climate Change

- Climate change → ↓ rainfall → ↑ drought → ↑ desertification ✓
- Climate change induced rainfall → flood erosion → removal of fertile top layer ✓
- Rising sea level in coastal area → coastal erosion of land ✓
- Rising temperature → more evaporation → more desertification ✓

Enrich content. Please include:

1. Increase in incidence of wild fires
2. Increase in intensity of Climatic hazard. More severe heat wave, cloud burst
3. Climate changes has reduced option for livelihood and adaptation. Hence it has led to more exploitation of land
4. Decrease in organic content of soil due to fast degradation and reduced water holding capacity
5. Increase in surface temperature and more evaporation loss

India must fulfil its international obligations under UNCCD and born challenge to mitigate its impact.

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।

Intellectual property rights are the intangible assets in form of copyright, trademarks, patents. ✓

'Open source' license regime is when an individual or government develops an application user interface and made it open for public use to carry out modification in its interface and user for own purpose. ✓

Advantages

- ↳ Equitable benefits & opportunities to develop their own projects. ✓
- ↳ Curb the monopolising tendencies of big MNCs Eg. Amazon, Facebook. ✓

- ↳ Will spur more innovations ✓
- ↳ Benefit for the customers as less cost of developing apps. ✓
- ↳ Will promote entrepreneurship and Startups ✓

Disadvantages

- ↳ Lack of incentive to develop new APIs ✓
 - ↳ May not be able to recoup the expenditure in developing the project ✓
 - ↳ Will deter foreign investment ✓
- Open license regime in areas like UPI, Cowin app has helped many companies to build up on it and thus benefit large customers. ✓

Good points. Also include:

1. Add to the reputation of creator as there is no restriction in use of open source license projects
2. Better interoperability
3. Community based enrichment Example Python Language

Also add following points:

1. Since the source code is freely available, hence the same can be adapted and translated to such an extent that the translator can claim it to be own
2. Threat to privacy
3. Increased risk to cyber security
4. No personalized resolution. Have to connect to the community

Cannot relate directly to question. Please explain such points

3 marks

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 has been dominated by ISRO from its inception regarding the ~~sp~~ satellite launches, satellite and launch vehicles assembly, research in new technology with miniscule private sector participation.

Indian Space Association aims at spurring the private sector investment in space sector by providing it an enabling ecosystem.

Significance of Indian Space Association
→ Providing a enabling regulatory ecosystem for private sector.

- Acts as an interface between ISRO and private sector ✓
 - private investment bridge the funding gap in space sector ✓
 - Able to bring best technology in market ✓
 - ISRO will be able to focus on more core research areas & projects like human spaceflight programme. ✓
 - will support the growing need of satellite launches due to increasing use of space technology in telecommunication, geospatial planning, etc. ✓
- Thus, Indian Space Association can provide a big impetus to Indian space industry & make it a global leader. ✓

Good points
Include :

1. Bring more talent manpower in research of space technology
2. Commercial exploitation of space technology can be made possible by involving private sector

5 marks

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।

Technology is the mainstay of every aspect of human life now and increasingly finding its role in the domain of national security also. ✓

Man & Machine both are important for national security & urban security.

Eg. Use of technology like remote sensors to protect our borders. ✓

Use of drones for surveillance in urban areas during festivals. ✓

Role of technology in addressing internal security challenges

→ Use of CCTV cameras to carry out surveillance ✓

- Drones can be used in LWE affected districts ~~to check~~ to keep check on naxals.
- focus on cyber security to prevent losses due to cyber attacks.
- Technology to protect critical assets of the country like nuclear reactors.
- Use of GPS tracking to track the location of non-state actors
- Use of satellite technology to map the potential hazard & conflict prone areas.
- Use of telecommunication technology like social media to track radicalisation effects and take measures for deradicalisation

Answer can be structured in better way like, for example

1. Crime Prevention
2. Crime detection
3. Investigation
4. Collaboration and Coordination
5. Tracking and Surveillance

And various technologies can be given as an example

Thus, technology can be a great enabler & complement the man's efforts.

3.5 marks

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।

National security guard is the prominent anti-terrorism force of the country.

It is equipped to handle various manifestations of terrorism

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graph TD
    A[It is equipped to handle various manifestations of terrorism] --> B[Cyber terrorism]
    A --> C[Bio terrorism]
    A --> D[Physical terrorism]
  
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Mandate

- To provide quick response to any terrorist attack
- To save human life in face of adversity
- To provide a coordinated response to breach of national security

Introduce NSG in Historical context when and why NSG was formed

Also include:

1. to operate in hostage situation and rescue mission
2. To detect and neutralize IED and Bomb
3. To do Post Blast investigation
4. To coordinate with State Police, Intelligence

Achievements

→ During 2008 Mumbai terror attack, NSG played an important role in neutralising the terrorist & saving human lives. ✓

→ It is constantly equipping and better itself to prove to be a formidable force. ✓

It is necessary that government provide adequate funding support, equip it with modern technology to realise its potential. ✓

Write some major operation carried by NSG:

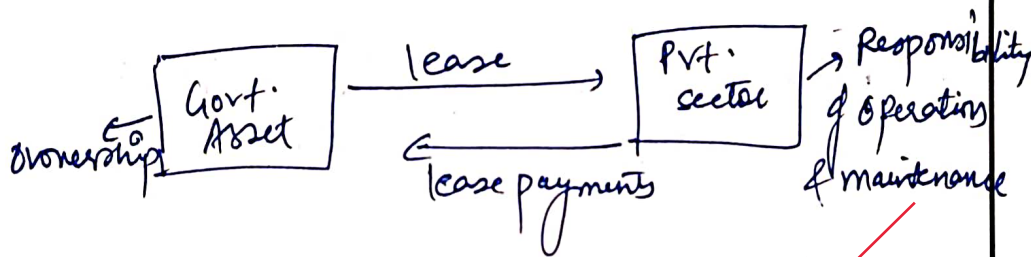
1. Operation Black Thunder
2. Operation Aswamedh
3. Vajra Shakti
4. Operation Black Tornado

2.5 marks

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

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

Asset Monetisation refers to the leasing out the government owned assets like roads, ports, airports, pipelines ~~for~~ to the private sector without transferring the ownership of those assets



Recently government has announced the National Monetisation pipeline project to monetise government assets, ports, dedicated freight corridors etc. and raise around \$100 mn

Need for India

- ↳ Limited Government Capacity
 - for financing the infrastructure project
 - for operating & maintaining the assets ✓

- ↳ Private sector advantages
 - Enhance efficiency in administration and operation of the projects

- ↳ Private sector can bring latest technology ✓
Eg. Mechanised container handling at ports.

- ↳ Government can finance other greenfield social infrastructure projects

- ↳ Better quality of public services like water management, railway services can be provided. ✓

Issues

- ↳ Delay in procedural formalities by the government ✓
- ↳ ~~Because~~ Citizens have to pay more price for these services. Ex. privatisation of railways → Hikes in fare. ✓
- ↳ Can create monopolising tendencies among the private sector ✓
- ↳ possibility of corruption and political-Business nexus for getting favourable projects. ✓
- ↳ Lack of an effective regulator which can provide a level playing field. ✓

Add points in challenge:

1. Lack of identifiable revenue streams of various sectors
2. Reluctance of private player to engage
3. Provide for effective dispute resolution mechanism as in case of PPP model projects
4. Asset specific challenges like Power sector have regulated tariff

Way forward

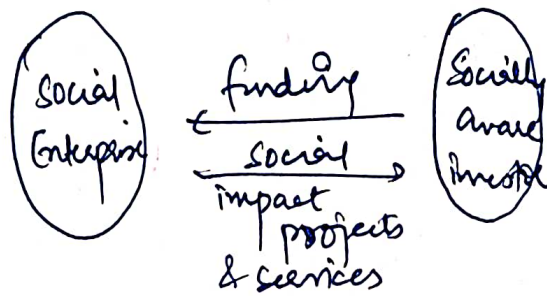
- Correct valuation of the projects to be monetised
- flexibility in agreements to account for shortfall or excess collections by private sector. Amount collected can play an important role in enhanced recovery from Covid-19 ✓

5.5 marks

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 is a concept where for profit or not-for profit organisations formed for social purpose can raise funds through medium of stock exchange ✓



Recently SEBI has come up with the guidelines for the social stock exchange. ✓

Need

→ Augment the available funds of social enterprises (collected through donations and charities) ✓

→ Avenues for the socially aware citizens to invest in socially beneficial projects

→ More transparency in the functioning of these enterprises and real impact they are bringing in the society.

→ Help in fulfilling India's commitment to SDG goals, Paris agreement targets

→ Can attract foreign funds and institutional investors for funding

Also include:
More accountability as
investment will
depend on social
impact outcomes

→ Promote social entrepreneurship and thus fulfilling social goals like better education, health care, gender equality

Challenges in effective implementation

→ lack of incentive for the investors as there is no returns monetary schemes ✓

→ limited capacity of small enterprise to fulfil procedural formalities (social) ✓

→ Real impact brought may be difficult to assess and have long term to gestation project ✓

→ May be used as a brand building exercise by big corporations as their proxy. ✓

General point. Also include specific issues:
1. Lack of objective parameter to distinguish between normal enterprise and social enterprise
2. Difficulty in setting criteria for social impact measurement
3. Regulating social impact measuring intermediaries
4. High compliance cost for Social enterprise

Way forward

Social Stock Exchange can go a long way in fulfilling India's aspirations. It has to be accompanied with capacity building of small social enterprises, framing accounting system which accounts for social impact of the projects. ✓

6 marks

13. In the context of India, highlight the importance of agriculture extension. 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?

Introduce in context of importance of agriculture sector in India economy

Agriculture extension services refers to the services provided to farmers in form of information on

- price signals
- weather forecasting
- New technologies
- Mechanisation services

Importance of agriculture Extension

① Information on price signals can help farmers in getting better prices for his produce.

② Mechanisation services through custom hiring centres → Enhance productivity and efficiency

③ Demonstration of new technologies like
drones to apply fertilisers → reduce
health hazards + ↓ crop damage +
↓ cost ✓

Add points:

1. Lack of trained personnel
2. Logistic issues as KVK are far from farm

④ ~~treat~~ Weather advisory services →
help in better crop planning and
deciding the timing of irrigation → ↑
crop productivity ✓

Challenges

① limited network of krishi Vigyan
 Kendras ✓

② lack of awareness among the farmers ✓

③ lack of trust to adopt any new
technology. Eg. Iffco developed
nano-urea but ~~st~~ lack of trust among
farmers ✓

④ limited research & development on
agriculture oriented technologies ✓

⑤ limited digital penetration in rural areas ✓

⑥ lack of funds with small farmers to invest in expensive technologies (86% farmers are small & marginal) ✓

National Mission on Agriculture Extension & Technology

→ Aims at enhancing the network of Krishi Vigyan Kendras (KVKs) ✓

→ linking agriculture universities with KVKs for better penetration of research

→ On-field demonstration of technologies

→ Attract the youth to pursue their career in agriculture → better penetration of technology. ✓

Agriculture Extension Services can play an important role in making farming remunerative. It requires better linkages with farmers and digital literacy.

In NAMET also include:
Add points:

1. capacity building and institution strengthening to promote mechanization
2. availability of quality seeds, plant protection etc.
3. encourage aggregation of Farmers into Interest Groups (FIGs) to form Farmer Producer Organisations (FPOs).

6.5 marks

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 recent PLFS Survey 2020, India's unemployment has reduced to 4.8%.

Employment problems

- ↳ large scale informal employment (nearly 90% population employed) ✓
- ↳ limited female labour force participation rate (around 20%) ✓
- ↳ Rise in shift from permanent to contract workers ✓
- ↳ Non-payment of minimum wages ✓
- ↳ Rise of new forms of employment like gig workers, platform workers with no social security benefits ✓

Introduce the concept of employment. Always give proper introduction

Good point:
Also add: 1. Demand supply mismatch
2. Problem of child labour

↳ Urban poor engaged in low skilled activity like construction work, hospitality with no job security ✓

↳ & Decrease in unemployment due to rise in disguised employment in agriculture and low skilled self employment. ✓

Reasons for existence of this problem

- low share of manufacturing in India's GDP (around 26%) ✓
- lack of focus on labour intensive sectors like textiles, shoes industries ✓
- Gaps between skill required and skill available.
- low rate of formally trained workforce (just around 2%) ✓

→ High population growth and job creation not commensurate with it →
↑ unemployment ✓

→ Covid-19 impacted the economic growth → loss of jobs and livelihood.

→ lack of ease of doing business which discourages private sector investment →
↓ jobs. ✓

Also include:

1. Rigid labour laws
2. Seasonal nature of Agriculture
3. Change in technology with in sector and change in economy need re skilling
4. Lack of environment to promote and support entrepreneurship and start up

Way forward

- ① focus on labour intensive industries
- ② Revamp India's skill India mission to vocationally train the workforce. ✓
- ③ Startup India Mission to enhance the entrepreneurship and job creation. ✓

Atmanirbhar Bharat program & can create an enabling ecosystem for more investment and thus more jobs. ✓

6 marks

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 विखंडित 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।

Maritime logistics involves movement of goods from the hinterland to the ports and their transfer for inter-country and inter-country transport ✓

Also highlight India limited share in world maritime trade even lower than small country like Singapore

In India Shipping controls 90% volume and 70% of value of India's trade ✓

Problem of maritime logistics

- Lack of shipping containers with India ✓
- Lack of road connectivity from hinterlands to ports ✓
- Cumbersome customs clearance procedure
- Government monopolised port facilities ✓

Steps for integrating dispersed logistics for maritime trade.

- Inland navigation is being promoted through national waterways. ✓
- Coastal Economic Zone under Sagarmala program ✓
- Major Port Trust Amendment Bill to introduce landward port model for private sector participation ✓
- Dedicated freight corridor project to link inland with ports Eg. WDTC connects Dadar to JNP7 ✓

Also state 1. Project like Bharat mala, Unnati
2. Port modernization program
3. Capacity enhancement of major ports
4. More no. of Minor ports

More needs to be done

- Enhance the shipping container capacity. ✓
- Better road connectivity to move goods ✓

from interior regions to ports.

- Invest in cold storage infrastructure ✓
- lease out port to private sector for introducing better technology & efficiency ✓
- Simplify the custom clearance for ports. ✓

Shipping trade is most cost effective and with India's large coastline of 7500 km provide an added advantage thus it needs to be harnessed for India's benefit. ✓

Also add in challenges:

1. Underdeveloped ship building industry
2. Lack of trained personnel
3. Developing and modernization minor port to de-stress major ports

Conclude with Earlier political maxim was who rules the sea, rules the world. This is true in economic order of modern world

6.5 marks

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 SEEA framework for natural capital accounting.

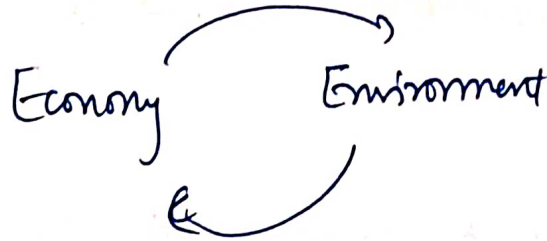
India is an active participant in NCAVES (Natural capital accounting for ecosystem services) framework. ✓

Natural Capital accounting is accounting for the natural capital of the country like its forest wealth, biodiversity wealth

and ecosystem services like water management, clean air, food, pollination services they provide. ✓

This natural capital and ecosystem services has an important role to play in economic growth of the country. ✓

Link between economy and environment



Environment impacting economy

- Ecosystem services like pollination, water management crucial for success of agriculture ✓
- Climate system can affect labour productivity Eg. Heat waves → ↓ labour productivity → ↓ economic growth ✓

Economy impacting environment

- Use of fossil fuels for economic growth
⇒ global warming → climate change
- Release of untreated pollutants from factories → pollution of water bodies ✓

→ Destruction of forest lands to make way for human habitations, agriculture uses.

Thus both environment and economy are influencing each other. ✓

Reckless economic growth without taking into account environment damage may hamper the future economic growth in terms of desertification of land, erosion of coastal lands, reduced agricultural productivity, more disasters. ✓

India has taken initiatives to curb this impact like
 participation in Born Challenge → International Solar alliance
 → Coalition for disaster resilient infrastructure

It is required the economic growth should be sustainable keeping in mind the environment impacts. ✓

Try to Structure answer in better manner:

1. Start with defining natural capital and ecosystem services

2. Try to explain what purpose natural capital accounting will serve in this context

Also add:

a. Accounting economic values of the ecology

b. Promote awareness to ecologic conservation

c. To have a understanding that the development will be sustainable if ecology and economy complement each other

d. Better knowledge about condition of environment

e. Better targeting for environment conservation measure

Then talk about India

initiative Give more

concrete initiative in this regard.

1. NCAVES

2. Envistats

3. India -EVL,

4. EIA

5. Concept of Gross environment product

4 marks

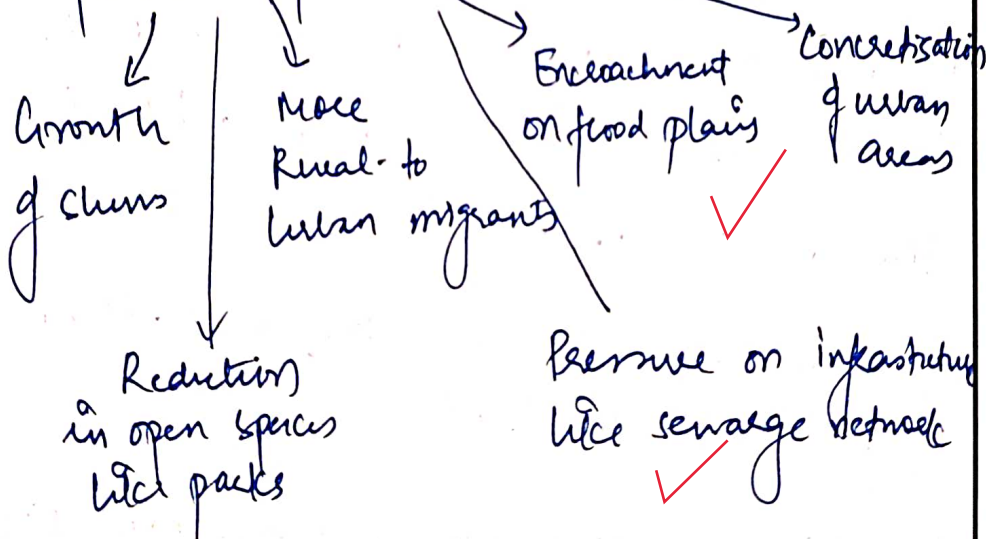
17. Rapid and unplanned urbanisation accompanied by population growth have increased both the risk and impact of natural disasters. Discuss the statement along with adequate measures to address the relevant concerns in India. (250 words) 15

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।

According to Census 2011, around 30% of population live in urban areas which is projected to increase to 50% by 2050 ✓

Also according to UN population projects report, India can surpass china as most populous country by 2027 ✓

Rapid & unplanned urbanisation



Increase risk of natural disasters

→ ↑ Urbanisation → ↑ Economic growth →
↑ fossil fuel burning → ↑ Climate change →
↑ natural disasters. ✓

→ High population density → faster spread
of infectious diseases like COVID-19.

→ Encroachment on flood plains and
concentration of urban areas → problem
of urban floods. ✓

Increase impact of natural disaster

→ more unplanned urbanisation → Growth
of slums → more vulnerability to infectious
disease spread. ✓

→ Pressure on sewage infrastructure → enhance
impact of urban floods

→ Reduction in open spaces → less infiltration
of water → more floods. ✓

Also include:

1. Overstressed Physical and social infrastructure.
2. Haphazard construction enhancing intensity of climatic hazard

- More congested and closely placed buildings
- more damage due to earthquakes

Measures to address the concerns

- ~~area~~ Creation of open spaces like parks to reduce vulnerability of urban floods
- Slum redevelopment projects to provide better sanitation & hygiene
- Basin level planning and reduce encroachment on flood plains
- fire safety audits to reduce fire risk
- Augmenting the public infrastructure to accommodate rising population.
- Enhancing the resilience of urban infrastructure

Urbanisation is the future but it has to be planned and fuelled with clean energy sources. Convergence initiatives like Smart City, Green Smart Abhiyan are in right direction.

Also add:

1. Empowering SDMA and urban local body
2. Enhancing vegetative cover
3. Creating more urban centre to de-stress existing cities
4. Better disaster prediction, preparedness and response
5. Strengthen Early warning system

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 has been proposed by government in recent budget as a solution to India's rising energy demand.

It aims at ~~to~~ producing hydrogen from green energy sources and using it for transportation fuel, cooking fuel, industry purposes.

India's rising energy demand

- ① ↑ population growth → ↑ Energy demand
- ② Ambition for \$5 tr economy → ↑ industrial growth → ↑ Energy demand
- ③ Government program like Saubhagya, Ujjwala yojana
- ④ Changing lifestyles and climate change induced warming can increase demand of ACs, coolers.

Benefits of Hydrogen Mission

- Cleaner source of energy, no harmful emission ✓
- Reduce India's dependency on imports of oil & gas (around 86% oil imported) ✓
- fulfill India's commitment of Paris agreement. ✓
- Acts as energy storage thus solve problem of intermittency of renewable sources like solar & wind ✓
- Abundant hydrogen available: thus a renewable source. ✓

Include following points:

1. Can power increasing vehicle and industrial demand
2. Can make India self reliant
3. Export potential

Limitations of Hydrogen Mission

- High cost of extracting hydrogen from water through electrolysis process ✓
- Use of gas & coal for hydrogen production
→ more emissions

- high cost of battery for storing hydrogen ✓
- limited fund availability with the government to invest in hydrogen technology ✓
- lack of funds & technology transfer from the developed countries ✓
- vulnerability of hydrogen to explosion → risky fuel ✓

Good points

Way forward

- More investment in R&D to reduce the cost of extracting hydrogen and battery technology ✓
- Promote private sector investment (H₂ alliance by Reliance industries) ✓

Hydrogen can prove to be a game changer balancing the economic growth with environment concerns. ✓

7 marks

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 सिद्धांत विकसित करने में केवल 'साधारण प्रगति' की है। समालोचनात्मक परीक्षण कीजिए।

Cyberspace includes vast networks of internet world, critical infrastructure of country like telecommunications, banking networks which is vulnerable to cyber attacks.

Geo-strategic instability of region

- ① Rising assertiveness of China in technology field.
- ② more use of cyber attacks for political leverage. E.g. alleged cyberattack on Mumbai power grid by Chinese based company.
- ③ Possibility of technology war between China and US

Awareness of cyber threats it faces

- ① Vulnerability of India's nuclear reactor
Eg. Kudankulam nuclear reactor to
cyber threats. ✓
- ② Telecommunication industry depends on
imported Chinese equipments → more cyber
attack threat ✓
- ③ More digitisation (around 700 mn Internet
users) → more threat of cyber attacks. ✓
- ④ Govt programs like Aadhar, digital locker,
Aarogya Setu app → more vulnerability to
loss of data & cyber attack. ✓

Progress in developing cyber security policy

- Computer Emergency Response Team
(CERT-In) to respond to cyber attack ✓
- Critical information infrastructure protection
Centre to protect Critical Infrastructure from

cyber attacks

- National cyber security policy 2013 provides for creating training cyber security professionals
- IT rules provides for protection from cyber attacks.

Also include:

1. Legal framework IT Act, 2000
2. Other initiative like Cyber dome, Cyberswatchta Kendra

Traps in cyber security policy

- There is no data protection Bill to compensate victims of data theft.
- lack of indigenisation focus on cyber hardware infrastructure.
- lack of awareness among people about safe internet use.

Also include:

1. Lack of institutional capability for MSME sector to adopt best practices of cyber security
2. Lack of investment in R&D
3. Lack of trained personnel
4. Outdate law and cyber security policy
5. Penal provision not deterrent and lack of enforcement

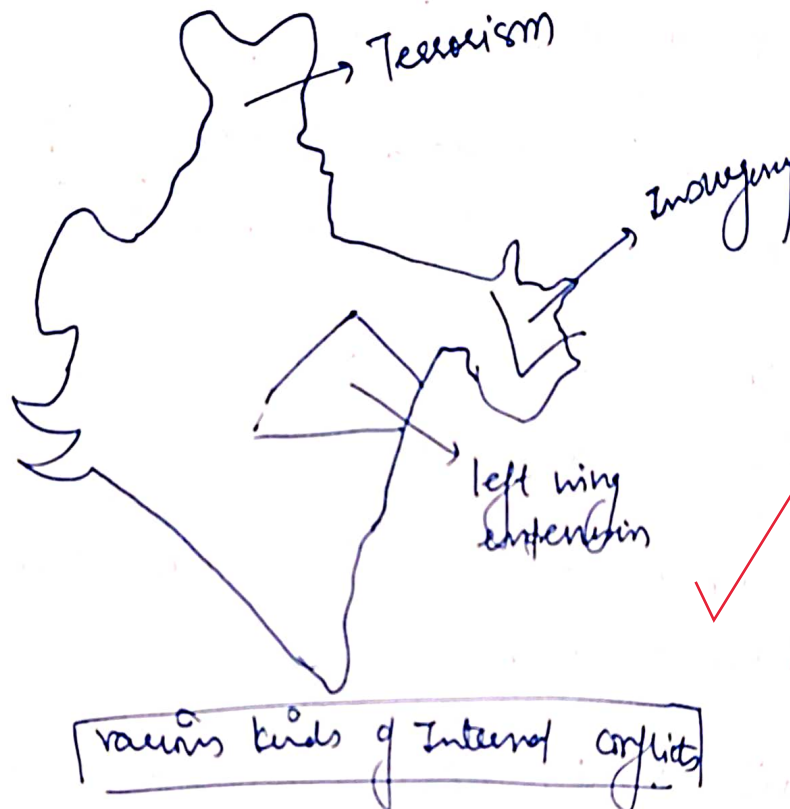
With growing digitisation and interconnected world, there is need to enact a comprehensive cyber security policy keeping in mind the future challenges.

5 marks

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 is vulnerable to various kind of internal conflicts which are hampering the regional growth as well as national development ✓



Developmental interventions

Insurgency → (i) North East Gas Grid project for economic development of region ✓

(ii) Transit projects with countries like Bangladesh & Myanmar. Eg. Kaladan multimodal transit project to provide port connectivity to north eastern region.

(iii) Setting up of AIIMS in Jammu & Kashmir
(iv) Road construction, schools, hospitals projects in left wing extension areas.

Benefit of developmental interventions

→ Enhance the trust of citizens on the government

→ Better connectivity can bring them in contact with mainstream society

→ Help in fueling the economic growth in these regions

→ Human development through access to education, healthcare

→ Availability of employment opportunities → less radicalisation

Limitations of developmental interventions

- Real impact depend on the efficient delivery of services
- Underlying problems like ethnic identity, unfinished agenda of land reforms, religious extremism can't be addressed. ✓
- If support from the neighbouring countries can neutralise the benefits ✓

Way forward

- Need for a comprehensive policy which addresses real underlying problems.
- Government outreach efforts to hold consultation with the people. ✓
- Cooperation with neighbouring countries to reduce outside support

. Answer to the question shall be as per need of the question. The question is about why Internal security challenges is not just developmental issue but there are also other aspect:

1. Lack of access to political institution and ineffective local governance
2. Preventing Local people from accessing local resource Tribal movement of Jal Jungle Zameen
3. Ethnic conflicts
4. Ideological intolerance and communal overtones
5. Lack of confidence in government

Then suggest solution what need to be done apart from just developmental intervention which cannot be sole solution to resolve issue

3 marks