



VISION IAS

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GENERAL STUDIES (TEST CODE : 825)

Name of Candidate	AYUSHI		
Medium Hindi/Eng.		Registration Number	
Center		Date	

INDEX TABLE			INSTRUCTIONS
Q. No.	Maximum Marks	Marks Obtained	
1	12.5		<ol style="list-style-type: none">1. 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)।2. There are TWENTY questions printed in HINDI and ENGLISH. इसमें बीस प्रश्न हैं तथा हिन्दी और अंग्रेजी दोनों में छपे हैं।3. All questions are compulsory. सभी प्रश्न अनिवार्य हैं।4. The number of marks carried by a question/part is indicated against it. प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।5. 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।6. Word limit in questions, if specified, should be adhered to. प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।7. 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।
2	12.5		
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18	12.5		
19	12.5		
20	12.5		
Total Marks Obtained:			
Remarks:			

75, 3rd Floor, Old Rajinder Nagar Market, Near Axis Bank, New Delhi – 110060

103, 1st Floor, B/1-2, Ansal Building, Behind UCO Bank, Dr. Mukherjee Nagar, Delhi – 110009

EVALUATION INDICATORS

1. Alignment Competence
2. Context Competence
3. Content Competence
4. Language Competence
5. Introduction Competence
6. Structure - Presentation Competence
7. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

All the questions are compulsory and carry 12.5 marks each.

1. Soil management in Northeast India is critical for a viable agriculture economy. In this context, discuss the problems of soils in Northeast India. Suggest some steps that can be taken to counter this problem.

पूर्वोत्तर भारत में व्यावहारिक रूप से लाभप्रद कृषि अर्थव्यवस्था के लिए मृदा प्रबंधन महत्वपूर्ण है। इस संदर्भ में, पूर्वोत्तर भारत में मृदा संबंधी समस्याओं की चर्चा कीजिए। इस समस्या के हल हेतु उठाए जा सकने वाले कुछ कदम सुझाइये।

The Green Revolution failed to make an impact in North East India but this aspect is now perceived as an advantage. North-east now has immense potential for organic farming, thanks to fertile soils, better ground water availability and less penetration of resource intensive farming.

Soil management is critical to agricultural productivity. Owing to hilly topography, soil in northeast region is vulnerable to soil erosion.

This topography also prevents percolation of ground water and. Around the Meghalaya plateau area, only bare rocky outcrops are found due to erosion. Region also prone to flooding. Practise only one crop followed by leaving land fallow also leads to soil erosion.

Thumming or shifting cultivation exacerbates soil erosion and is a wasteful practise.

The soil is also deficient in certain nutrients like Potash.

In order to make North-east the next success story of Indian agriculture.

① renewal of traditional practices like contour ploughing, terrace farming and bamboo drip irrigation;

② Rain water harvesting to curb soil erosion

③ two-crop farming cycle and
measures to crop soil erosion

2. Examine the reasons for depleting groundwater levels and acute groundwater stress in some regions of India. What measures should be taken to check groundwater exploitation and ensure recharge of aquifers in water stressed areas?

भारत के कुछ क्षेत्रों में भूजल स्तर के घटने और भूजल पर अत्यधिक दबाव के कारणों का परीक्षण कीजिए। भूजल के दोहन को कम करने तथा जल संकट ग्रस्त क्षेत्रों में जलभृतों (जलभरों) का पुनर्भरण सुनिश्चित करने हेतु क्या उपाय किए जाने चाहिए?

India with world's 18% population but only 4% water resources is already a water stressed country and fast moving towards being water scarce.

Prime source of groundwater depletion has been agriculture which guzzles more than 80% of all water resources.

3rd Five Year Plan and 4th Five Year Plan onwards there has been stress on canal irrigation. Along with subsidies for both tubewells and electricity these policies promote inefficient use of water like flood irrigation.

Mega irrigation projects have run into delays, cost overruns and allegations of corruption - like the Kukadi Dam of Maharashtra begun in 1967.

Farming practices with little regard to agro-climatic conditions :- for example water guzzling sugarcane in Marathwada are another culprit.

Coal Fired power plants are another source.

Policy level stress has been on increasing access and supply while need of the hour is increasing raw water.

Measures :-

- ① Revival of traditional ponds and wells - as envisaged by Kakatiya Scheme in Telangana.
- ② Convergence with MGNREGA to build assets.
- ③ Mandating rooftop rainwater harvesting like Tamil Nadu has done.
- ④ Promoting drip and sprinkler irrigation, dry farming, crops like Pulses.
- ⑤ As rainfall pattern changes with longer dry spells, Watershed management

is imperative.

- ⑥ Policy re-think on subsidies on tubewells.
- ⑦ Polluter pay principle and use of recycled water in coolant plants.
- ⑧ Increasing concretisation in urban areas which promotes water off needs to be curbed.
- ⑨ agro-climatic type based farming pattern.
- ⑩ Partnering with water management expert countries like Israel.

3. How does the plate tectonics theory help explain the formation of Himalayas and Deccan Traps?

प्लेट विवर्तिनी सिद्धांत किस प्रकार हिमालय और दक्कन ट्रैप्स के निर्माण की व्याख्या करता है ?

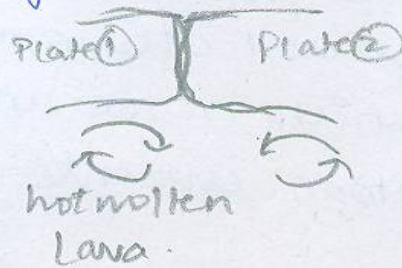
As per the plate tectonics theory the earth's surface is divided into massive lithospheric slabs which move under the force of convection currents of molten lava.

For the Theory defines two types of plate interaction.

- i) divergent boundary.
- ii) convergent boundary
- iii) transform boundary.

The Earth is divided into seven large and many smaller plates. Indian ocean plate, earlier part of Gondwana land had broken & broke away and bumped into the Eurasian plate leading to

Convergent boundary action



Convergent
Boundary action.

Phase ①

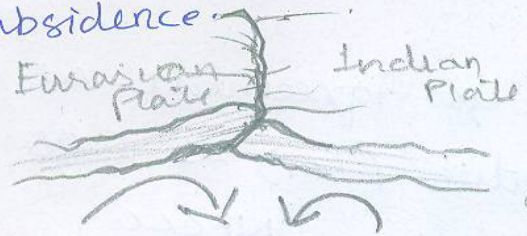
Interaction between oceanic plates of Eurasia and Indian plate - leading to formation of underwater ring of volcanoes. Evidence found in Dras region.

Phase 2.

Interaction between continental plate of Eurasia and oceanic plate of India leading to coastal volcanic mountains. Evidence found in Karakoram range.

Phase 3.

Continental plate of Eurasia and India interact. Since the weight of two plates is equal there is no subsidence.



One plate
climbs atop
the other.

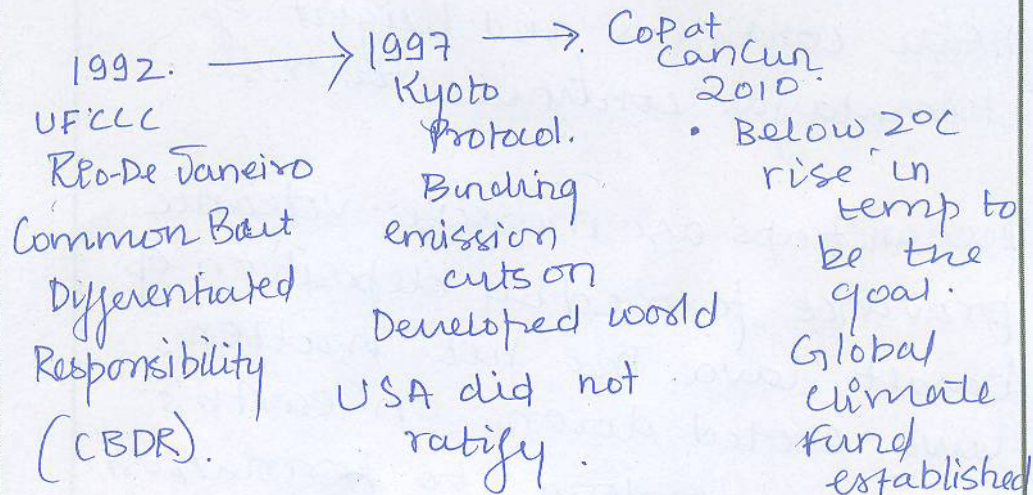
The northward movement of Indian plate continues and height of Himalayas continues to rise.

Deccan traps are massive volcanic province formed by deposition of basalt lava. The hot molten lava cooled down on earth's surface leading to formation of Deccan traps.

4. Though the Paris Agreement reached at the 2015 United Nations Climate Change Conference is being called as a historic turning point, it is also being criticized on many grounds. In this context, discuss the outcomes of the Paris Agreement.

संयुक्त राष्ट्र जलवायु परिवर्तन सम्मेलन-2015 के दौरान संपन्न "पेरिस समझौते" को यद्यपि एक क्रांतिकारी परिवर्तन माना जा रहा है तथापि कई आधारों पर इसकी आलोचना भी की जा रही है। इस संदर्भ में पेरिस समझौते के नतीजों (आउटकम) पर चर्चा कीजिए।

The Paris climate change Agreement at Conference of Parties (COP) 21 was concluded under the UNFCCC framework.



Because of failure of Kyoto the Paris deal was based on

Internally Determined National Contributions (INDCs) - which are non-binding, voluntary emission cuts.

for example India has agreed to cut emissions by 33-35% by 2030 over 2005 levels.

There are no penalties but only five years review mechanism by IPCC.

The principle of historical responsibility. (USA; Europe being responsible for more than 40% of emissions historically) has been sacrificed and the agreement only talks about differentiated responsibility.

No provision for small island states to seek compensation.

No clear mechanism to mobilize funds and technology.

The GCF; supposed to mobilise \$ 100 billion every year has managed only \$ 10 billion.

The IPCC has recognized that the current emission cuts cannot keep rise in temp below 2°C and thus principle of review and more ambitious targets is built into the agreement. The Paris agreement is only the first step.

5. In spite of being one of the largest producers of fish, there is still considerable scope for improvement in the fishery sector. In light of the above statement, discuss the problems and prospects of the fishery industry in India with respect to both inland and marine fisheries.

मत्स्य के सबसे बड़े उत्पादकों में से एक होने के बाद भी, मत्स्य-क्षेत्र में सुधार की अभी भी पर्याप्त संभावनाएँ हैं। उपरोक्त कथन के आलोक में भारत में अंतर्देशीय और समुद्री मत्स्यन दोनों क्षेत्रों में व्याप्त समस्याओं एवं संभावनाओं पर चर्चा करें।

Fisheries in India is witnessing annual growth of 7% and is a sunrise sector. We are already world's second largest producer after China.

Issues :-

- i) quality of seed.
- ii) quality of feed
- iii) energy deficiency.
- iv) lack of infrastructure leading to post-harvest losses.
- v) water pollution
- vi) faulty management practices - recently antibiotics detected in fish stock.
- vii) climate change and migration

viii). questions of sustainability with depleting fish stock and marine pollution.

ix) vast untapped potential in inland fisheries in areas like wetlands.

The government has recently begun revising the National Policy on Marine Fisheries. It should focus on:-

- i) area specific and species specific management practices.
- ii) agro-aqua farms, fishery estates, aqua shops, developing facilities for handling at harvest and post-harvest stage
- iii) National Fisheries Development Board should co-ordinate with operatives in this sector.

(iv) improving feed quality and other management practices.

Fisheries can be an important source of revenue and protein.

6. According to the Indian Fertiliser Scenario 2014, the use of urea in India has increased by more than 50 per cent since 2000. How does human intervention turn nitrogen from a nutrient to a pollutant? Discuss the impacts of nitrogen pollution on environment and human health. Also, explain how nitrogen pollution can be managed.

भारतीय उर्वरक परिदृश्य 2014 के अनुसार, भारत में यूरिया का उपयोग सन् 2000 के बाद 50 प्रतिशत से अधिक बढ़ गया है। मानवीय हस्तक्षेप किस प्रकार नाइट्रोजन को एक पोषक तत्व से प्रदूषक के रूप में परिवर्तित कर देता है? पर्यावरण और मानव स्वास्थ्य पर नाइट्रोजन प्रदूषण के प्रभावों की चर्चा कीजिए। साथ ही, व्याख्या कीजिए कि नाइट्रोजन प्रदूषण का प्रबंधन किस प्रकार किया जा सकता है?

Urea is the main nitrogeneous fertiliser in the country. Eco survey notes that it comprises 70% of our ^{fertiliser} subsidy bill, pointing to its ^a massive use in the country.

Excess nitrogeneous fertilisers' use changes soil texture and decreases its fertility in the long run.

Run-off fertiliser pollutes water and causes eutrophication which disturbs entire marine ecosystem.

Bioaccumulation of nitrogen causes diseases like blue baby syndrome. It has also been associated with air pollution and respiratory diseases.

Managing the nitrogenous fertilisers can be most effective in curbing pollution.

Government's recent move to popularize neem coated urea, which cannot be diverted to other industries and stays in the soil for longer is a welcome step.

Soil health card scheme shall promote judicious application of nitrogenous fertilisers.

Cultivation of crops like pulses which fix atmospheric nitrogen can be another

Step.

Steps to curb soil erosion and rainwater runoff can control eutrophication.

Use of organic fertilisers can improve sustainability.

7. Coral reefs are the most biologically diverse and economically valuable ecosystems on earth. Elaborate. Discuss the factors responsible for the decline of coral reefs across the world. Also, list some measures that have been taken for their preservation.

प्रवाल भित्तियाँ पृथ्वी पर जैविक रूप से सर्वाधिक विविधतापूर्ण और आर्थिक रूप से मूल्यवान पारिस्थितिक तंत्र हैं। सविस्तार व्याख्या कीजिए। विश्व में प्रवाल भित्तियों की कमी के लिए उत्तरदायी कारकों की चर्चा कीजिए। साथ ही, उनके संरक्षण हेतु किए गए कुछ उपायों को सूचीबद्ध कीजिए।

Coral reefs consist of corals (polyps) and zooxanthellae (microscopic algae). It is a symbiotic relationship between the two.

Functions.

- 1) immense capacity to cycle nutrients
- 2) protection for shoreline.
- 3) provide habitat for rich marine biodiversity.
- 4) provide substrate for mangroves
- 5) largest biogenic calcium producer

Causes for decline .

- 1) rising sea temperatures, corals being very susceptible to temp variance.
- 2) solar irradiance - in shallow colonies .
- 3) sudden exposure during low tides can induce coral bleaching .
- 4) chemical contaminants like oil and metals .
- 5) pathogen induced bleaching .

It has been reduced into a bureaucratic exercise.

Also consultation with local population is not mandatory.

The industry perceives it primarily as a regulatory hurdle.

The 2013 Uttarakhand floods where massive dams were held responsible for disturbing the ecology are a ~~were~~ served as reminder of importance of EIA.

It must be made a consultative, participative process so that the final project is ~~owned~~ ^{accepted} by the community and environmental-social costs don't exceed environmental costs.

8. Despite EIA being a useful policy tool for sustainable development, deficiencies in its design and implementation have prevented it from realising its potential. Discuss.

संश्लारणीय विकास के लिए एक उपयोगी नीतिगत उपकरण होने के बावजूद, पर्यावरणीय प्रभाव आकलन (ई.आई.ए.) की अभिकल्पना (डिजाइन) और कार्यान्वयन संबंधी कमियों ने इसकी सम्पूर्ण क्षमता को साकारित होने से बाधित किया है। चर्चा कीजिए।

Environmental Impact Assessment is process of evaluating likely environmental impacts of a project in order to assess it's -economic, social and human health impact, both favourable and adverse.

In India EIA is mandated for certain projects through the Environment Protection Act, 1986.

Currently, EIA is perceived unfavourably both by the industry and the civil society.

A common complain is that civil society is not integrated into EIA structure.

9. Continental shelves are the seaward extension of the continent from shoreline and have enormous economic and strategic significance. Elaborate.

महाद्वीपीय मग्नतट महाद्वीपों के तटरेखा से समुद्र की ओर विस्तृत हैं तथा इनका महत्वपूर्ण आर्थिक और सामरिक महत्व है। सविस्तार समझाइये।

Continental shelves have ^{immense} economic value:-

- i) due to shallow depth there is penetration of sunlight. This creates rich marine biodiversity and assets like nutrient rich fishes, pearls etc.
- ii) source of petroleum.
- iii) source of minerals like phosphorus (found in Mexico bay) and calcium.
- iv) gentle depths allow for a greater height of tides and port development. ex- in the case of London.
- v) source of placer deposits like monazite along the coast of Kerala.

The eastern and north-eastern states continue to hold a lot of potential.

There is also a major export opportunity in countries like Africa and Middle East.

Recent amendments to Mines and Minerals (Development and Regulation)

Act will give a boost to the Industry.

10. Give an account of the distribution of cement industry in India and the factors that affect its location. Also trace the growth of cement industry in India.

भारत में सीमेंट उद्योग के वितरण और इसकी अवस्थिति को प्रभावित करने वाले कारकों का विवरण दें। साथ ही, भारत में सीमेंट उद्योग की वृद्धि की रूपरेखा भी प्रस्तुत कीजिए।

Cement industry in India is found in States like Madhya Pradesh, Chhattisgarh and Andhra Pradesh.

Factors affecting location :-

- ① availability of quality raw material like limestone.
- ② cement is a heavy commodity and is also weight losing, so transport is a major factor.
- ③ it is capital intensive.
- ④ availability of power, fuel and market potential

Cement industry has seen a decent growth in the past.

11. In spite of being one of the most important agro based industry in the country, sugar industry in India suffers from multiple structural and functional problems. Examine.

देश में सबसे महत्वपूर्ण कृषि उद्योगों में से एक होने के बाद भी, चीनी उद्योग भारत में विभिन्न संरचनात्मक और कार्यात्मक समस्याओं से ग्रसित है। परीक्षण कीजिए।

Sugar industry is spread across states like Uttar Pradesh, Maharashtra and Tamil Nadu.

It is the source of direct and indirect employment for a large no. of people.

Problems.

① Sugarcane is a water intensive and water depleting crop. It creates problems of sustainability as is seen in the case of Marathwada.

② Most of the crop is harvested around the same time which leads to wastage in the sugar mills.

- ③ sugarcane is a weight losing crop so inadequate transport creates loss.
- ④ produce from northern states suffers from low sucrose content.
- ⑤ outdated machinery in the mills and inadequate utilisation of by-products like bagasse and molasses.
- ⑥ Minimum Support Price - Mills are obligated to procure cane from farmers if approached. This incentivises production and leads to glut, over undercapacity in the mills.
- ⑦ Sugar mills often fail to manage timely payments. as the rate determined by government is unaffordable for them. This

has created massive arrears.

Recently government has introduced export-linked subsidy ~~unit~~ for sugar mills which is a major reform. It will help ease the sugar glut, reduce arrears burden and will since the transfer would be directly to farmers, it would be WTO compliant.

12. How do physical environment and proximity to the market affect the location of fruit-farming in temperate regions.

भौतिक पर्यावरण और बाजार की निकटता शीतोष्ण कटिबंधीय क्षेत्रों में फलों की खेती को किस प्रकार प्रभावित करती है?

13. Vegetation in deserts and saline areas have highly specialized means of adapting themselves to the environment. Explain.

मरुस्थलों और लवणीय क्षेत्रों में पाई जाने वाली वनस्पति में स्वयं को पर्यावरण के प्रति अनुकूलित करने की अत्यधिक विशेषीकृत युक्तियाँ होती हैं। व्याख्या कीजिए।

Following adaptations can be found in
desert vegetation :-

- 1) Adaptation by xerophytes - like
sunken stomata to minimise water
loss and development of spines
instead of leaves (as in cactus).
They adapt through physical
modification.
- 2) Phreatophytes - plants with long
roots to allow moisture
gathering from a larger area.
- 3) Behavioural adaptation like
remaining dormant during dry
season.

- 4) plants store water in their stem.
- 5) spines and waxy coating to minimise water loss.

14. Water should be treated as an economic commodity whose full costs must be recovered from users, so as to ensure efficiency in service provision. In this context, discuss the viability of PPP model of water supply and management in India. Also, highlight the challenges that can arise in implementing the same.

जल को एक ऐसी आर्थिक वस्तु माना जाना चाहिए जिसकी पूरी कीमत उपभोक्ताओं से वसूल की जानी अनिवार्य हो ताकि कुशलतापूर्वक सेवा प्रदान करना सुनिश्चित किया जा सके। इस संदर्भ में, भारत में जल आपूर्ति और प्रबंधन हेतु पी.पी.पी. मॉडल की व्यवहार्यता पर चर्चा कीजिए। साथ ही, उन चुनौतियों पर विशिष्ट रूप से प्रकाश डालिए जो इसके कार्यान्वयन के दौरान उत्पन्न हो सकती हैं?

World Bank has been advocating treating water as an economic commodity.

The idea is to expand coverage, improve supplies and promote judicious use.

In India with the emphases on private investment in smart cities and AMRUT, the idea of PPP model for water is gaining traction.

Nagpur was one of the first municipalities to privatise water supply but the move has been criticised on grounds

of corruption, no improvement in services and rising prices.

In later there was re-municipalisation of water in face of strong public criticism.

Water being a state subject, the move would require consent of state government.

Access to clean water is critical for health. Any move to control access might reverse the gains country has made in this area.

Globally, PPP model has failed to deliver results.

Instead we should learn from countries like Singapore which relies on water harvesting, water treatment, de-siltation etc to fulfill needs.

Access to a water is a basic human right and privatisation could can make things worse.

The model should be piloted before being implemented on a large scale.

15. The World Bank recently announced limiting the financing of coal-fired power plants in developing countries. In light of the above statement, explain the detrimental effects of coal-fired power plants on environment and human health. Also analyse the constraints in shifting from coal based power generation to renewable energy in India.

विश्व बैंक ने हाल ही में विकासशील देशों में कोयला संचालित विद्युत उत्पादन संयंत्रों के वित्तपोषण को सीमित करने की घोषणा की है। उपर्युक्त कथन के प्रकाश में, कोयला संचालित विद्युत उत्पादन संयंत्रों के पर्यावरण और मानव स्वास्थ्य पर पड़ने वाले हानिकारक प्रभावों की व्याख्या कीजिए। साथ ही, भारत में कोयला आधारित विद्युत उत्पादन से परिवर्तन कर नवीकरणीय ऊर्जा को अपनाने में आने वाले अवरोधों का विश्लेषण कीजिए।

Coal-fired power plants have a massive degrading impact on environment:-

- ① Air pollution and global warming. CO_2 , SO_2 , NO_2 - responsible for acid rain, rising temperatures.
- ② fly ash - contaminates land and water. Pb metal contamination is considered carcinogenic.
- ③ Particulate matter - cause of respiratory diseases.
- ④ Toxic smog during cold season.
- ⑤ Coolant plants are water guzzling.

- ⑥ Coal fired plants in the country are inefficient, use poor quality coal, worsening pollution.
- ⑦ mitigation is expensive and regulations in the country are lax.

Constraints.

- 1) Coal fired power plants - still cheaper than renewable energy. Will continue to figure in development needs of developing world.
- 2) grid connectivity and distribution.
- 3) Renewable energy sources like solar and wind are not reliable and supply can be disrupted.
- 4) Investment intensive.
- 5) Technological deficit.

16. The recent warming of Indian Ocean not only has environmental but also severe economic consequences. Elaborate. Also, suggest mitigation and adaptation measures to counter the same.

हाल ही के हिन्द महासागर तापन के न केवल पर्यावरणीय बल्कि गंभीर आर्थिक परिणाम भी हैं। विस्तारपूर्वक व्याख्या कीजिए। साथ ही, इसको रोकने के लिए प्रथमन और अनुकूलन उपायों का सुझाव भी दीजिए।

Warming of Indian ocean has enormous economic sequenes like:-

1) warming would led. to inundation of coastlines and salt water intrusion.

India, with a 7500 km long coastline is specially vulnerable. Port cities like Mumbai are threatened. Small island states like face prospect of complete submergence.

2) warmer surface water could lead to increased frequency of tropical cyclones.

3) Disruption in marine ecosystems.
like northward migration of
species and coral bleaching.
fisheries, food security etc stand
threatened.

Rising temperatures are directly linked
to increased CO₂ content and global
warming.

Adaptation and mitigation would
require CO₂ emit and other GHG
emission cuts, preventing
encroachment along the coast
lines, promoting salt water
resistant crop varieties.

17. Despite the enormous demand of electronics, the manufacturing of electronic goods has not been a feature of the Indian industry. Enumerate the reasons for the same. Suggest measures which are required to achieve the target of Net Zero Import by 2020.

इलेक्ट्रॉनिक्स की भारी मांग के बावजूद इलेक्ट्रॉनिक वस्तुओं का विनिर्माण भारतीय उद्योग का वैशिष्ट्य नहीं है। इसके कारणों को उल्लिखित करें। ऐसे उपायों का सुझाव दीजिए जो 2020 तक शुद्ध रूप से शून्य आयात का लक्ष्य प्राप्त करने हेतु वांछित हैं।

Electronic goods manufacturing has stagnated because of:-

- 1) Research and development deficiency. Cutting edge technology is the single most important factor which is lacking in the country.
- 2) high international competition and low returns during initial years.

Measures.

- Make in India Initiative.
- Recently government established a Electronics Development Fund (EDF) - a step in the right direction.

Don't write
anything this
margin
(इस भाग में
कुछ ना लिखें)

18. Temperate grasslands are called 'Granaries of the world'. Elucidate. How have the farming practices adopted in these regions impacted the environment?

शुतलषुण घास के मैदानों को 'वशुव के अन्न भंडार' कहा जाता है। स्पष्ट कीजिए। इन क्षेत्रों में अपनायी गई कृषि प्रथाओं ने पर्यावरण को किस प्रकार प्रभावित किया है?

19. Tropical regions are not only the most resource rich but also one of the most underdeveloped regions of the world. What are the factors responsible for this? How have some of the tropical countries turned their natural limitations to their advantage? Illustrate.

उष्णकटिबंधीय क्षेत्र न केवल सर्वाधिक संसाधन संपन्न हैं वरन् विश्व के सर्वाधिक अविकसित क्षेत्रों में से भी एक हैं। इसके लिए कौन-से कारक उत्तरदायी हैं? कुछ उष्णकटिबंधीय देशों ने अपनी प्राकृतिक रूकावटों (बाधाओं) को स्वयं हेतु लाभप्रद स्थितियों में किस प्रकार परिवर्तित किया है? व्याख्या कीजिए।

Tropical Regions are those which lie between the Tropic of Cancer and Tropic of Capricorn and near the equator.

Round the year sun shine, abundant rainfall, rich forest resources have failed to bring prosperity to tropical countries.

Historically, the impact of colonialism has thwarted development in such countries.

Even post-independence, many countries, for example in Africa continued to be a single commodity export based economy.

Thus these countries suffer from the paradox of plenty.

Countries in South-east Asia have managed to turn around their economies by exploiting tourism potential.

Thus they leveraged the relatively low levels of industrialisation and traditional societal structure to attract tourists.

Similarly the small island states have used their strategic potential by renting / leasing ports to attract income.

20. Agroforestry is seen as a solution to meet the challenges of food, nutrition, energy, employment and environment security. Elucidate.

कृषि-वानिकी को भोजन, पोषण, ऊर्जा, रोजगार और पर्यावरण सुरक्षा की चुनौतियों के समाधान के रूप में देखा जाता है। स्पष्ट कीजिए।

Agroforestry is a land use practise whereby woody perennials like trees and shrubs are grown alongwith crops.

Benefits are many namely:

- i) risk reduction in case of draught, pest attack.
- ii) access to timber, fruits, medicinal products: Fruits fetch better prices and improve nutritional security.
- iii) Trees bind the soil better, improve carbon content of the soil and improve water retention capacity of the soil.
Use of trees as shelter belts can reduce wind induced erosion.
- iv) round the year income.

Challenges.

- i) Reluctance among farmers due to no returns during first few years.
- ii) more careful supervision required during sapling stage.

NABARD led wadi ^(orchard) programme in tribal areas of Bundelkhand has been a major success.

It has promoted income from large tracts of land previously considered barren and useless. It has improved income security, curbed soil erosion and curbed distress migration in the area.