VISION IAS

www.visionias.in

GENERAL STUDIES (TEST CODE : 845)

Name of Candidate	VARUN S		
Medium Hindi/Eng.	Eng	Registration Number	23384
Center	ORN	Date	21/9/2016

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	12.5	
2	12.5	
3	12.5	
4	12.5	
5	12.5	
6	12.5	
7	12.5	
8	12.5	
9	12.5	
10	12.5	
11	12.5	
12	12.5	
13	12.5	
14	12.5	
15	12.5	
16	12.5	
17	12.5	
18	12.5	
19	12.5	
20	12.5	

Total Marks Obtained:

Remarks:

Signature of Examiner

INSTRUCTIONS

1. Dc furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
2. There are TWENTY questions printed in ENGLISH.
3. All questions are compulsory.
4. The number of marks carried by a question/part is indicated against it.
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 that the authorized one.
6. Word limit in questions, if specified, should be adhered to.
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.

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

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

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 समन्याओं की चर्चा कीजिए। इस समस्या के हल हेतु उठाए जा सकने वाले कुछ कदम सुझाइये।

SOIL PROFILE of N-E INDIA

- Red & Yellow Soil
- Forest Soil
- ALLUVIAL Soil

3 main types of soil found in NE India are written above - of these ~~three~~ 3 the soils are used for some specific crops like forest soils are used for — TEA
Alluvial soils for Rice & grains; Red & yellow soil for cereals & other crops.

The soil management in NE India has the following factors

- SOIL DEVELOPMENT
- Time.
- Parent Material
- ORGANIC MATTER
- TERRAIN & TOPOGRAPHY
- CLIMATE

Above factors are discussed below with specific problems faced by NE India

1) TIME – essential for soil profile development

Problem: – ↑ erosion + flood → ↓ Time → ↓ soil profile Development

2) TERRAIN & TOPOGRAPHY → soil profile + soil stability

Problem – steep slope → ↑ erosion → ↓ thin soil profile.

3) PARENT ROCK – texture + colour

Problem → highly susceptible to erosion with floods

4) CLIMATE – Humus + texture

Problem → Rains ↑ → ↑ leaching → ↓ humus

5) ORGANIC MATTER → Humus + moisture.

Problem → ↓ organic matter →

↓ Humus + ↓ organic matter.

OTHER PROBLEMS

1) Frequent floods → ↑ erosion → ↓ soil development.

2) Steep slope → ↑ erosion + crop loss + ↑ difficulty in cultivation.

STEPS TO COUNTER PROBLEM

1) Contour Bunding - Bunding around the contours. → ↓ flooding & stops flow of water.

2) Terrace farming → Making terraces along the hill slope → ↓ run of water → ↓ erosion.

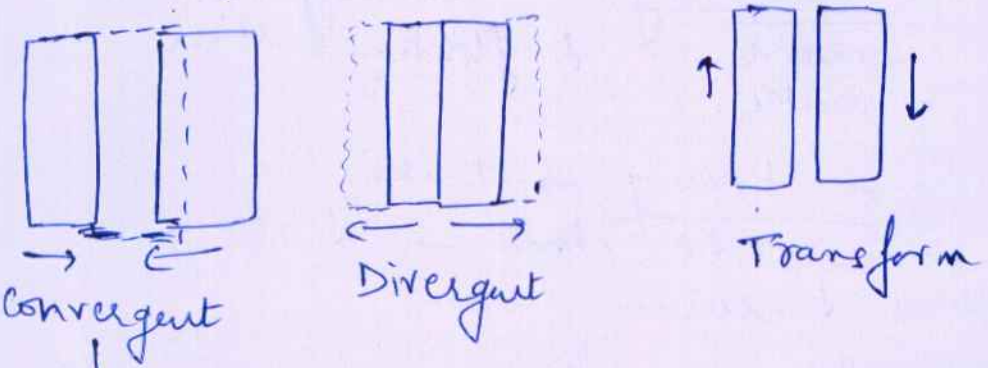
3) Strip farming - farming in b/w strips of grass or contours → ↓ flow of water

4) Check Dams → Creating check dams using boulders → ↓ stop water flow + divert

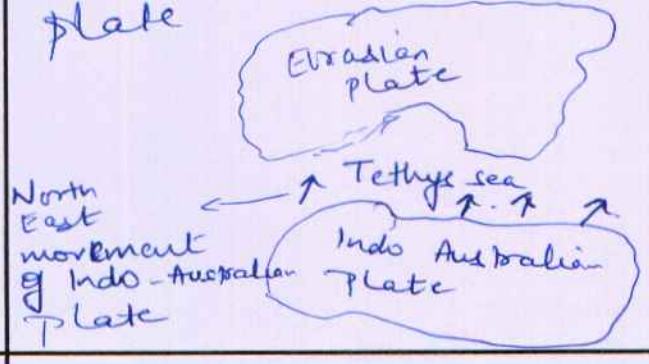
2. How does the plate tectonics theory help explain the formation of Himalayas and Deccan Traps?
प्लेट विवर्तिनिकी सिद्धांत किस प्रकार हिमालय और दक्कन ट्रैप्स के निर्माण की व्याख्या करता है?

PLATE TECTONICS → Earth made up of 7 major + some minor plates which float over the mantle & causes endogenic forces to build up & deface Earth's surface

3 types of plate morts



HIMALAYAS → Convergence of Indo Australian plate with Eurasian plate



EVOLUTION

Pangaea → Gondwana Land → Eurasia + Indo Australian.

When Indo-Australian Plate hit ~~Gondwana~~ Eurasian Plate → Tethys Sea & the sediments were created → further N-E part of Indo-Australian plate → rose the sediments to form the Young FOLD MOUNTAIN SYSTEM called HIMALAYAS

3. Inspite being one of the largest producer of fish, there is still considerable scope of improvement in the fishery sector. In light of the above statement, discuss the problems and prospects of 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।

Culturally, Economically & Internationally India's fishing industry is very important. being one of the largest fishing sector of the world, India's fishing industry cater to.

1) Consumption needs (Daily Dietary)
2) Export business (exotic + regular species)
3) Medical needs (fish oil + Omega 3 + Asthma treatment)

FISHING
- INLAND - more than 60% (freshwater)
- MARINE - less than 40% (salt water)

PROBLEMS

Fishery Industry today is facing multifaceted problems in the wake of open regimes & capitalistic ventures taking over the space →

1) SMALL fish farmers VULNERABLE
- working @ the mercy of big players → ↓ capital + ↓ risk taking capacity

2) TECHNOLOGY → low tech used in Indian fishing sector make us only use potential from 0-200 meter ⇒ ↓ deep sea fishing

3) OPEN SEAS - facing competition from foreign companies with ↑ tech & mechanised trawlers

4) POLLUTION ↑ → ↓ fishery development & ↑ depletion of resources.

5) AQUA CULTURE → ↑ Aqua Culture → Artificial breeding → ↑ toxicity + ↑ pollution.

6) LOGISTICS → ↓ logistics development ⇒ ↓ quality + Perish ↑.

SCOPE & STEP FORWARD

There is a huge scope in developing Both Inland & marine fisheries.

INLAND

1) lowering pollution → ↑ yield.
2) Effective logistics → ↑ serving of inland areas away from fisheries.
3) Development of sustainable channels.

MARINE

MEENA KUMARI COMMITTEE on Marine & deep sea fishing has given following recomendations.

1) ↑ Deep sea fsing → beyond 500 m deep
2) discourage — 0-200 m & 200-500 m fishing
3) ↑ Technology + ↑ mechanised Trawlers.
4) Sustainable Development → Cautiously use resources so that it does not deplete for future generation

4. 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।

HOT DESERTS → DRY (low water) ← Heat ↑
eg Cactus.

COLD DESERTS → DRY ← ↑ COLD
eg Acacia.

SALINE AREAS → ↑ SALT CONTENT IN WATER → ↓ WATER CONCENTRATION → DRY
eg Mangroves

So, the one common factor in all 3 types of vegetation is susceptability to survive in Dry regions. The plants in different ecosystem does it in different ways —

1) Succulent stems & leaves

The stems & leaves are succulent & thus saves water by ↓ evaporation & transpiration.

2) Small leaves (especially in cold regions)
small size → ↓ surface area → ↓ heat penetration → ↓ water loss

3) WAX COATING on leaves & stems
Wax coating makes a shield for the water stored inside & make it difficult for leaves to lose water. Wax coating also helps in repelling cold weather

4) SPIKES → some plants like Cactus have spikes instead of leaves which helps in almost no loss.

5) Long roots — long roots reaching groundwater replenishes the water in these plants

6) Alternative Photosynthesis
some plants saves sun energy in the day but carry Photosynthesis in the night instead when there is ↓ heat ⇒ ↓ transpiration

5. 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

Very useful industry for building & infrastructure development. The industry is a secondary industry with ↑ chemical inputs. It is also a ↑ polluting industry.

Although a RAW MATERIAL specific industry, the market for cement industries exist almost everywhere in India.

FACTORS FOR ITS LOCATION

1) RAW MATERIALS

↑ use of chemicals → Calcium Carbonate $CaCO_3$ + limestone + lime.

∴ such industries need to be placed where there are source of such chemicals

2) CHEAP LABOUR

labour intensive → need of cheap labour.

3) POLLUTING INDUSTRY → highly polluting therefore to be set up in outskirts & away from living areas.

4) Logistics → Cost of Transport matters a lot in cement industries therefore it can be set up near a building sited or infra development project.

5) LOCATION OF OTHER BUILDING MATERIALS
It has a tag of Cat Goodwill thus is placed near the ancillary industries such as sand, stones, bricks etc. where cement can be developed into building mixture easily.

DISTRIBUTION IN INDIA

Distribution in India is governed by the above factors such as Haryana where due to ↑ infra development near Gurgaon & Sonepat such industries are rising.

All along the industrial corridors such as DMIC - Delhi Mumbai Industrial Corridors - Cement industry are functioning & mushrooming.

GROWTH

⇒ With the growth of India — India Shining → the cement industries are developing → all along the Golden Quadrilateral - where cement is extensively used for building cemented roads

⇒ Rising Infra^r development → ↑ building → ↑ tech parks → ↑ residential complexes → ↑ bridges ↑ highways + ↑ metro → Cement industry in India is ever growing & rising

6. 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 acheive 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।

Digital Revolution in India has fostered the growth of Electronics in India in almost all landscapes -

- e-mail
- e-governance
- e-post
- start ups
- e-learning
- e-commerce
- e-business
- e-retailing
- entertainment
- communication

Each of the electronic landscape needs electronic hardwares & devices → ↑ >> for electronics

With increasing scope >> efficiencies in electronics such demand in India is ever rising with ever rising Population & its dd.

But

Demand ≠ Supply & manufacturing

1) Outsourcing - Most of the products are made in other countries &

especially China, which are then only traded in India.

2) Assembly only & not manufacturing

India outsources parts from outside the country & does only assembly here in India.

3) CHEAP MANUFACTURING → Manufacturing in Korea, China, Japan is cheaper than India due to economics of scale & govt incentives

4) ↓ R&D → ↓ innovation

India spends ↓ R&D while Korea spends 7.5% of GDP in R&D of which 80% is done by Pvt Sector

5) ↓ Tax Incentives

Tax Incentives for innovation & electronic industries in India are low.

6) POLICY FAILURE

On the front of technology & electronics India's Policy have been a failure there is a need for homogenous policies which will foster creation of brands like Samsung, LG, Apple etc.

MEASURES TO TARGET NET ZERO IMPORTS by 2020

1) POLICY → ESDM → Electronic System, Design & Manufacturing Scheme — which was launched by India was a steps in right direction which help in homogenous development of industry from manufacturing to handling of e-waste

2) Incentives — Tax incentives, SOPs, technoparks + Industrial Corridors

3) START-UPS — Pushing electronic startups like Micromax etc by seed funding + Incubation.

4) One stop clearances → Environmental + Industrial clearances.

5) R&D — ↑ expenditure on R&D both by govt & Public + Pvt enterprises

6) Scientific Temperament + Education (Tech)

⇒ Emphasis on Quality.

7. 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।

Agro forestry ⇒ Agriculture + forest

managing agriculture + forest together by the community for forest produce + gathering + some crop grown is called Agro forestry

Mainly – Non Timber Forest produce (NTFP) such as Bamboo, fruits, clove, Vegetables, herbs etc are grown, cultivated & consumed.

BENEFITS

1) MIDDLE PATH APPROACH → Cultivating a piece of land w/o removing forest. Cultivation helps to provide daily essentials while forest keeps environment & cultivation sustainable.

» FOOD + NUTRITION + ENERGY

forest + Agriculture provides fruits + vegetables + herbs of high nutritive value → supplementing dietary requirements of people living around

3) FUEL + ENERGY

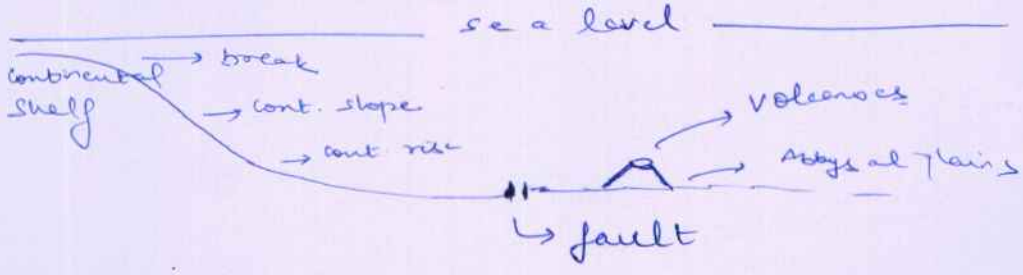
The non timber fuel + timber fuel obtained can be used for fire + heating + other fuel requirements

4) ENVIRONMENT + SUSTAINABILITY

Agriculture w/o harming nature is the best culture – The most sustainable & environment friendly way of Cultivation. This guarantees Environment security for the present & future generation

8. Explain the phenomenon of Tsunami formation and highlight reasons for India's vulnerability to Tsunamis. List some measures to mitigate the impact of Tsunamis.
सुनामी उत्पन्न होने की परिघटना की व्याख्या कीजिए और सुनामी के प्रति भारत की सुभेद्यता के कारणों पर प्रकाश डालिए। सुनामियों के प्रभाव का न्यूनीकरण करने हेतु कुछ उपायों को सूचीबद्ध कीजिए।

Tsunami

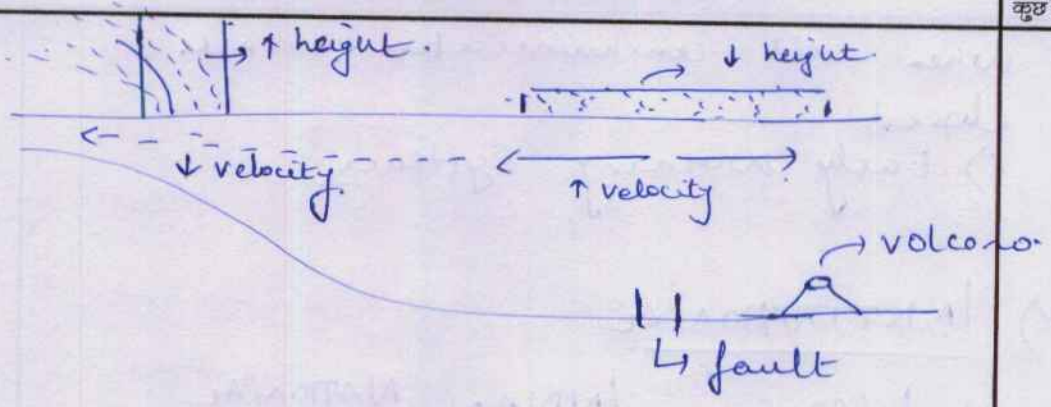


⇒ Faults → Earthquakes → in the oceanic crust → surge of water in the fault & then gushing out.

⇒ VOLCANOES → Eruption + Earthquake

Deep sea → Water mass → horizontal ↑ velocity + ↓ height.

But as water approaches the coastal areas over the continental shelf. → shallow → velocity ↓ → height ↑.



INDIA'S VULNERABILITY

1) Highly Populated Coastal Zones
2) Low Technology with fishing folks.
3) Technology + ↓ strength buildings.
4) Communication + Information dissemination. Irregular + Unreliable + delay.
5) Vast coast line.
7) High Seismic zone.

MEASURES TAKEN TO MITIGATE IMPACT OF TSUNAMI.

1) COMMUNICATION

a) ENVIS – Environment Information Centre – for early warnings & early awareness.
b) satellite radios – available even

when all communication channels closed.

c) Early Warning Systems

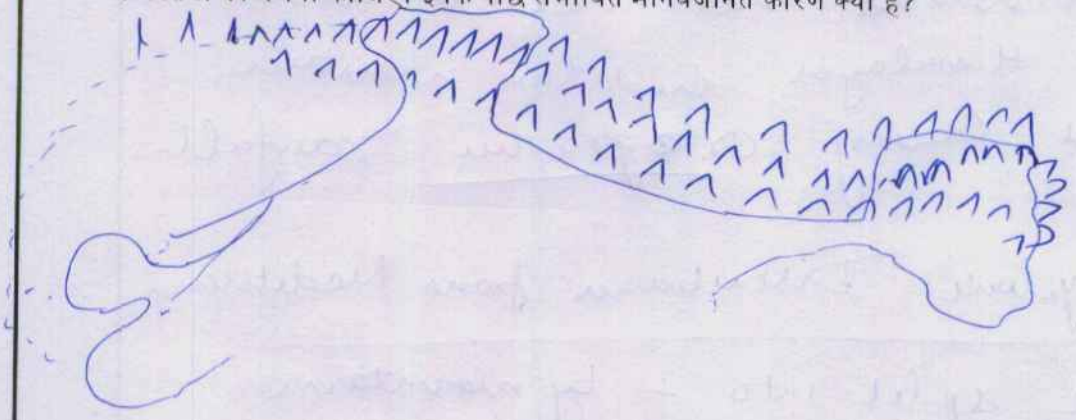
2) INSTITUTIONAL

a) INCOIS – INDIAN NATIONAL Centre for Ocean Information & Services – provide infor^n + awareness + research + dos + donts

b) NDMA – Nat'l Disaster mgt Authority – Rescue + Recovery + Preparedness Operations

3) CRZ – COASTAL Regulatory Zones for saving fishing folks. from disasters

9. Explain the role of Himalayas in influencing the climate of South Asia. Enumerate the changes observed recently in the Himalayan region with respect to climate and geomorphology. What are the possible anthropogenic causes behind them ?
दक्षिण एशिया की जलवायु को प्रभावित करने में हिमालय की भूमिका की व्याख्या कीजिए। हिमालयी क्षेत्र में जलवायु और भू-आकृतिविज्ञान के संबंध में हाल ही में चिन्हित किए गए परिवर्तनों की गणना कीजिए। इनके पीछे संभावित मानवजनित कारण क्या हैं?



The Apparent position of Himalayas as shown by the above diagram shows how Himalayas acts as a shield against the cold weather system of central China. Thus it saves S. Asia from.

1) Cold weather influence of Central China — ↓ influence by acting as a barrier → ↑ temperature in S. Asia.

2) Acts as a barrier for Monsoon Winds → The monsoon winds

moving northwards from southwest to North East is deflected by Himalayas towards North West. These winds not able to surpass the Himalayas shed their moisture there causing orographic rainfall.

3) Cyclone Disturbances from Mediterranean are split into 2 by mountains causing them to shed some rainfall in North Western part in Winters

RECENT CHANGES

Recently himalayas has started facing -

1) flash floods
2) Erosion.
3) Land slides.
4) Mountain fires
5) Snow melting
6) Erratic climate
7) ↑ water level
8) Earthquakes

Anthropogenic CAUSES

1) Slash & Burn forest cultivation especially in NE India → Jhumming → ↑ forest fire + ↓ forest cover + ↑ erosion

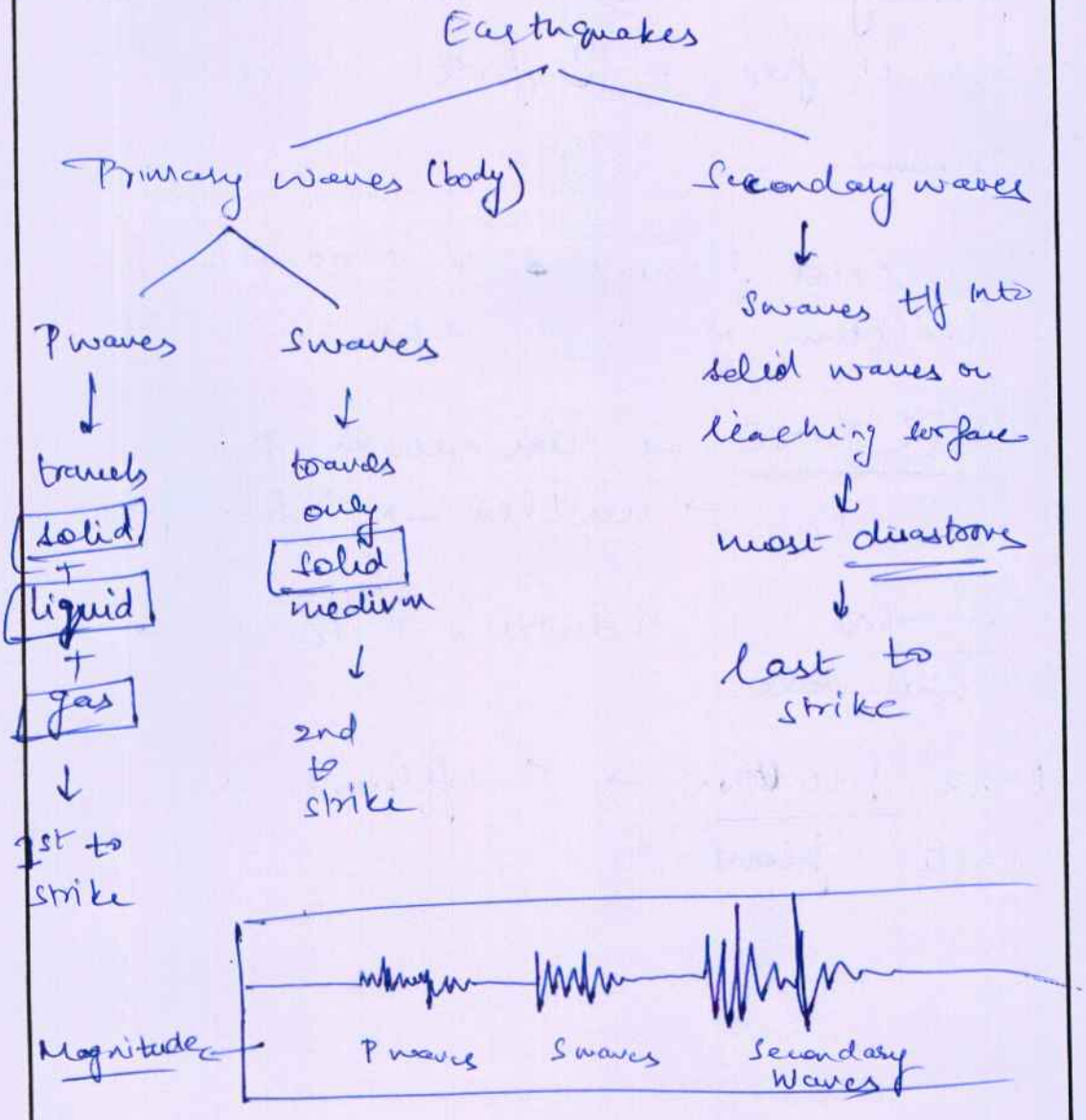
2) Commercial farming → ↑ erosion + ↓ depletion of soil profile + nutrients

3) CHIR PINE → commercial growth of chil pine → needles → ↑ forest fire

4) POLLUTION → Industries + Tourism → unsustainable.

5) RIVER POLLUTION → ↑ effluents + waste flow.

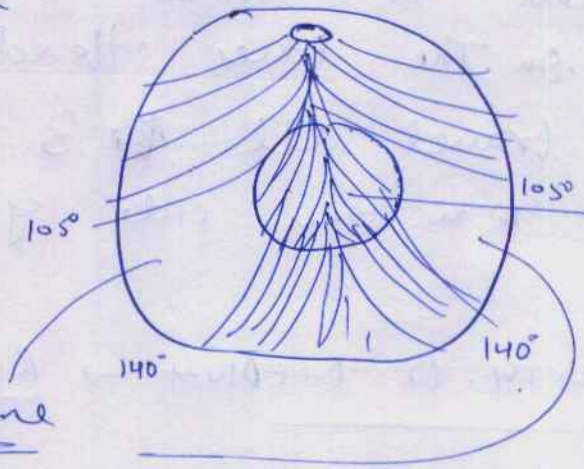
10. Explain the different types of earthquake waves and the concept of shadow zone. What inferences can we draw from shadow zones regarding the interior of the Earth?
विभिन्न प्रकार की भूकम्पीय तरंगों और छाया क्षेत्र की अवधारणा की व्याख्या कीजिए। पृथ्वी के आंतरिक भाग के संबंध में छाया क्षेत्रों से हम क्या निष्कर्ष निकाल सकते हैं?



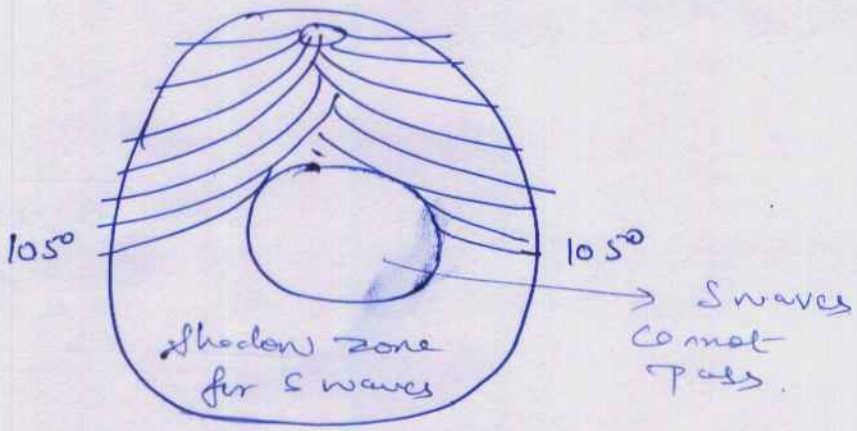
Shadow zone

for P waves

105° — to — 140°



Shadow Zone for S waves



1) Medium of the INTERIOR OF THE EARTH

Shadow zones of S waves & P waves are different this because of the medium in which they can travel. Since S waves cannot travel liquid

medium it cannot travel the core. On the other hand P waves can travel all 3 thus can reach the other side of the core.

2) DENSITY OF MEDIUM → REFRACTION

the density & type of medium can be adjudicated by the refraction caused by the medium in P waves

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

11. Explain the difference between chemical weathering and physical weathering. What is the ecological and economic significance of weathering?

रासायनिक अपक्षय और भौतिक अपक्षय के बीच अन्तर की व्याख्या कीजिए। अपक्षय का पारिस्थितिक और आर्थिक महत्व क्या है?

WEATHERING

CHEMICAL	PHYSICAL
1) PROCESS – solution + Carbonation + Hydration	1) Process → Weathering + erosion + slide + sleet + creep
2) FACTORS – Water + Chemicals + biological reserves + Phosphorous + Carbon	2) FACTORS → Water + wind + gravity + Humans → animals + Heat + glacier
3) Changes the chemical nature of the material	4) May or may not change the chemical nature.
5) Change of physical nature of material	5) Change of physical nature of material.

ECOLOGICAL SIGNIFICANCE

1) Soil formation - most expensive ecological phenomenon.
2) Rock formation.
3) Mineral extraction from smaller rocks.

4) Replenishing of minerals in soil.

5) Transportation of minerals & soil from source to destination.

ECONOMIC SIGNIFICANCE

1) TRANSPORTATION :- W/o human aid & effort.

2) Soil formation → cultivation + forest → fruits & vegetables + nutrition

3) Minerals → sulphur, phosphorous, potassium etc.

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

12. 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।

⇒ With abundant heat, light, water, & air – tropic regions becomes one of the resource rich regions. Also this entails a chain of development →

⇒ Heat + light + water + air →
Rocks → Soil → Trees + Vegetation
→ Decay → rocks → fuels + fossil fuels + other resources.

⇒ Also prevalence of all kinds of temperature + climate lead to development of all kinds of resources.

Still, Tropics → VULNERABLE Zone

Why ?

1) ↑ moisture + Rain → ↑ bacterial growth → ↑ Diseases.

2) ↑ Rain ⇒ ↑ need of Sanitation & Sewage.

3) ↓ Stability of Environment.

4) Unstable Economic conditions.

5) Toll on infrastructure.

6) Resource waste

However, many Tropical countries have turned their limitations into advantages —

1) Thailand → have used these conditions to cultivate itself as fruit basket of the Asia. Also, this climate of moderation has enriched the Tourism in Thailand.

2) MALAYSIA – has developed itself into an economic hub by better infra & sewage planning. ↑ Urbanisation & HDI in Malaysia is an example of this.

3) Indonesia → ↑ use of water shed mgt + Rain water harvesting have improved their drinking water facilities & irrigation capacities.

4) SRI LANKA – Malaria free country declared by WHO has done it through effective sanitation + disease mgt.

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

13. 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।

Corals → Algae + Zooxanthales

Symbiotic relationship

Algae → autotrophs – provides food

Zooxanthales → provide stability.

Corals are biologically diverse & economically valuable

1) Makes water pollution free by making water less toxic.

2) leaches excess CO_2 from water & act as carbon sink.

3) Greenery to the marine ecosystem

4) Maintain sustainability of the marine system

FACTORS FOR DECLINE OF CORAL REEF

1) POLLUTION
   - Industrial effluents
   - Plastic
   - Fishery wastes
   - Shipping

2) Global Warming → ↑ heat & sun.

3) Exposure – when water level decreases → exposure of corals causes their decay

4) Invasive or Exotic Species → invading territories of corals causes colony collapse

5) Colony collapse Disorder – under this disease of Coral → the whole colony of corals collapse at once & turns pale

MEASURES & STEPS TAKEN

1) Research & Documentation – Many pvt & public environmentalists have research & documented such reasons & causes of coral depletion.

2) Shipping Industry has taken cognisance & taken measures like controlling pollution + Ballast water migration of invasive species (Ballast)

3) Regulating Industrial effluents → to be discharged only after treatments

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

संधारणीय 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।

EIA - Environmental Impact ASSESSMENT

is a policy as well as preventive implementational tool where a particular project, act, industry or any anthropogenic activity is measured as per its impact on the environment. Such impact is measured to measure the ~~cause~~ externalities caused or to be caused by a particular act.

⇒ IDEAL scenario + Implementation

(1) Act → EIA → Implementation → Review

(2) EIA (before the act) → Implementation + Act
↳ Review.

But the deficiencies in design & implementation render EIA fruitless & resource waste. Most of the time the EIA gets hampered due to following problems

1) Inadequate Assesment - Due to lack of information or expert

2) Inadequate Technology → The technology for impact assessment is insufficient

3) Red Tapism.

4) LACK OF IMPLENTATION - the most important deficiency is the implementation of such EIA.

→

MEASURES TAKEN

1) It is suggested to put it stringently in the Statutory laws wherever necessary.

2) Regulatory body for implementation

3) Adjudicatory + Tribunal for disputes + review.

4) Setting up of financial body for independent receipt & withdrawal of funds.

15. According to the Indian Fertiliser Scenar o 2014, the use of urea in India has ncreased by more than 50 per cent since 2000. How does human ntervention turn nitrogen from a nutrient to a pollutant? Discuss the mpacts 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?

INDIAN FERTILISER SCENARIO 2014

↳ Subsidy on Urea ↑ → DO for Urea ↑

Blackmarketing ↑ ← Use of urea ↑ ←

↳ Cross border transport → Industrial blackmarketing & leakages

Urea which was subsidised for better soil nutrition + better soil profile ⇒ ↑ed yield has now become dangerous & toxic to soil. Overuse of Urea plus industrial overuse has caused urea to be more of a pollutant than nutrient.

UREA AS POLLUTANT

- AGRICULTURE
  - OVERUSE
    - Bad N:P:K ratio
      - Soil Toxicity
        - Air (Denitrification)
        - Food toxicity
- INDUSTRIAL
  - Cheap subsidised black marketed
    - Overuse
      - Chemical industries
        - Pollution
          - Air
          - Water

IMPACTS OF NITROGEN POLLUTION

1) Toxicity in soil → toxicity of Nitrogen in food → health concerns → Hysteria + neural disorders

2) Air pollution → ↑ toxicity in air + PM in air +

3) DECrease in human Productivity

4) Neural Disorders

NITROGEN POLLUTION MGT

1) Using neem coated urea

slow denitrification
↓
efficient take up by plants

↓ industrial use
↓
↓ Pollution.

2) checking excess use by farmers
↳ Soil health card scheme.
↳ providing adequate nutrition needs of soil.

3) Balancing other nutrients Potassium & Phosphorus with Nitrogen

16. Temperate grasslands are called 'Granaries of the world'. Elucidate. How have the farming practices adopted in these regions impacted the environment?
शीतोष्ण घास के मैदानों को 'विश्व के अन्न भंडार' कहा जाता है। स्पष्ट कीजिए। इन क्षेत्रों में अपनायी गई कृषि प्रथाओं ने पर्यावरण को किस प्रकार प्रभावित किया है?

TEMPERATE GRASSLANDS

- Temperate region — 35° - 60°
- Grass lands
- Temperature — 20° C (approx)
- Rainfall — 75 - 150 cm

Features

- Tall Grasses
- Dry
- ↑ fauna
- Hunters playground

Regions

North America — Prairies

South America — Llanos + Campos

Africa — Savannah

Australia — Downs

Europe — Steppes.

Why Granaries of the World?

These regions are suitable for growing grains & cereals & thus called Granaries of the world.

1) Large tracts of lands. (Plains)
2) Moderate climate.
3) Availability of water + rainfall.
4) Adequate Adaptation.

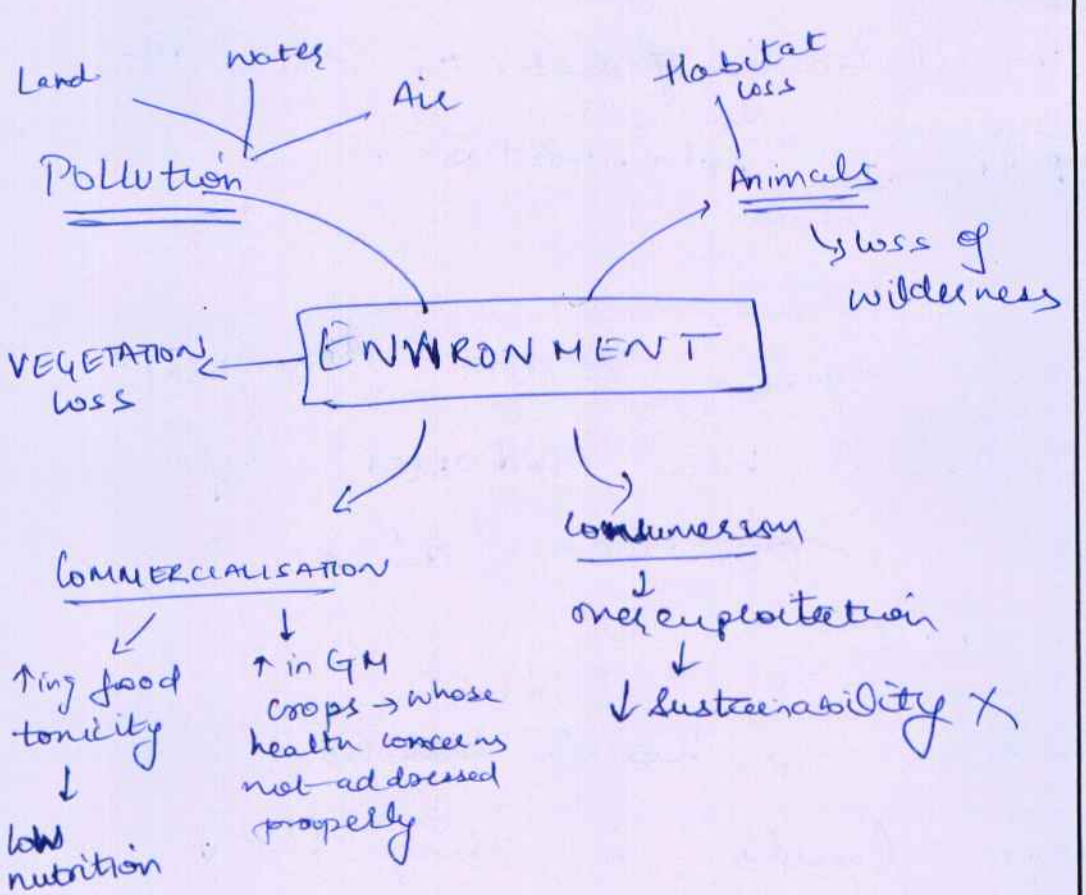
Various regions within temperate Grasslands have adopted diff farming practices as per needs.

PRAIRIES → highly mechanised + large lands & using HYV seeds with fertilisers & Pesticides.
Practices have achieved

economies of scale in growing Wheat & soyabean

similarly steppes is favours for wheat, savannah for coarse cereals & so on

Various practices have impacted environment in diff ways



17. Enumerate the global targets and priorities for action of the Sendai Framework for Disaster Risk Reduction. Discuss the positive features and limitations of the framework.
आपदा जोखिम न्यूनीकरण हेतु सेनडाई फ्रेमवर्क के अनुरूप कार्रवाई के लिए वैश्विक लक्ष्यों और प्राथमिकताओं की गणना कीजिए। इस फ्रेमवर्क की सकारात्मक विशेषताओं और सीमाओं की चर्चा कीजिए।

DISASTER RISK REDUCTION (DRR)

EVOLUTION

1) YOKOHAMA CONFERENCE ON DRR, 1944

The conference focussed on reducing Disaster impact by timely rescue & rehabilitation. Responsibility on state for such timely measures.

→ Timely rehab + rescue
→ State responsibility
→ Developed countries to help developing
→ Decade of DRR – 1994–2004

2) HYOGO FRAMEWORK DRR, 2005

→ Acknowledging Anthropogenic reasons for converting Hazards into Disaster
→ State action.
→ Helping Vulnerable section → most affected.
→ Global help & assistance

3) SENDAI FRAMEWORK FOR DRR

POSITIVES

- work on mitigation + preparedness
- Central framework
- Global exercises for DRR
- acknowledging Anthropogenic causes for climate Δ & Worst impact on environment.
- State liability & obligation to save those affected.
- UN assistance & guidelines to be followed.
- Financial assistance for recovery
- Early warning & communication to be in place
- Cross nation communication in case of Tsunami etc.
- Reducing adverse impact on environment.
- Building disaster friendly structures & infrastructure

LIMITATIONS

- no concrete steps to address adverse environmental impacts

→ Assistance & funds to developing countries not provided as obligation

→ Wholistic approach not taken.

→ Comprehensive coverage of Disasters + assistance to vulnerables not addressed.

→ Warfare + Human causes like oil spilling + shipping + Disease + epidemics etc not addressed.

– Especially warfare in middle east + epidemics in Africa not acknowledged

Concludingly

Although Sendai Framework was a step ~~forward~~ forward, still there is scope for further work on mitigating human causes of disaster.

18. What is a heat wave? Discuss the health impacts of heat wave in India. Analyse the reasons behind high incidence of mortality rates due to heat wave in India. Suggest measures to tackle the above problem.
हीट वेव (ऊष्ण लहर) क्या है? भारत में ऊष्ण लहर के स्वास्थ्य संबंधी प्रभावों की चर्चा कीजिए। भारत में इस घटना के कारण उच्च मृत्यु दरों की घटना के पीछे विद्यमान कारणों का विश्लेषण कीजिए। उपर्युक्त समस्या का समाधान करने के उपाय सुझाइए।

HEAT WAVE

Summers in India are dry & full of scorching sun. This causes Heat waves to slow in North & North Western parts of India. These dry waves of heat causes extreme strokes & sudden rise of bodily temperatures - sometimes causing even death

Health IMPACTS

1) Dehydration - loss of Water
2) Rise in Body Temperature
3) Skin rash & blisters.

Reasons for High Mortality

1) ↓ Humanisation of Nature

In developed countries adequate infrastructure like Air conditioners etc are laid down. ~~It~~ Such is not the case in India where poor can't afford such luxuries.

2) ↓ Water Availability

Dehydration + Heat waves → fatal

Scarcity of water makes heat waves all the more deadly & fatal.

3) Global Warming

Global warming → ↑ incidences of heat waves

4) Pollution

Rising pollution → makes heat waves more dangerous

MEASURES

1) Wells & canals laid down @ particular distances for hydration.

2) Fountains → keep surrounding cool > maintain humidity in air.

3) ↑ public transport → ↓ pollution + ↓ global warming.

4) Vegetation + forest cover → decreases temp + keeps moisture intact.

5) Personal measures - keeping water bottle, not working intensely, health check ups etc. Keeping away from sun

19. 'Rising accidents involving merchant ships leading to oil spills in Indian waters is a growing concern that needs to be addressed." Discuss the impact of oil spills on marine environment. Also, suggest measures to prevent such disasters.

"व्यावसायिक जहाज संबंधी दुर्घटनाएँ निरंतर बढ़ने के कारण भारतीय जलीय क्षेत्र में तेल रिसाव की चिंता उत्पन्न हो रही है, जिसका समाधान करने की तत्काल आवश्यकता है।" समुद्री पर्यावरण पर तेल रिसाव के प्रभावों की चर्चा कीजिए। साथ ही इस प्रकार की आपदाओं का निवारण करने हेतु उपायों का सुझाव दीजिए।

IMPACT OF MARINE ENVIRONMENT OF OIL SPILLS

1) Decay of fishes., flora & fauna
2) Decay of corals.
3) ↑ing Water Pollution
4) ↓ing Oxygen & ↑ Carbon.
5) Increased Toxicity in Water.
6) Fire
7) Bio Concentration & Accumulation into successive food chain.
8) Loss of fishing folks + industry.
9) Financial losses

The overall impact on marine ecosystem impacts the other ecosystem — Terrestrial & atmosphere. The oil spills causes irreparable

impacts on marine ecosystem.
As discussed above it not only causes the direct impacts but also indirect impacts on humans by entering into food chain, air pollution & other such environment. Destruction of flora & fauna which is maintained by nature for decades causes loss of biodiversity & extinction of endemic ~~exotic~~ species. Oil spills not only causes impact on immediate environment but also on overall oceanic, & Terrestrial & Atmospheric environment of Earth. The adverse impacts of oil spills & such disasters can be prevented by —

1) Shipping Conventions & Sendai framework addressed these

Concerns ⇒ planned to put ↑ damages or such disasters ⇒ Company responsible

2) Under UNCLOS - UN Convention on Law of Sea — such disasters shall be treated stringently ⇒ shall be treated as breach of territory.

3) PIPELINES — such as TAPI Turkmenistan, Afghanistan, Pakistan, India & Peace Pipeline etc are better way of transporting oil + gas → ↓ Disasters + sustainable

4) Insurance → Insurance for financial + mitigation losses

5) Recovery + Rehabilitation

gathering chemicals + immediate extraction of oil from sea to restore it in its pristine form is the ultimate way to restore environment. We need to ~~xxxx~~ ensure Mitigation + Preparedness

20. Forest fire pose a threat not only to the forest wealth but also to the entire regime of flora and fauna. What are the causes of forest fire? Discuss the ecological, economic and social impacts of forest fires.

दावानल *(जंगल में लगने वाली आग)* न केवल वन सम्पत्ति बल्कि क्षेत्र की संपूर्ण वनस्पतियों और जीवों के लिए भी खतरा प्रस्तुत करती है। वनों में आग लगने के कारण क्या हैं? दावानलों के पारिस्थितिक, आर्थिक और सामाजिक प्रभावों पर चर्चा कीजिए।

FOREST WEALTH

- Centuries of accumulated wealth
- Invaluable
- Ecological, Social, Economical, Environmental services provided @ no cost
- flora + fauna

→ Forest fire → Destruction of such invaluable resources created in centuries in a day or days.

CAUSES OF FOREST FIRE

I ECONOMIC

1) CHIR PINE - commercial chir pine & other such fire prone trees for economic purposes. Eg Kumaon Garhwal region → UK, India

2) OVER EXPLOITATION - of resources leave forests vulnerable & to

the mercy of exploiters. → ↓ vegetation → ↓ moisture → ↑ Dry + ↑ heat

II TRADITIONAL / CULTURAL / SOCIAL

1) Slash & Burn farming or Shifting cultivation. This causes fires in more than areas needed for cultivation

2) Festivals & Traditions

III METEOROLOGICAL

1) HEAT — Summers are the havoc for forest fires → ↑ heat ↔ ↑ fire

IV OTHER

Thieves burning down forest to accumulate forest resources & getting out of hands of authority.

IMPACTS

ECOLOGICAL

1) loss of Biodiversity → flora & fauna created by forest, which all living in symbiotic relationship with them are destroyed.

2) Ecological services such as environment pollution control + carbon sink are depleted.

II ECONOMICS + EXTERNALITIES

1) Forest resources such as timber, fruits, fouits, vegetables + NTFP are destroyed.

2) Pollution from fires are also to be considered into externalities & when considering economic impact.

3) loss of livelihood of tribals & other forest dewellers.

III SOCIAL

1) forest are social surroundings for people living in + grazers, + animals etc which are lost in such fires

2) Mental impact of loosing ones livelihood + forests are considered as temples & Sacred groves by many tribes.