



# VISION IAS™

www.visionias.in  
www.visionias.wordpress.com



## GENERAL STUDIES

Name of Candidate

Test Code

Schedule

Registration No.

Place  Time

Module

Classroom  Distance Learning

Classroom & Distance Learning

### EVALUATION INDICATORS

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

### INDEX TABLE

Q.No.	Page No.	Maximum Marks	Marks Obtained
1.	1-9		
2.	10-17		
3.	18-23		
4.	24-33		
5.	34-36		
6.	37-39		
7.			
8.			
9.			

Total Marks Obtained

Remarks:

Signature of Examiner

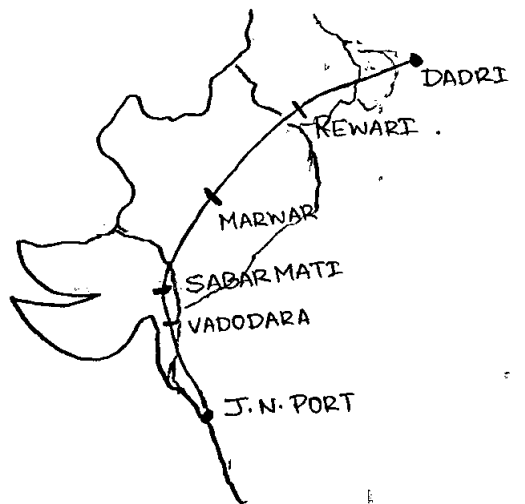
### INSTRUCTIONS:

1. Do furnish the appropriate details in the answer sheet (viz. Name, ID Number and Test Code)  
The Candidate should fill the index table, especially for him/her.
2. In the left margin, she/he should write only question number and in the right margin, nothing should be written.
3. The page number should be coded by the candidate himself and the range of page number related to the answer of the question should be used to complete the index table.
4. All Parts of the questions should be written at one place.
5. No Supplementary sheet shall be provided by the management. So the candidate is advised to accommodate required information within the space provided.
6. The candidate need not write anything in his/her answer that derogates the dignity of an individual or an organization.
7. The candidate should respect the instructions, given by the invigilator.
8. The Examinee has to submit the answer sheet to the invigilator after completion of examination.
9. However, he/she is allowed to take away the question paper.

14 July

1-a)

The Delhi Mumbai Industrial Corridor Project is a US dollars 90 billion infrastructure project. It runs 1483 km and connects the national capital to the financial capital. The industrial corridor runs through 6 states: Maharashtra, Gujarat, Rajasthan, Haryana, National Capital Region of Delhi and Uttar Pradesh.



The corridor is supported financially and technically by Japan. The two end terminals are Jawaharlal Nehru

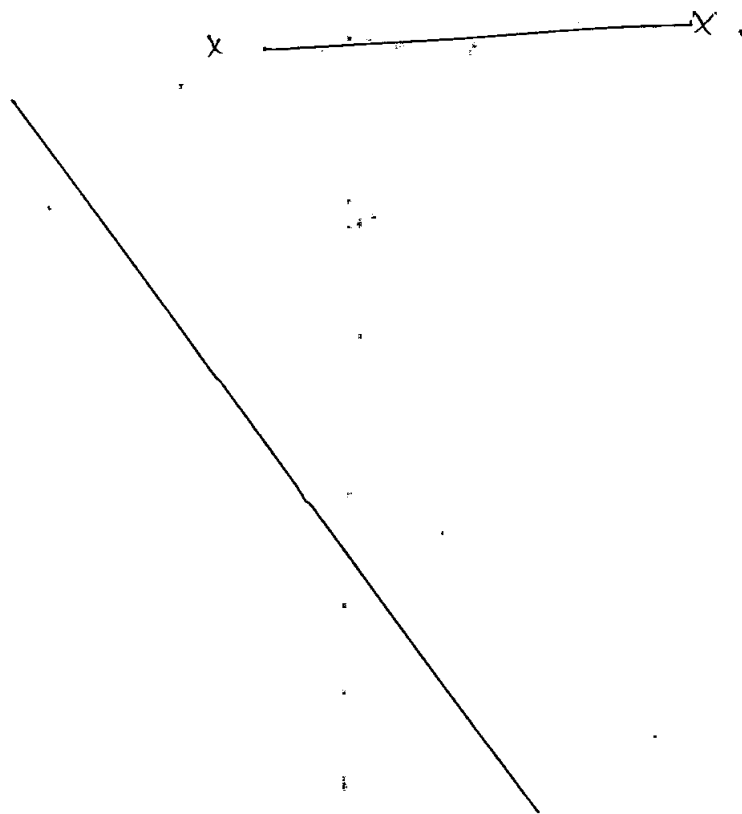
Port and Dadri. This corridor is to have high speed connectivity via high speed freight connection, highways, airports.

The key challenges for this project is maintaining long term finance. The DMIC project is being funded both by India and Japan. Land acquisition has turned up as reasonable challenge as well as getting approvals from State government.

Mega project such as this which consists of industrial zones, airports, new cities, ports require planning which needs strict adherence to. The project already has been delayed to 2017. Displacement of people and loss of livelihood are some challenges being faced ~~to~~ by this project. Creation of new cities requires immense planning.

P. T. O

The Indian manufacturing scenario has been seeing a bleak future due to the economic downturn. This project will double employment, triple industrial output and quadruple exports thus changing the whole scenario of manufacturing industry in India.



1c)

The environment impact assessment is an exercise carried out before any project or major activity is undertaken to ensure that it will not harm the environment on a short term or long term basis. The aim is to ensure that potential impacts are identified and addressed at an early stage. The state of environment impact assessment has come under criticism for its incompleteness and lack of involvement of local people in their assessment. The environment impact assessment but has also put a check on indiscriminate exploitation of environmental resources.

There has been criticisms from industries on lack of consideration of environment impact assessment by the environment ministry even if they have given favourable report. The value of environment impact assessment has been

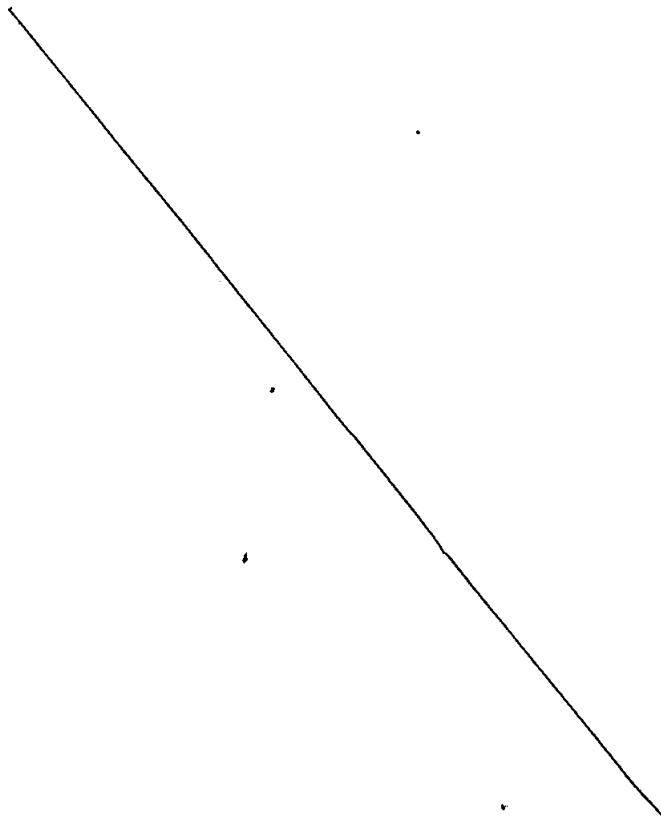
Summed up by J.R. Ramush former minister of environment by stating that it lacks accountability and transparency.

- Steps that can be taken up to improve EIA are
- Increase the amount of allocated and spent for preparation of EIA. Presently it does not even amount to 0.1% of project.
  - The EIA committee to be selected by the government which includes the consultative group to be involved which prepares EIA.
  - Inclusion of small scale industries for EIA
  - Team to conduct EIA should contain a social scientist as a member, as the social impact is never considered.
  - Public comments and involving local people for discussion to be included in EIA
  - An accreditation system for EIA numbers.

- Details regarding effectiveness and implementation of mitigation measures to be provided.
- Reports based on single season data not to be considered.

Thus these are some of the steps that can be used to improve EIA reporting.

x ————— x ,



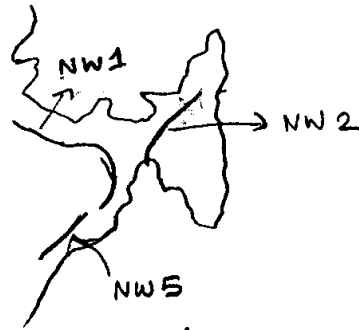
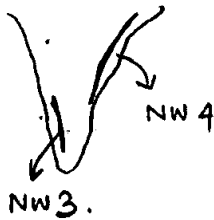
1d)

The national waterway plays an important role in regional development. It helps in interconnecting regions and provides an alternate mode of transport. By building inland ports, trade and commerce increases with an increase in infrastructure of that region. Tourism also plays an important role in regional development due to waterways. This has been efficiently exploited in Kerala.

The state of inland water transport in India has not yet reached its full potential. Out of 14,500 km of navigable waterways comprising rivers, canals, backwaters and creeks only 3700 kilometres of major rivers are navigable and only 2000 kms are being used. Only 900 km of canals are navigable out of which 300 kms are



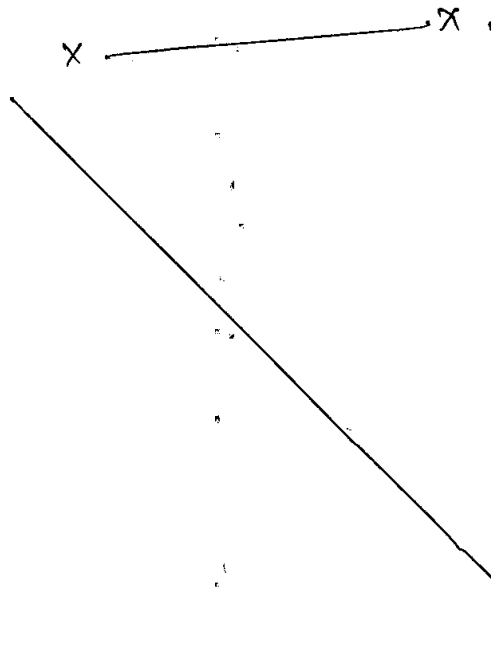
actually being utilised. The operation of inland water transport have been restricted to a few ~~one~~ rivers such as Ganga-Hooghly, Godavari-Krishna, Brahmaputra, Barak rivers, rivers in Orissa and backwaters of Kerala.



The government has created 5 national highways waterways to increase inland water transport. Allahabad-Haldia stretch of Ganga-Hooghly (NW-1), Sadiya-Dhubri stretch of Brahmaputra (NW-2), Kottapuram-Kollam stretch (NW-3), Kakinada-Puducherry stretch (NW-4), Talcher-Dhamra stretch (NW-5).

Recent steps taken by government to improve ~~inland~~ water transport are proposal for 6th national waterway

from Lakhimpur to Bhanga of river Barak.  
Subsidy scheme for inland ship vessel  
building that is applicable for both  
cargo and passenger. Distribution of  
funds to State government for develop-  
ment of inland water transport. Creation  
of Inland Water Transport Development  
Council for increased interaction between  
State and Centre. Develop NWA and  
S by public private partnership with  
viability gap funding. Thus these are  
few of the steps taken by government  
to improve water transport.

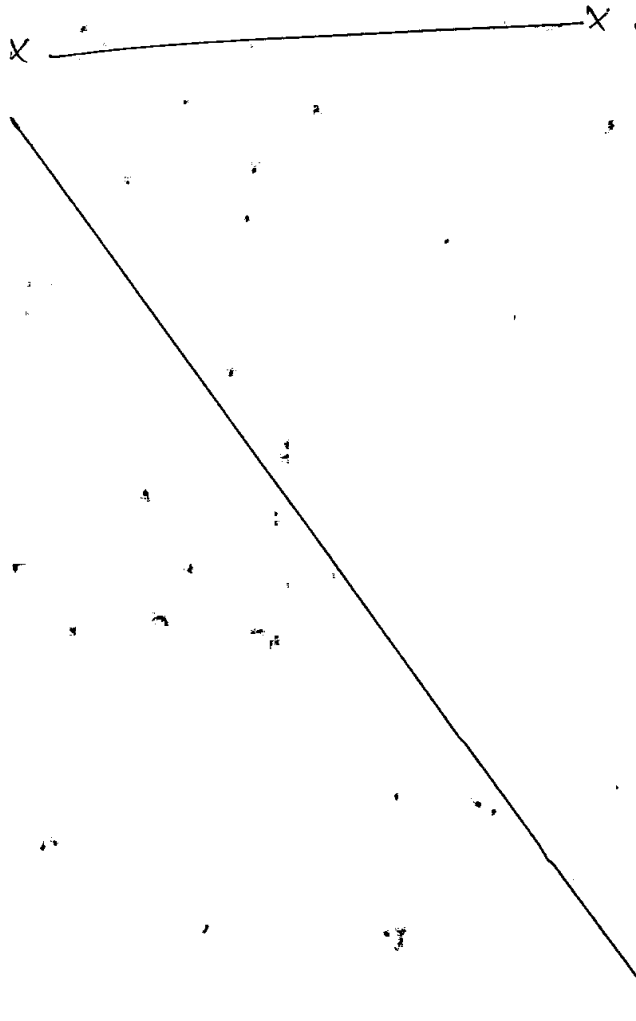


Qa)

Coal is aptly called 'Black Gold' because of its overwhelming industrial use. It is mainly distributed in regions of Gondwana land and tertiary <sup>period</sup> rocks. Around the world United States of America, China, India and Russia are the top producers of coal. In India the rock formations of the Gondwana period account for the overwhelmingly large shares of total reserves as well as production. The peninsular region rocks represent these rocks. Tertiary period rocks distributed in north east region.

The Coal crisis in India at present is due to shutdown of coal mines due to illegal mining in Karnataka and Goa. Delayed clearance to various projects due land acquisition problems. Environment clearance has been considered also a major factor in delay in coal production. Industrial houses have

also been blamed for buying coal mines and waiting till prices to shoot up. The production of Coal India limited has become stagnant with very little growth in production. The private players has been showing negative growth.



2b)

The three major methods of irrigation in India are

- Well irrigation (W)
- Canal irrigation (C)
- Tank irrigation (T)



Wells and tubewells are the most important means of irrigation in areas of high water table and plain topography. It is also most widely distributed among all means of irrigation in India. Indo-Gangetic plain, Mahanadi, Godavari, Krishna, Cauvery deltaic regions are suitable for well irrigation. It accounts for 45% of net irrigated area.

Canal irrigation accounts for 40% of net irrigated area. Uttar Pradesh, Haryana, Punjab, Andhra Pradesh are irrigated by canals mainly. Physiographic condition for canal irrigation is flat or plain topography.

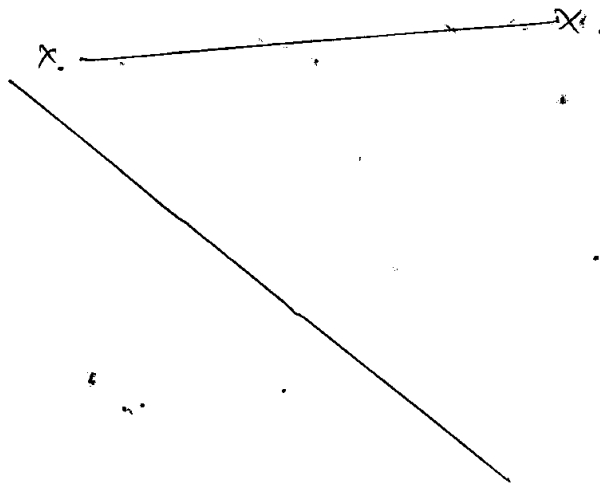
Tank irrigation is mainly practised in peninsular part of India. It uses surface water resources. West Bengal, Tamil

Nadu, Orissa have ~~new~~ tank irrigation. This form has been declining.

Major initiatives taken by the government to increase irrigation cover are.

a) Bharat Nisman: Irrigation is one of the six components of this programme. Aim is to cover 8.5 <sup>million</sup> hectares for next two years, 1.7 mha each.

b) Accelerated Irrigation Benefits Programme: Central government gives loan assistance to state government to complete minor/major irrigation projects.



Q. (e)

Due to climate change alternate energy has come into prominence. India has been selected as 3<sup>rd</sup> most attractive region for investments in renewable energy.

Solar energy:

India has high solar insolation for about 300 sunny days in a year. This if harnessed can generate 5 Petawatt hour/year. India has already started by ~~the~~ implementing Jawaharlal Nehru National Solar Mission.

Wind energy:

Development of wind power started in 1990's in India. India has installed capacity of around 15,000 MW with Tamil Nadu leading the race. A target of additional 10,500 MW from 2007-2012 has been aimed.

Geothermal energy:

Energy obtained from hydrothermal, magma, hot dry rocks,

geo pressurised brines : Potential of around 10,600 mw has been identified.

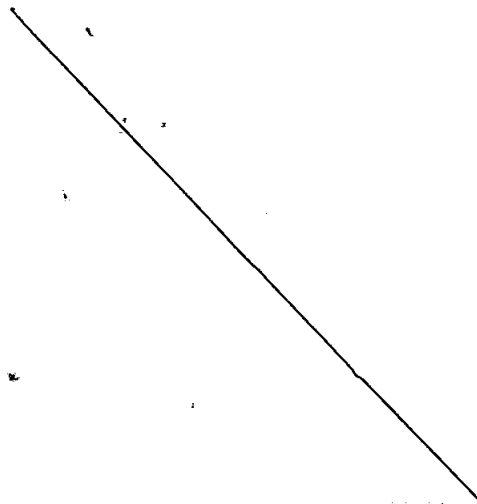
Biomass energy :

India at present producing 1 gigawatt with Rajasthan leading producer. A potential of 35,000 mw has been estimated. India plans to increase it by 10 <sup>0</sup>mw.

Tidal Energy :

Economic tidal potential around 8000-9000 mw has been estimated. ~~1st~~ South asia's first tidal plant to come up in Gujarat.

X ————— X





2 (F)

Water harvesting is a process of collecting and storage of water with help of artificial designed systems that run off man-made or natural catchment areas.

Factors contributing to growing need for water harvesting are

- Increasing rate of population in both urban and rural region has ~~the~~ created increased demand on water resources.

Thus water availability per capita is reducing.

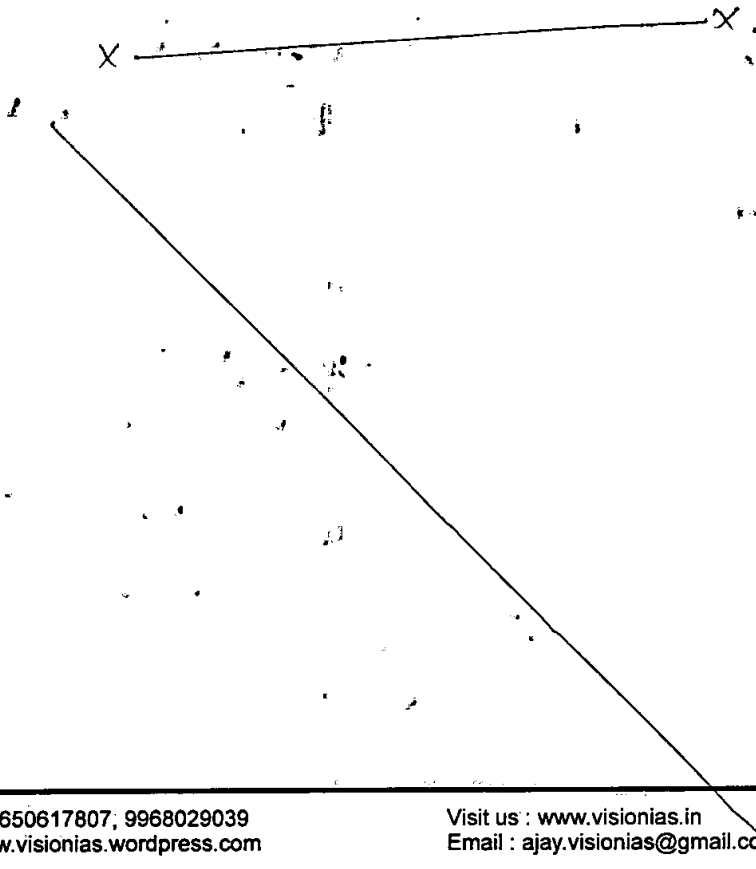
- Agriculture is the largest user of water but industrial usage has the fastest growth in water usage.

- It ~~is~~ has financial sense in water harvesting as payment for water services can be taxing for industries economically.

- Ecologically water harvesting makes more

is more relevant as decreased use of water from water bodies saves various species.

- Increase in pollution in many water sources has led to water harvesting creating a source for unpolluted water.
- In drought prone regions water harvesting <sup>can</sup> play an essential role when monsoon shows its erratic behaviour.



B. a)

The Durban conference was a triumph for European diplomacy. European nations had offered a second commitment to the Kyoto protocol in exchange for a roadmap that would provide towards a legally binding agreement on mitigating global warming which is to be signed by all nations. This agenda was realised by formation of an ad hoc group on Durban platform for enhanced action which is charged by producing a suitably ambitious legal instrument by 2020. This was supported by European Union, Small islands, Brazil and South Africa. India and China became isolated and there was failure in their diplomacy as responsibility based sharing basis was not

accepted by in the conference. Thus  
European diplomacy had a triumph  
in the Durban conference.

x \_\_\_\_\_ x

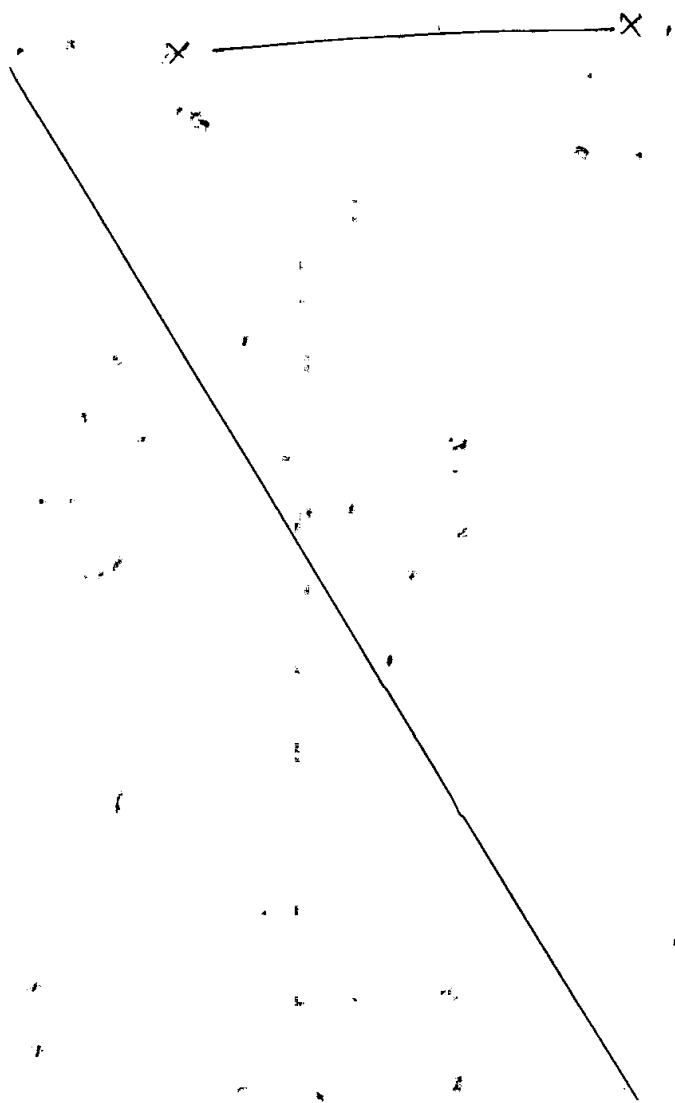
A long diagonal line is drawn across the page, starting from the top left and extending towards the bottom right.

3 b)

The Western Ghats Ecology Expert Panel is headed by Madhav Gadgil. The panel endorsed that entire Western Ghats to be considered eco sensitive. But due to social, economic and political reasons the a three layer approach suggested - ES1, ES2 and ES3. Some of the other recommendations are.

- Strictly enforce air and water pollution acts.
- Empower local bodies like panchayat to take decisions on environment
- Enforce Forest Right Acts.
- Put in place Biodiversity Management committee.
- Reform environmental clearance process
- Organise Biodiversity Information System.
- Facilitate freedom of expression and assembly of persons based on environment
- Initiate registration of crop cultivators.

- Enhance scope of environment in regional development plans.
- Promote full access to all pertinent information thus bringing out transparency and accountability.



3(d)

Conference of Parties 11 biodiversity meet scheduled in 2012 is to take place in Hyderabad, India.

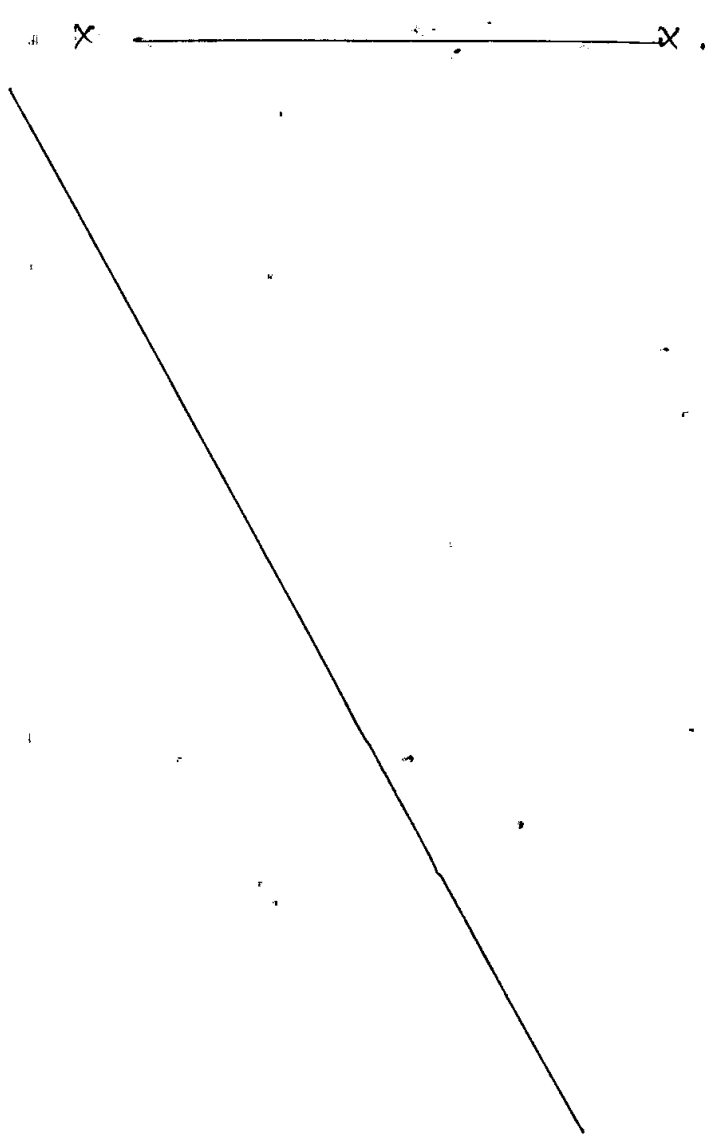
Main issues to be discussed are

- a) biodiversity and livelihood
- b) coastal and marine biodiversity
- c) integration of biodiversity in planning and accounting.
- d) Strategic mobilization and
- e) operationalisation of Nagoya Protocol.

This meeting will look into translating overall international framework into national biodiversity strategies and action plans. Focus will be on implementing 2011-2020 strategic plans and discussing progress made towards achieving Aichi Target.

COP 11 takes place during the United Nations decade of biodiversity.

The convention on Biodiversity is ~~set to~~ said to stand apart as it is the only environmental convention at the heart of human being :





4. b)

A biodiversity hotspot is a biogeographical region with a significant reservoir of biodiversity that is under threat from humans. Term originated from Norman Myers.

There are two biobhot biodiversity hotspots in India:

a) Eastern Himalayas:

These are rich centres of primitive flowering plants. This area <sup>is</sup> called 'Cradle of Speciation'; 63% of land mammals in India are seen here as well as more than 60% of avian diversity are also seen.

b) Western Ghats:

This area spread out to 6 states. It has high endemism to amphibian and reptile species. Recently it has been awarded world Heritage Status.

A(d)

Rural tourism focuses on participating in a rural lifestyle. It can be a variant of ecotourism.

As land gets more segregated as time passes there is increased pressure on the land as well as there is exodus to urban regions for better lifestyle. As Rural tourism can act as a game changer in this scenario.

It creates an alternative source of income. Due to rural tourism there is sustainable livelihood, poverty alleviation, upliftment of rural artists, protection of heritage sites, improvement in rural infrastructure. It also reduces absolute dependence on agriculture.

Rural tourism gives better image and quality of life to rural dwellers thus creating inclusive and sustainable development. Eg Examples are

Kerala - Kalady village famous for Spices.

Bihar - Nepura village famous for Tussar Silks.

4(e)

Southern Oscillation refers to variation in temperature on surface of tropical eastern pacific ocean and air surface pressure of tropical western pacific ocean.

Tropical cyclone is a storm system characterised by a low pressure centre and numerous thunderstorm.

Southern Oscillation causes shift in wind and pressure zone thus creating a vortex where tropical cyclone occurs.

Tropical Intensity of tropical cyclone is based on variation of temperature. An El Niño Southern oscillation occurs roughly every 5 years. In India tropical cyclones are usually seen from April to December. It is mainly seen off the coast of Bay of Bengal.

Last tropical cyclone to hit India is Thane cyclone which occurred in December 2011.

4(B)

Islands of India are many in number with Andaman Islands, Nicobar Islands, Lakshadweep group of Islands, Moore Island to name a few.

Economic implications:

These islands are considered paradises of natural beauty and hence have tourism significance. They also can be used as port stops.

Cultural implications:

Due to isolated nature of islands the islanders have distinct cultures. Some of the indigenous tribes are Jarawa tribes etc.

Ecological implications:

Due to their isolated nature many endemic species are present which are distinct for such islands.

Strategical implications:

Due to their positions at the head of Indian Ocean, they have strategic importance for the protection of the mainland.

4(g)

Environmental concerns are re-shaping international relations. India's bilateral relations with each neighbour has specific complications.

China and India who consider each other as rivals in many spheres has come together in relations with their views on environment. There has been unusual strong bond seen between the two countries seen in all forums based on environment.

India recently signed pact with Pakistan, Nepal and Bhutan on protection of Snow Leopards. Many of India's neighbours have considered India as a leader to represent their ideologies of a developing nation in many international forums.

→ Thus environment has reshaped many international relations.

A(h)

Dry land Agriculture is an agricultural technique for non-irrigated land. Here rainfall is less than 500mm.

Due to the erratic monsoon dryland agriculture can benefit farmers economically. This can be easily seen in shift of ~~farmers~~ <sup>crops by</sup> production of farmers from water intensive crops like paddy to dryland crops like coarse cereals, oilseeds during the present monsoon season.

The problems with dry farming is increased stress on water in an already water tight situation. Ability of farmers to keep crop plants alive is not easy. Economic returns is doubtful as due to water scarcity.

In India most of the area receiving an annual rainfall of less than 80 cm is considered zone of dry cultivation.

4(i)

Green Chemistry is also called Sustainable chemistry. It is a philosophy of chemical research and engineering that encourages design of products and processes that minimises the use and generation of hazardous substances.

It applies to all forms of chemistry. Nobel prize for chemistry in 2005 for creation of metathesis is considered an example of green chemistry. It was coined by Paul Anastas.

Its basic philosophy - In minimising generation of hazardous substance involves principle of sustainability. Its principle of designing energy efficient processes design of processes of maximum usage of <sup>single unit</sup> raw material, and best form of waste disposal helps in creating a sustainable environment.

It is distinct from environmental chemistry.

40

Dead water zones are regions mainly in coastal waters of oceans or seas where there is decreased level of oxygen in water due to increased plankton or algal growth, this leads is due to increased nitrogen level in the water.

Main causes can be natural or anthropogenic. Natural causes are wind change, coastal upswelling and water circulation patterns. Manmade causes are due to increased usage of nitrogen rich fertilizers and sewage discharge into ocean.

Steps that are taken to prevent formation of dead water zones.

- i) Promotion of organic farming.
- ii) Decreased usage of ~~nit~~ fertilizers with strict enforcement.
- iii) Increased planting of vegetation in coastal areas.
- iv) Proper sewage treatment, ~~setup~~ plant.
- v) Monitoring system for early detection and to start mitigative measures at the earliest.



4(l)

E-waste is described as discarded electrical or electronic devices. UNEP report states that e-waste to increase by 500% in next decade especially in India.

India's steps to meet the challenge of e-waste are. E-waste (Management and Handling) Rule 2011. Its aim is reduction in use of hazardous substances in electrical and electronic equipment by specifying threshold for us.

Extended Producer Responsibility also another step taken by India where the producer of electrical and electronic equipment is given responsibility of managing such equipment after its end of life.

Only 15-20% of e-waste are recycled, rest are incinerated or landfilled.

4(a)

Solid waste management is collection, transport, processing or disposal, managing and monitoring of solid waste material.

The three main methods of disposal are landfill, incineration and recycling. In most developing countries landfill and developed nations landfill is mainly used.

For a landfill an isolated space is required which lies mainly at the periphery of the city. An improper landfill which is the case in many developing nations there is windblown litter, attraction of vermin and generation of liquid leachate. Odorous gas also emanates due to anaerobic reaction.

Thus in many cases solid waste management in cities is impossible without destroying the periphery of the city.

5. (a) Project AICOPTAX:  
All India coordinate Project on Taxonomy. It envisages establishment of centres for research in identified priority gap areas in the field of taxonomy and strengthening of zoological survey of India and Botanical Survey of India as coordinating agencies. Project started by Ministry of Environment and Forestry.

5. (b) Significance of census marine life.

- (i) It is the first ever census ever been carried out on marine life.
- (ii) Distribution of marine life and its abundance for the first time has been carried out.
- (iii) Through this census marine hotspots can be identified.
- (iv) Deep sea life has been for the first time accounted for.
- (v) This census helps in maintaining sustainability in fishing.

5(c)

Artificial leaf is based on artificial photosynthesis where carbon dioxide and water is used to create oxygen and in this case instead of carbohydrates energy is created. There has been shortage of energy in many countries due to short exhaustion of coal reserves, sky rocketing prices of fuels, fear of nuclear unreliability in nuclear energy. This energy created by principles of biomimetics act as an alternate and clean source of energy.

5(e)

### Green Economy Initiative...

This initiative was thoroughly discussed in Rio Summit, 2012. Green Economy is based on sustainable development and ecological economy. It is the direct valuation of ecological services and natural capital. It is based on 6 main sectors (i) renewable energy, ii) Green building, iii) clean transportation, iv) land management, v) waste management and <sup>(vi)</sup> water management. Goal of green economy is to build green societies.

5(g)

Stainless steel <sup>has</sup> a sleek, elegant elegant surface, great strength, long service life and excellent environmental credentials. It is one of the few alloys that are 100% recyclable. It can therefore be melted time and again and reformed into a new product each time. This is why stainless steel called a 'Green Alloy'

5(h)

Dieselization of private motor transport is ~~or~~ defined as the increasing use of diesel by private motor transport ~~in~~ as opposed to petroleum. ~~Vehicle~~ Cars amount to 40% ~~of sales~~ of total sales which are diesel based. Diesel use growth has been increasing by 6.4% whereas others like petrol are stagnant with respect to private vehicles. There has been high-growth in SUV vehicles which are diesel based. This occurs mainly due to the subsidised rate of diesel when compared to costlier petrol.

6a) Energy Conservation Building Code was launched by ministry of Power as a step towards promoting energy efficiency in building. Energy Conservation Building Code compliant building saves 40-60% of energy compared to other buildings.

6b) CAMPA :  
Conserve Compensatory Afforestation Management and Planning Authority. It is the custodian of compensatory afforestation fund and manages funds towards afforestation. Chairman of authority is minister of Environment and forests.

6d) SEED initiative.  
Global partnership for action on sustainable development and green economy. Founded by UNEP, UNDP and IUCN in Johannesburg Summit 2002. It offers two main types of tools & supports ⇒ resources and tools.

6 e)

ECOTONE :

It is the transition area between two biomes or two different landscapes. It can be local (zone between field and forest) or can be regional (zone between forest and grassland). It may produce a sharp boundary.

6 (f)

Ecological footprint :

It is a measure of human demand on earth's ecosystem. It is the amount of the biologically productive land and sea necessary to supply resources a human population consumes and to assimilate associated waste. In 2007 footprint calculated 1.7 times Earth.

6 (g)

X. ————— X

P.T.O.

6(g) Biomes :

It is the largest recognisable sub-division in a terrestrial ecosystem. It includes total assemblage of plant and animal life interacting with the biosphere. 5 major biomes identified are (i) Forest biome (ii) Savanna biome (iii) grassland biome (iv) desert biome and (v) tundra biome.

6(h) Geo-traces:

It is a scientific project with goal of studying how climate change affects ocean chemistry. It was launched in 2008. They need to generate baseline distributions of several trace elements and their isotopes so that effects of human activities on these concentrations can be identified.

x ————— x.



Question No.  
(प्रश्न संख्या)

# VISION IAS™

Don't write  
anything this  
margin  
(इस आकार में  
कुछ न लिखें)

Call us : 9650617807, 9968029039  
Blog : [www.visionias.wordpress.com](http://www.visionias.wordpress.com)

Visit us : [www.visionias.in](http://www.visionias.in)  
Email : [ajay.visionias@gmail.com](mailto:ajay.visionias@gmail.com)