



VISION IAS

www.visionias.in

07 FEB 2018

GENERAL STUDIES (TEST CODE : 1052)

Name of Candidate	Akshat Jain		
Medium Eng./Hindi	Eng	Registration Number	101322
Center	ORN	Date	7/2/18

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
7	10	
8	10	
9	10	
10	10	
11	15	
12	15	
13	15	
14	15	
15	15	
16	15	
17	15	
18	15	
19	15	
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।

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

1. The location of iron and steel industry depends on a multitude of factors. Discuss with examples. Also account for the gradual shift of the industry towards coastal regions over time. (150 words) 10

लौह एवं इस्पात उद्योग की अवस्थिति अनेक कारकों पर निर्भर करती है। उदाहरण सहित चर्चा कीजिए। साथ ही, समय के साथ इस उद्योग के तटीय क्षेत्रों की ओर क्रमिक स्थानांतरण का सविस्तार कारण बताइए।

The iron and steel industry is dependent on the following factors for its location -

1. Availability of raw material - The integrated steel plants are located either near coal reserves, or iron reserves.
e.g. Rourkela, Bokaro, TISCO
2. Transport facilities - Roadways, rail networks and port proximity
e.g. Vizag steel plant is a port based plant
3. Presence of cheap, abundant labour
- In the Singhbhum belt, cheap labour from Jharkhand and Bihar is plenty
4. Market closeness - The mini-steel plants are located to urban centres. E.g. - Ratu plant in M.P.

5. Technology advancement - Once technology was available to produce steel from scrap iron, the mini-steel plants were born.
6. Policy support - E.g. Bokaro was set up to aid development of the backward region of Jharkhand.

The gradual shift towards coastal regions is to access the port facilities, for both import and export purposes. As metallurgical coking coal is mostly imported, proximity to ports is important. Also, the per-capita consumption of steel in India is low, and hence industries prefer to export their produce.

2. Identify the regions being impacted by desertification in India. Bringing out the major reasons for it, analyse the effectiveness of steps taken to combat it. (150 words) 10

भारत में मरुस्थलीकरण से प्रभावित हो रहे क्षेत्रों की पहचान कीजिए। इसके प्रमुख कारणों का उल्लेख करते हुए, इसका मुकाबला करने के लिए उठाए गए कदमों की प्रभावशीलता का विश्लेषण कीजिए।

As per the 'State of our Environment
Report 2017', eight states of India
find large areas of their land
suffering from desertification. These
include Haryana, Punjab, Rajasthan,
Madhya Pradesh, among others.

The reasons, as stated by the ISRO's
Atlas on Desertification, are -

1. Wind Water Erosion
 - Major reason
 - Soil erosion due to rainfall and surface flow
 - Exacerbated by our inefficient water management system
2. Wind Erosion
 - Heavy winds blow off top soil
 - Increasing due to reducing tree cover

3. Loss of vegetation cover due to deforestation
4. Human-made settlements for developmental purposes
5. Increasing salinity due to over-irrigation and use of pesticides
6. Climate change induced temperature and heat rise

India has launched the National Action Plan to Combat Desertification. It focuses on integrated land and water management.

However the effectiveness is still debated as the need is for more community participation. The Kubugui Model is needed, which combines the efforts of industries, farmers and animal rearsers, and government to tackle desertification.

3. Assess the changes in distribution pattern of the 'golden fibre' industry in India over the past half century. Also, giving reasons for its decline, enumerate the measures that the government has come up with in order to revive it. (150 words) 10

विगत आधी शताब्दी के दौरान भारत में 'गोल्डन फाइबर' उद्योग के वितरण पैटर्न में आए परिवर्तन का आकलन कीजिए। साथ ही, इसके ह्रास के कारणों को बताते हुए, इसे पुनर्जीवित करने हेतु सरकार द्वारा किए गए उपायों को सूचीबद्ध कीजिए।

The jute industry in India is largely concentrated in West Bengal, due to the high growth of jute there. However since jute is light weight and not a weight losing, the industry is moving out to other areas connected to ports or proper rail networks. The proximity to market is becoming more important than raw material availability.

Reasons for decline

- Post partition, most of the jute mills went to East Pakistan
- Failure to invest in production technology, leading it difficult for our countries to compete globally

- The competition from synthetic packaged material
- lack of policy support to project jute as an environment friendly fibre in the global market

The National Jute Policy of India aims to incentivize growth of jute exports, along with upscaling the domestic demand. For this, jute bags are being promoted in place of plastic bags in retail centres. The Government is also providing skill training, technology support to farmers, and improved market linkages by eliminating problems in the whole supply chain.

4. With appropriate examples of footloose industry, discuss its significance for India. (150 words) 10

फुटलूज उद्योग के उपयुक्त उदाहरणों के साथ भारत के लिए इसके महत्व पर चर्चा कीजिए।

Footloose industries are those that do not depend upon availability of raw material for their location. Examples include computer chip producing companies.

Their significance lies in the following -

- a) Most of them manufacture digital components, and thus are vital for our vision of Digital India and digital economy
- b) Provide new sources of employment, especially for our high number of educated, yet unemployed youth
- c) They bring in massive FDI, most of it ~~been~~ being greenfield

- d) They are essentially basic industries to our tertiary sector, thus contributing to higher GDP growth in the sector
- e) Bring in cutting-edge technology, transfer of which can be used for other applications as well

Thus footloose industries are the future wheels of the economy, and hence must be promoted.

5. India has a long way to go in identifying shale gas rich basins and acquiring the necessary technology to extract shale gas. Discuss. (150 words) 10

भारत को शेल गैस से समृद्ध बेसिनों की पहचान करने और शेल गैस के निष्कर्षण हेतु आवश्यक तकनीक प्राप्त करने की दिशा में लंबा रास्ता तय करना है। चर्चा कीजिए।

The recent discovery of shale gas in North America, has led many other countries to explore it in their own basins.

In this context, the challenges facing India are as follows-

- i) Exploration issues - Currently, India lacks a clear cut policy towards shale gas exploration. Since shale gas is generally found in deep basins, it further disincentivizes our industry.
- ii) Inefficient technology - Drilling technology is not only expensive, but under-developed in India.
- iii) Additional Capital Costs - In order to extract shale gas, an efficient underground pipe

network is needed. This is highly expensive.

ii) Unwillingness of developed countries to share technology - Due to obvious strategic and economic reasons, India is unable to procure required technology from outside.

v) Poor Research and Development (R&D).

The academia and industry are not collaborative enough to facilitate R&D in this sector.

It is hopeful the recent H&LP policy and thrust towards technology development can aid our exploration and production of shale gas.

6. Plastic waste is a major environmental and public health problem in India, particularly in the urban areas. Elucidate. Can the Plastic Waste Management Rules, 2016 help in addressing the problems related to plastic waste? (150 words) 10

भारत में, विशेषकर शहरी क्षेत्रों में, प्लास्टिक अपशिष्ट एक प्रमुख पर्यावरणीय और लोक स्वास्थ्य संबंधी समस्या है। स्पष्ट कीजिए। क्या प्लास्टिक अपशिष्ट प्रबंधन नियम, 2016 प्लास्टिक अपशिष्ट से संबंधित समस्याओं को हल करने में सहायता कर सकते हैं?

The hazards associated with plastic waste include the following -

1. Since it is non-biodegradable, it persists and can't be decomposed by microorganisms
2. It chokes the drainage and sewerage systems
3. Its incineration releases huge amounts of carbon gases, causing immense pollution and global warming
4. It prevents seepage of surface water into the ground
5. It is often digested by beggars' kids and animals, causing diseases and even death

The Plastic Waste Management Rules, 2016 contain the following key provisions

Features

segregation
at source
into the
label of
'dry waste'

Brand owners
using plastic
bags must
either use jute
mes, or ensure
re-collection
of the plastic bags

Integration
of the
rag pickers
and
kabbariwallas
into formal
sector for
better
recycling
and reuse

promotion
of waste-
to-
energy
incinerators

If properly implemented, the
rules can help address the problem.

Further, behavioural change
drives are needed at every
stakeholder level - customers,
shopkeepers, companies, authorities -
if a truly lasting change is
to be attained.

7. Energy efficiency in buildings need to be at the core of India's urbanization strategy. Comment. In this context elaborate the significance of Energy Conservation Building Code (ECBC) 2017. (150 words) 10

भवनों में ऊर्जा दक्षता को भारत के शहरीकरण की रणनीति के केंद्र में रखने की आवश्यकता है। टिप्पणी कीजिए। इस संदर्भ में ऊर्जा संरक्षण भवन संहिता (एनर्जी कंजर्वेशन बिल्डिंग कोड: ECBC) 2017 के महत्व का सविस्तार वर्णन कीजिए।

The National Mission on Enhanced Energy Efficiency calls for greater energy efficiency in our residential and commercial buildings.

Advantages

- Will lead to huge generation as well as prevention of wastage ~~and~~ of energy
- Enable to harness the potential of the masses to achieve energy security
- Generate employment
- Provide alternate source of income for house owners, who can sell extra electricity to the National Grid
- The saved energy can be diverted to remote and ~~far~~ poor areas

The Energy Conservation Building Code (ECBC) 2017 provides for building standards for real estate and other sectors. It offers various designs incorporating technology like rooftop solar and solar heaters. In addition, it also recommends certain small-level changes in our lifestyle that can help save energy.

8. How does the PAT scheme make efficiency in energy consumption attractive in energy-intensive industries? Examining its performance so far, suggest measures for improvement. (150 words) 10

PAT योजना ऊर्जा-गहन उद्योगों के लिए ऊर्जा उपभोग में दक्षता को किस प्रकार आकर्षक बनाती है? इसके अब तक के प्रदर्शन का परीक्षण करते हुए, सुधारात्मक उपायों का सुझाव दीजिए।

The Perform, Achieve and Trade
(PAT) scheme is implemented
by BEE.

The energy-intensive industries have to meet certain targets for reducing their electricity consumption. PAT scheme provides them a flexible mechanism to do so. It allows for the trading of Energy Saving Certificates between different industries.

e.g. If an industry has a target of reducing its consumption by 10 units, but can do so by 9 units only, then it can buy a Energy saving certificate from another industry who has over-achieved its target. This allows it to make up for the extra unit consumed.

The innovative system has led to companies providing technology to enhance efficiency, to each other. Further it has been well received by the industry due to the flexibility it provides.

To improve the scheme, the government must revise the targets of each sector, and introduce further financial incentives like tax-free trading.

9. Air quality in Indian households, especially in rural areas, is lethal due to a number of factors. In this context, highlighting the challenges faced in improving indoor air quality, enumerate the measures that can be taken to address them. (150 words) 10

भारतीय घरों में, विशेषकर ग्रामीण क्षेत्रों में, वायु की गुणवत्ता कई कारकों से प्राणघातक है। इस संदर्भ में, घरों के भीतर वायु की गुणवत्ता में सुधार लाने में सामने आने वाली चुनौतियों पर प्रकाश डालते हुए उनसे निपटने हेतु अपनाये जा सकने वाले उपायों को सूचीबद्ध कीजिए।

It is estimated that indoor air is roughly ten times more polluted than outside air.

This is more so in rural areas, which rely on kerosene or cow-dung for domestic purposes like cooking and staying warm. These sources release high amounts of carbon gases, resulting in huge fatalities, especially for children and elderly.

Challenges in improving it

- Providing affordable and accessible alternatives like PNG^{and LPG}, especially in rural areas
- Inducing behavioural change in people to shift from

older methods

- Promoting people to open windows or doors regularly to maintain air circulation. This is especially difficult in urban areas, which use ACs and fans more and more

Thus the need is to ensure that proper transmission lines are installed to supply LPG/PNG to households. Their pricing needs to be such that it incentivizes people to use it. Further, behavioural economics to nudge people for adopting better indoor lifestyle, must be explored.

10. What is Joint Forest Management (JFM)? Highlight its potential in improving the livelihood of the forest dwellers and fringe forest communities. (150 words) 10

संयुक्त वन प्रबंधन (JFM) क्या है? वन वासियों और सीमांत वन समुदायों की आजीविका में सुधार लाने की इसकी क्षमता पर प्रकाश डालिए।

The Forest Rights Act, 2006 calls for JFM, which is an integrated approach that brings together the local community (the forest dwellers), the authorities and other stakeholders (e.g. NGOs), in jointly managing and conserving the forests and its resources.

Its significance can be seen as below—

- It can integrate indigenous knowledge in contemporary conservation strategies
- Generate huge employment for the locals, who can offer their knowledge and skill-set
- It will improve the ecosystem

goods and services such as availability of timber, medicinal plants etc., thus enhancing livelihoods of locals

- Also prevents deforestation, and thus prevents cultural impoverishment of the locals, whose life revolves around the forests.

Thus JFM can be the key towards development that is both sustainable and economically rewarding.

11. The metallic minerals found in India are mainly confined to the Peninsular plateau region. What are the reasons for their uneven distribution? Also, discuss the impact it has on the location of industries in India.

(250 words) 15

भारत में पाए जाने वाले धात्विक खनिज प्रमुखतः प्रायद्वीपीय पठारी क्षेत्र तक सीमित हैं। इनके असमान वितरण के क्या कारण हैं? साथ ही, इसके भारत में उद्योगों की अवस्थिति पर पड़ने वाले प्रभावों पर भी चर्चा कीजिए।

During the movement of the Indian plate towards north, there was intense faulting, resulting in lava outpour. The lava outpour was trapped in the block mountains, thus solidifying and forming the Peninsular plateau of India. This is the major reason why metallic minerals, which were formed as the lava solidified, are found mostly here.

The impact on location of industries can be seen as below-

- i) Iron and steel industry - Most of the integrated steel plants

are in Chhotanagpur plateau,
due to rich iron-ore and coal
reserves there.

ii) Cement Industry - It is ^{located} ~~found~~
in Kindhyan ranges due to
the high limestone reserves.

iii) Aluminium refineries - As
bauxite is found mainly
in Odisha, initial processing
plants are located there.

iv) Copper industry - Copper
reserves in M.P. and A.P.
attract the industries.

v) Uranium based nuclear
reactors - Uranium is
found in A.P., Jharkhand
and Meghalaya. Nuclear
plants tend to be near such
sites.

vi) Heavy Industries - Since heavy engineering industries rely on iron-steel industry, they are also located mainly in Chhottanagpur plateau.

Thus geological factors have huge effect on location of industries.

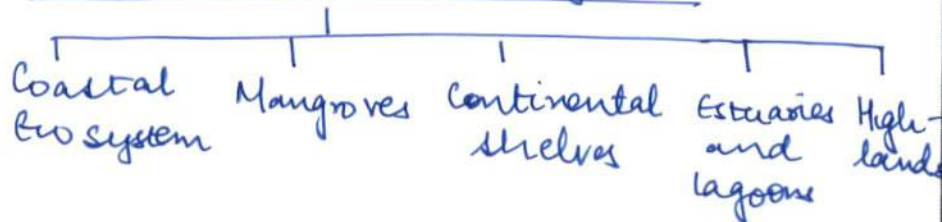
12. The mining of sand and gravel has reached a level that is threatening the environment and ecosystem. Comment. What can be done to ensure that such mining is carried out in a sustainable manner? Discuss in context of the guidelines issued by the Ministry of Environment, Forest and Climate Change.

(250 words) 15

रेत और बजरी का खनन एक ऐसे स्तर तक पहुँच गया है जो पर्यावरण एवं पारिस्थितिक तंत्र को संकट में डाल रहा है। टिप्पणी कीजिए। इस प्रकार के खनन की संधारणीयता सुनिश्चित करने के लिए क्या किया जा सकता है। पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय द्वारा जारी किए गए दिशानिर्देशों के संदर्भ में चर्चा कीजिए।

Of the several anthropogenic factors responsible for environmental damage, sand and gravel mining is one of the most dangerous.

Ecosystems harmed by it



All these ecosystems contain rich reserves of sand and gravel associated minerals, which are used in construction industry, real estate, glass industry and other infrastructure sectors.

The factors responsible for unsustainable mining are -

- i) Ineffective regulation
- ii) Corruption
- iii) Outdated mining techniques
- iv) Prevalence of open cast mining, that causes more pollution

This is threatening the biodiversity; leading to coastal erosion; and disrupting the ecosystem goods and services, thus affecting livelihoods like fishing.

The Environment Ministry has recommended the following guidelines to curb unsustainable mining -

- i) Mandatory Environment Impact Assessment (EIA) before the project
- ii) Continuous and comprehensive monitoring of the project to ensure compliance
- iii) Geo-tagging of mines, along with uploading details of

project online

- ii) District Mineral Foundation to collect a fixed percentage of royalty and work for development of local community
- v) Ban on use of outdated equipment and technology

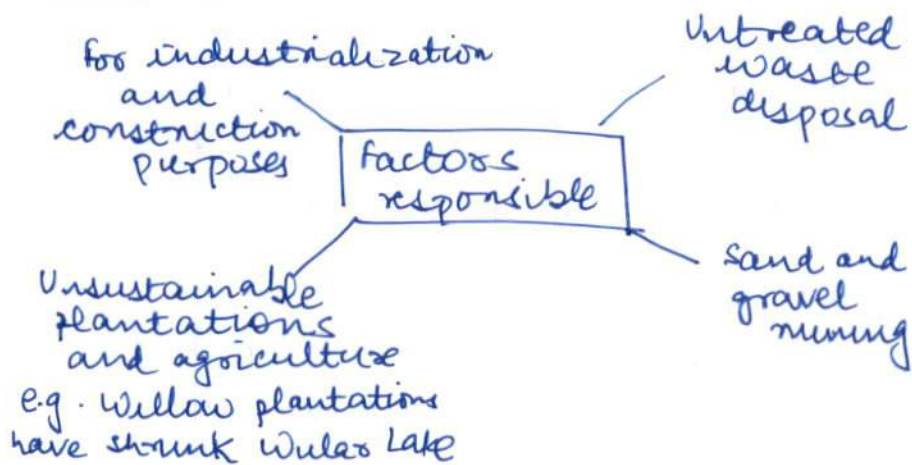
Besides the above, the government has also launched the TAMRA portal and Mining Surveillance System to prevent illegal mining.

Thus, what is needed now is proper implementation of the guidelines.

13. Wetlands are being lost rapidly due to encroachment and rapid urbanization. In this context, critically analyse the provisions of the new Wetland (Conservation and Management) Rules 2017 notified by the Government in dealing with the situation. (250 words) 15

अतिक्रमण और तीव्र शहरीकरण के कारण आर्द्रभूमियाँ तेजी से लुप्त हो रही हैं। इस संदर्भ में, इस स्थिति से निपटने हेतु सरकार द्वारा अधिसूचित नवीन आर्द्रभूमि (संरक्षण और प्रबंधन) नियम 2017 के प्रावधानों का आलोचनात्मक विश्लेषण कीजिए।

As per a recent UNEP report, wetlands represent the ecosystem being lost most rapidly by encroachment and urbanization.



In this context, the government has released the Wetland (Conservation and Management) Rules 2017, thus superseding the 2016 ones.

Important provisions

1. Decentralization - Call for formation of a State Wetlands Authority (SWA)

in each state/UT, to notify wetlands and define 'wide use' principle, governing their management.

2. New central body - The National Wetlands Committee will replace the Central Wetlands Regulatory Authority. It will look after implementation of new rules.
3. Ban on certain activities - In the notified wetlands, waste disposal, setting up of industries, and encroachment is banned.
4. Solid waste dumping and discharge of industrial effluent is banned in all wetlands.
5. Applicability - Applicable for notified and Ramsar list wetlands.

Criticisms of new rules

1. Compared to 2010 rules, these exclude certain key types ^{of wetlands}, such as salt pans.

2. Unlike 2010 rules, there are no criteria (e.g. genetic diversity) to measure impact of these rules
3. The Centre can allow conduct of the banned activities if recommended by the SWAs.
4. The 'wide use' principle is vaguely defined and prone to misuse
5. It gives too much responsibility to states, which have a very poor record in wetlands conservation.

Way Ahead

The new rules are a step in the right direction, but their deficiencies need to be removed.

Also, community participation is necessary, and should be promoted.

14. Processing and safe disposal of garbage must replace the current model of landfills in order to transform our cities to being 'smart'. Elucidate. In this context, analyse the reasons for failure of waste management policies in India. (250 words) 15

हमारे शहरों को 'स्मार्ट' बनाने के लिए भूमिभराव (लैंडफिल) के वर्तमान मॉडल को अपशिष्ट के प्रसंस्करण और सुरक्षित निपटान से प्रतिस्थापित किया जाना चाहिए। स्पष्ट कीजिए। इस संदर्भ में, भारत में अपशिष्ट प्रबंधन नीतियों की विफलता के कारणों का विश्लेषण कीजिए।

The Smart Cities Mission envisages
Indian cities free of heaps of
garbage due to ~~effect~~ effective
waste disposal and processing techniques.

Current lacunae

1. Dumping of 'mixed' waste into
heaps in open areas and landfills
2. 95% of local funds are utilized
on collection and transportation
of waste, thus leaving little
for treatment
3. Lack of investment in technology
like waste-to-energy incinerators

Thus the following is needed -

1. Segregation of waste at source,
as mandated by the Solid Waste
Management Rules (SWM Rules), 2016

2. Windrowing technique - Garbage to be dumped in long, low lying parallel ridges. This exposes it to air, and prevents release of leachate, methane and other gases
3. As per NITI Aayog -
 - a) for big municipalities, waste-to-energy incinerators are needed to dispose waste and produce electricity
 - b) for smaller towns, composting and bioremediation is required
4. Use of nanotechnology for solid waste management and e-waste management

The reasons for failure of existing waste management policies are-

- i) Ineffective implementation by local authorities
- ii) Tendency to adopt a centralized approach than decentralized one
- iii) Failure to give mechanisms of

fund generation to invest in technologies

- ii) failure to integrate the informal sector into waste management
- v) do not consider behavioural change models (except swachh Bharat Mission)
- vi) failure to hold authorities and officials responsible for lax implementation

It is essential to address these lacunae in our policies, if we are to truly achieve the vision of 'smart cities, smart India'.

15. The perennial problem of smog across large parts of North India has worsened despite government and judicial interventions. Examine. What feasible steps can be taken to effectively address this problem?

(250 words) 15

सरकारी एवं न्यायिक हस्तक्षेप के बावजूद उत्तर भारत के एक बड़े भाग में धूम-कोहरा (स्मॉग) की चिरस्थायी समस्या और विकट हो गई है। परीक्षण कीजिए। इस समस्या से प्रभावी ढंग से निपटने के लिए कौन-से व्यवहार्य कदम उठाए जा सकते हैं?

As per WHO, North Indian cities like Delhi, Ghaziabad, Lucknow etc. have 8-9 times more concentration of PM 2.5 and PM 10 than is considered normal.

Reasons for Heavy Smog

1. The high pressure conditions created in winters and by dust storms
2. Burning of crop residue in Haryana, Punjab and UP
3. High release of vehicular exhaust due to ~~too~~ heavy numbers of privately owned vehicles
4. Industrial effluents and incineration of garbage in open areas
5. Uncovered pavements and construction sites

~~Thus~~, The government and judicial interventions like Graded Response Action Plan, Odd-even car scheme and others, have largely failed due to untimely and poor implementation. In addition, they do not address the root of the problem - the mindset of people.

What needs to be done

1. Cooperative federalism - All the states of North India have to formulate a comprehensive and holistic plan together, rather than independent steps
2. Address the burning of crop residue - States must tap into funds like Green Climate Fund, to enable farmers to purchase machines that directly convert crop residue into manure
3. Transit Oriented Development -

Improving public transport services
and passenger walking paths

4. Waste Processing and Treatment

5. Covering open spaces with tree
belts

6. Behavioural economics to
nudge people to adopt a less
Carbon-intensive lifestyle

Thus, all the stakeholders must
cooperate if India is to lose
its tag of country with most
air-pollution linked deaths
in the world.

16. Why is the distribution of major fishing areas skewed towards the higher latitudes as compared to the tropics? What are the challenges that the fishery industry is facing globally? Enumerate the measures taken by the various international bodies in order to make the activity more sustainable.

(250 words) 15

प्रमुख मत्स्य क्षेत्रों का वितरण उष्णकटिबंधीय क्षेत्रों की तुलना में उच्च अक्षांशों की ओर क्यों झुका हुआ है? विश्व स्तर पर मत्स्य उद्योग द्वारा सामना की जा रही चुनौतियां क्या हैं? इस गतिविधि को अधिक संधारणीय बनाने हेतु विभिन्न अंतर्राष्ट्रीय निकायों द्वारा किए गए उपायों को सूचीबद्ध कीजिए।

The factors that make higher latitudes more favourable for fishing than tropics are -

1. Wider continental shelves and shallower seas
2. Cooler climate is more conducive ^{and storage} for growth and breeding of fishes
3. Tropical fishes contain more oil, which makes them less desirable for human consumption
4. Countries are more technologically advanced and thus use high-end technology for fish capture, storage and processing
5. Demand for fish is more as ~~fish~~ fish is part of the staple diet and an important source of protein

Challenges to the Fishing Industry

1. Climate change - The rise in sea temperatures and water level is affecting plankton growth, and thus fishing zones
2. Unsustainable techniques - bottom trawling, dynamite fishing etc. cause huge damage to the marine ecosystem
3. Environmental Activism - Many environmentalists oppose the industry as it not only affects fishes, but also other animals like turtle, corals etc.
4. Policy focus - In many developing countries, fishing is still treated as a sustenance activity, and not given adequate support
5. Market linkage - Due to poor storage and processing technology in third world countries, the fisheries sector is not reaching its potential

Thus, to make fishing more sustainable, bodies like the UNEP, WWF, IUCN and CITES have recommended the adoption of deep sea fishing over bottom trawling and other techniques. Further, nets with adequately sized holes should be cast, that can allow animals like turtles to escape.

Also, funding agencies like WB and ICF are also helping fishermen to adopt better technologies for sustainable fishing.

17. Despite similarity in natural endowments, certain areas attract industries while others do not. What can be the possible reasons for this? In this context, identify the major industrial regions in India and mention the factors which led to their development as industrial regions. (250 words) 15

प्राकृतिक विशेषताओं में समानता के बावजूद, कुछ क्षेत्र उद्योगों को आकर्षित करते हैं, जबकि अन्य नहीं। इसके संभावित कारण क्या हो सकते हैं? इस संदर्भ में, भारत में प्रमुख औद्योगिक क्षेत्रों की पहचान कीजिए और औद्योगिक क्षेत्रों के रूप में उनके विकास का मार्ग प्रशस्त करने के लिए उत्तरदायी कारकों का उल्लेख कीजिए।

The factors that lead to regions attracting more industries, despite similar natural endowments, are as follows -

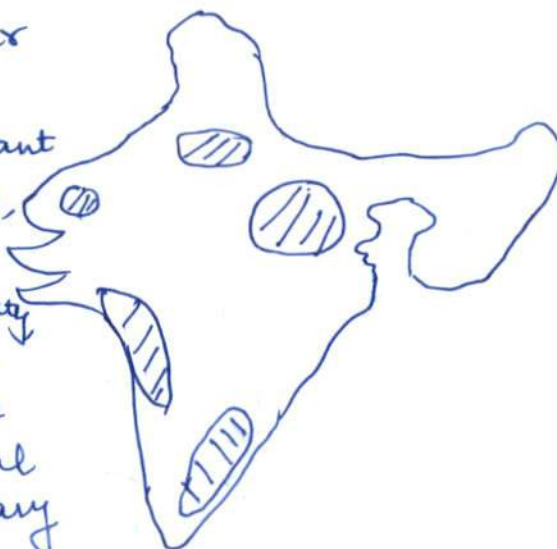
1. Market Proximity - Regions with high demand for the final product will naturally attract more industries
2. labours Availability - cheap and abundant labour is essential for industries like Iron-steel, plantation etc.
3. Transportation facilities - Closeness to ports, rail networks and proper road connectivity
4. Government Policy Support - Favorable policies like SEZs, no-taxation etc attract industries
5. Competition - If competing industries are already present in big

numbers, then it disincentivizes others to set up in that region.

The major industrial regions of India are -

i) Chhotanagpur Plateau

- With abundant mineral reserves, and cheap labour availability, this region is home to the iron-steel, coal and other heavy industries.



ii) Maharashtra - Gujarat Belt -

Due to excellent port facilities and capital availability, along with huge urban market, this region houses the textile industry, plantation industries like sugarcane, and others

iii) Bangalore - Hyderabad region

- This is the IT hub of

India, due to presence of tech-giants that came due to favourable state government policies.

ii) Delhi-Haryana-UP belt -

The Indo-Gangetic basin has abundant fertile soil and water availability. Thus the plantation industry, textile industry are here as well.

Hence it is the amalgamation of several factors that decides the location of industries.

18. Despite biofuel utilisation being given emphasis since the last decade, their economic, environmental and social sustainability is a matter of debate.
Comment. (250 words) 15

विगत दशक से ही जैव ईंधन के उपयोग पर बल दिए जाने के बावजूद, उनकी आर्थिक, पर्यावरणीय और सामाजिक संधारणीयता वाद-विवाद का मुद्दा है। टिप्पणी कीजिए।

India's renewable energy policy gives due emphasis on biofuel utilisation for sustainable development. India hopes to generate 10 GW electricity from biomass by 2022. Also, plants like ethanol bio-refineries are being set up.

However, their long-term use has come up as a debate, due to the following concerns -

Economic Issues

- Huge investments are needed to set up biorefineries
- The capital-to-output ratio remains low, thus inhibiting private sector participation
- It is also argued that investing in increasing efficiency of

thermal plants and of vehicles, is a better option than investing huge money here.

Environmental Issues

- Burning biomass releases a good amount of carbon gases, especially if done without following standards

Social Issues

- It may lead to unemployment for many in the coal and petroleum industry
- This sector itself is less labour intensive, thus leading to overall unemployment

Despite the concerns, it must not be forgotten that biofuel has many advantages. It reduces the amount of waste, and ^{puts} ~~makes~~ it ^{to} productive use. It is also an alternative source of

income for groups like farmers. Moreover, it is relatively a lot cleaner fuel than petrol and diesel.

Thus what is needed is adequate research and technology development to make its utilization more sustainable and effective.

19. Selective focus on ensuring the sustained supply of strategic minerals is imperative for India. In this context, discuss the challenges for India in terms of their exploration and production. What approach can India adopt to address these challenges? (250 words) 15

सामरिक खनिजों की सतत आपूर्ति की सुनिश्चितता पर चयनात्मक फोकस करना भारत के लिए अत्यावश्यक है। इस संदर्भ में, इनके अन्वेषण और उत्पादन के संबंध में भारत के समक्ष चुनौतियों पर चर्चा कीजिए। इन चुनौतियों से निपटने के लिए भारत क्या दृष्टिकोण अपना सकता है?

Strategic minerals are the vitamins of any country's industries. Since they are limited, thus their sustained supply is a huge challenge, especially for a developing economy like India.

The challenges are as follows -

1. Huge exploration costs, especially for deep-basin exploration
2. Lack of technology to facilitate efficient exploration and production both
3. Poor participation of private sector
4. Presence of different policies for minerals that are found together
5. Inefficient mining techniques and prevalence of open-cast mining

6. Broken supply network from source to consumption units, due to poor transmission and storage capacity
7. Poor demand of special alloys, and even basic ones like steel

The approach needed here is to focus on the '3 I's,' as shown below -

- i) Infrastructure — Energy infrastructure like proper transmission network, pipelines and storage facilities, have to be developed
- ii) Investment — Adequate policy support is needed to enable higher investment from private sector. Greater de-regulation is needed, along with financial incentives.
- iii) Innovation — Research and development is of utmost importance to achieve not just technology

deployment, but development.

In this context, the recent HELP Policy must be lauded, for it is bound to improve the exploration of our minerals. It gives greater say to the businesses, and strives to facilitate ease in doing business in this sector.

Also, the state is incentivising industries - public and private - to invest in more efficient and environment friendly technology, for production purposes.

Lastly, as per NITI Aayog Draft Energy Policy, it is also important to corporativise subsidiaries of big PSUs like CIL, so that they may compete against each other.

Overseas engagement in mineral reserves is also of prime importance.

20. The location of fertilizer plants is closely related with location of oil refineries and coal producing areas. Elaborate. Also, account for the setting up of fertilizer plants nearer to consumer centres such as in Uttar Pradesh.

(250 words) 15

उर्वरक संयंत्रों की अवस्थिति, तेल शोधन संयंत्रों और कोयला उत्पादक क्षेत्रों की अवस्थिति से घनिष्ठ रूप से संबंधित है। सविस्तार वर्णन कीजिए। साथ ही, उपभोक्ता केंद्रों के निकट उर्वरक संयंत्रों की स्थापना (जैसा कि उत्तर प्रदेश में है) का सविस्तार कारण बताइए।

The location of fertilizer plants is attributed to the following key factors -

- i) Availability of methane - Methane is needed for producing ammonia, by which Nitrogen-based fertilizers like urea are made. ~~Thus~~ As oil refineries, gas stations and coal producing areas, all produce methane directly or as a by-product, fertilizer plants are set up near them.
- ii) Availability of naphtha - Naphtha is a key ingredient, which is found in petroleum.

iii) Market proximity - The biggest consumers are the farmers and agriculturalists. Hence, in India, fertilizer plants are set up in states like UP, Haryana and Punjab. The farmers here, due to historical reasons, chiefly the Green Revolution, are more reliant on fertilizers. Also, the state offers subsidies to the industry, due to the importance of agriculture in our economy.

Thus these factors explain the location of fertilizer plants generally, as well as in India.

1052

VISION IAS™

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