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GENERAL STUDIES (TEST CODE : 1022)

Name of Candidate	DILEEP MISHRA		
Medium Eng./Hindi	ENGLISH	Registration Number	9977
Center	ORIN	Date	

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:

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

Answer all the questions in NOT MORE THAN 200 WORDS each. Content of the answers is more important than its length. All questions carry equal marks.

12.5X20=250

1. What do you understand by seasonal shifting of pressure belts? What impact does it have on the formation of various climatic regions across the globe? Discuss its socio-economic significance.

वायुदाब पेटियों के मौसमी स्थानांतरण से आप क्या समझते हैं? विश्व भर में विभिन्न जलवायु प्रदेशों के निर्माण पर इसका क्या प्रभाव पड़ता है? इसके सामाजिक-आर्थिक महत्व की चर्चा कीजिए।

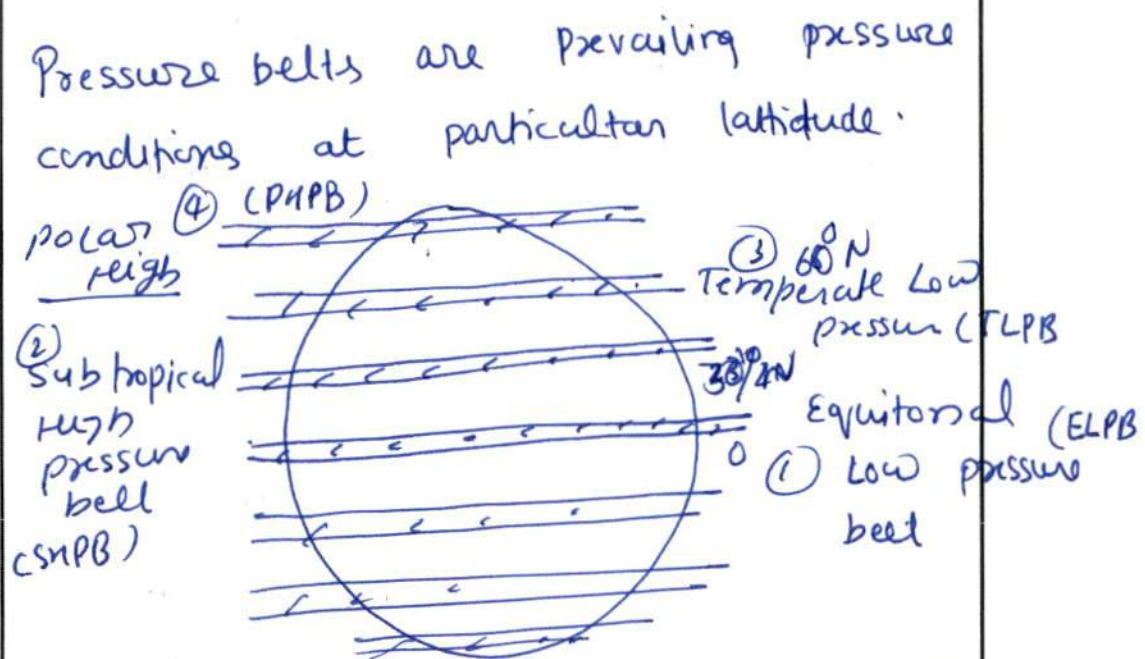
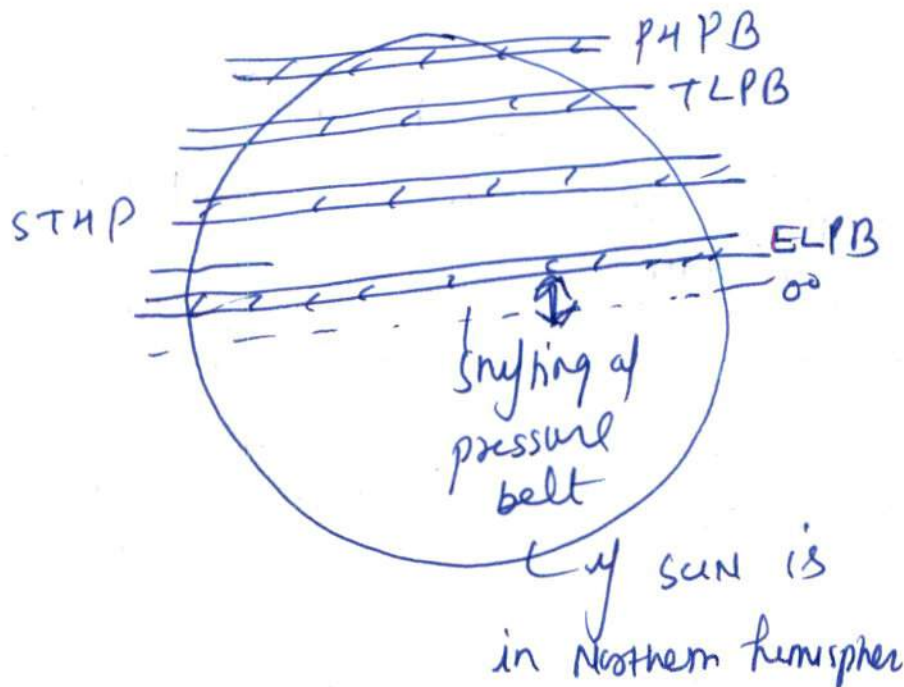


fig. 2 - pressure belts of the world
shifting of pressure belts
Due to seasonal march

of SUN, these belts get shifted due to change in Insolation and Sun's Heat Energy.

- Shifting may occur from 0-20°.
- Foreg. In equatorial regions, shifting occurs upto 20°.



- Similar belt will move to south when sun marches to southern hemisphere.

Impact on formation of climatic — regions

- (1) Temperature and pressure are the two important determinant of climate

(1) Monsoon Type climate: Dr floehn highlighted the role of pressure belt shifting in monsoon and seasonal reversal of winds. Equatorial Trade winds are replaced by the westerlies

(2) Mediterranean type: In Near 30° N-S, due to shifting of pressure belts, westerlies are replaced by Trade winds. ~~the~~ and Dry summer + wet winter conditions are formed.

Socio Economic Significance

(1) Agriculture: of South Asian ~~and~~ countries like India is highly dependent on agriculture.

(2) Viticulture, citrus food, and food processing industries, and wine industry are result of shifting belt phenomenon.

2. Explain the reasons for the formation of Sargasso Sea. Also, examine the factors for it being a region with one of the highest ocean salinity.

सारगैसो सागर के निर्माण के कारणों की व्याख्या कीजिए। साथ ही, उन कारकों का भी परीक्षण कीजिए जिनके कारण यह उच्चतम महासागरीय लवणता के क्षेत्रों में से एक है।

Sargasso Sea is an oval shaped region in North Atlantic region, marked by presence of Sargassum weeds species.

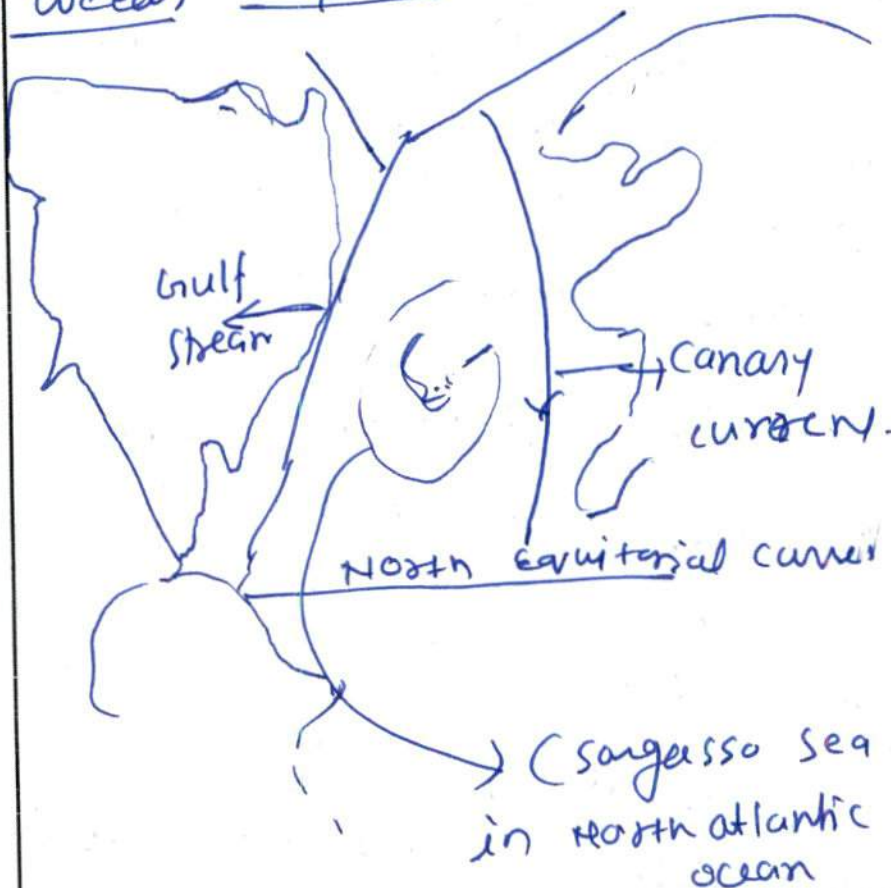


fig. 2.1.

It is surrounded by

Gulf Stream

North Equatorial current

Canary current

• It is a part of Columbus Gyre.

Reasons for formation

- (1) High pressure conditions and de rising air makes it area of calm winds without much rainfall. [Tropical latitudes]
- (2) formation of Gyre due to ocean currents.

Reasons for High salinity of Sargasso Sea

- (1) Low Influx of any fresh water - River etc.
- (2) High Evaporation (due to high temp)

- and virtually No precipitation
- (3) Gulf Stream, warm current also-
bring salinity.
- (4) Formation of Gyx presents influx of
water.

3. Why are river deltas important? Discuss the existing threats to river deltas and the measures needed to overcome these threats.

नदी डेल्टा क्यों महत्वपूर्ण होते हैं? नदी डेल्टाओं के समक्ष विद्यमान खतरों एवं इन खतरों से निपटने के लिए आवश्यक उपायों पर चर्चा कीजिए।

River Deltas are depositional land-
forms formed by river at its
mouth.

Importance of River Deltas

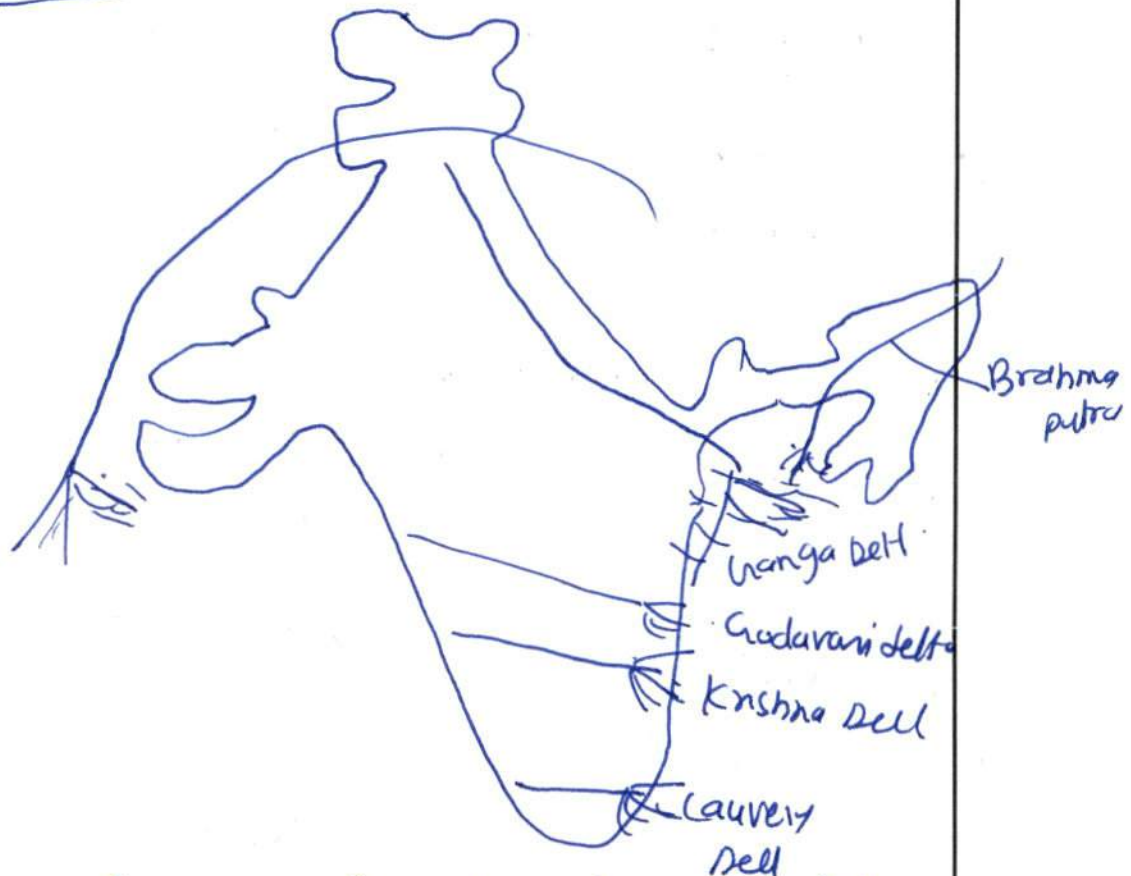


fig 3.1 . formation of deltas by
Indian Rivers.

Socio Economic Significance

- (1) Livelihood to Various communities
eg. fisherman etc
- (2) Agriculture growth - eg. Cauvery
Delta Rice cultivation
- (3) minerals. freq. placer deposits
eg. peat formation in Gangatic Delta
- (4) Development of ~~port~~ maritime —
economy - Aqua culture, etc

Ecological Significance

- (1) Deltas are rich in Biodiversity.
eg. mangrove vegetation.
- (2) absorbs the disaster Shocks
and prevents from cyclone
etc.
- (3) Hot spot of flora & Fauna.
eg. Point Calimere Bird
Sanctuary

navigation online sidely on
odisha coast.

Threats to Deltas

- (1) Unplanned urbanization
- (2) Construction of ports, industries
- (3) Increasing population pressure
- (4) Land Reclamation

e.g. Recently, Shailesh Nayak Committee
on coastal regulation zone ^{proposed} ~~diluted~~
the coastal zone protection

- (5) Pollution, waste disposal,
- (6) Barrage formation, prevents Delta
formation
e.g. Farakka Barrage has affected
the growth of Hilsa fish

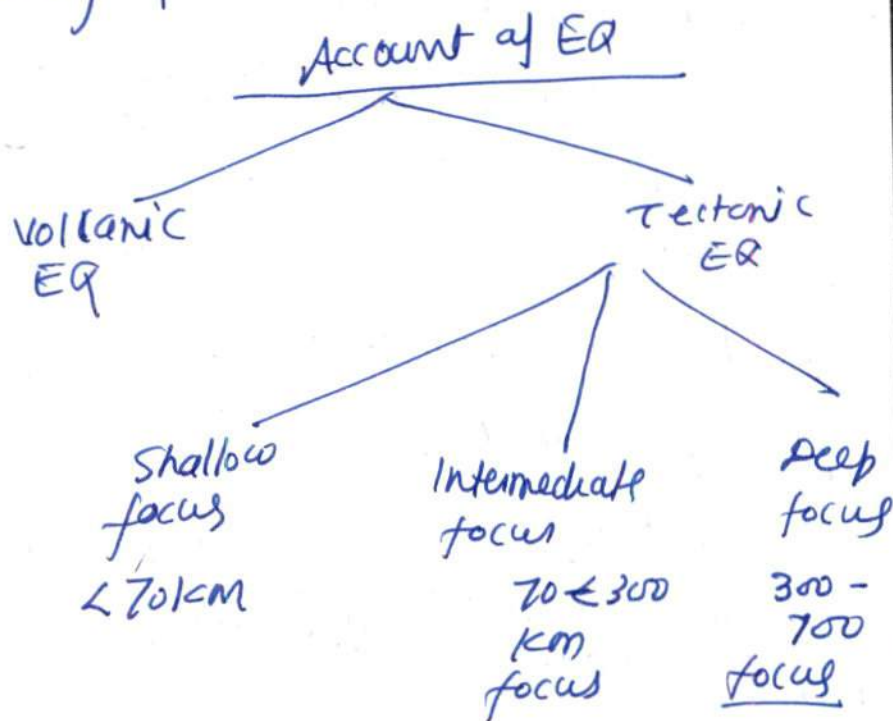
Measures

- (1) Promoting ecotourism and sustainable
agriculture (e.g. organic farming +
aquaculture)
- (2) Preventing illegal sand mining etc.
- (3) Strengthening Coastal Regulation
zone guidelines

4. Give an account of the different types of earthquakes based on their zone of occurrence. Identify the earthquake prone regions of the world with special reference to India. Also explain the reasons for the occurrence of earthquakes in geologically inactive regions like Peninsular India.

घटित होने वाले क्षेत्र के आधार पर विभिन्न प्रकार के भूकंपों का विवरण प्रदान कीजिए। भारत के विशेष संदर्भ में विश्व के भूकंप प्रवण क्षेत्रों की पहचान कीजिए। साथ ही, प्रायद्वीपीय भारत जैसे भूवैज्ञानिक रूप से निष्क्रिय/स्थिर क्षेत्रों में भूकंपीय घटनाओं के कारणों की भी व्याख्या कीजिए।

Earthquake ~~and~~ is release of seismic
energy from Earth's interior.

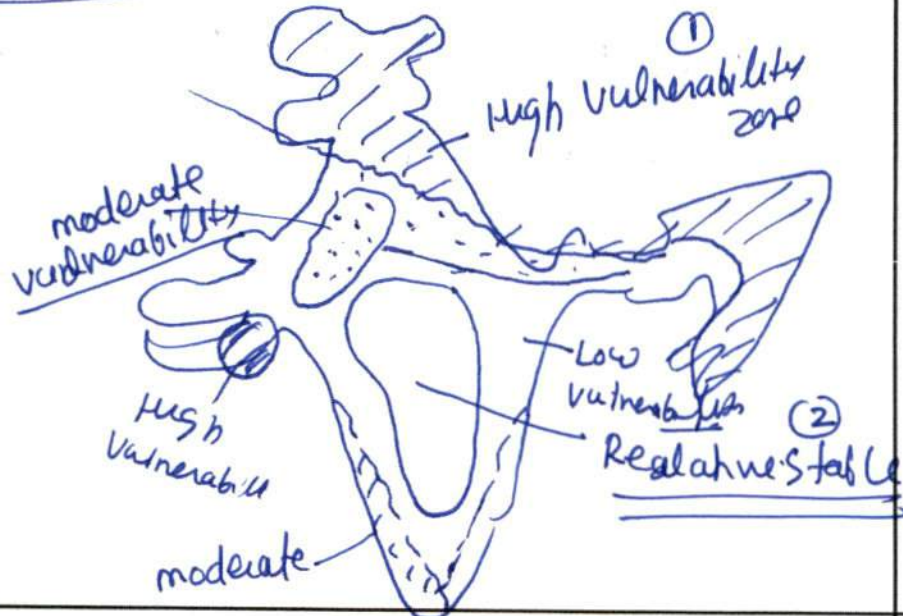


Different eq prone regions of the world

- (1) circum pacific belt (Ring of fire)
- (2) east African Rift valley

(3) Trans-Himalayan Belt

4. Intra plate eqs.

fig. 4.1 . Eq. prone regions at world.special reference to India

Reason For EQ in tectologically inactive regions

(1) Intraplate EQ! Any Ancient fault may be triggered in inactive region causing EQ.

Foreg. Allah Bunda Fault in
Raj. Gujarat

(2) Reservoir Induced. Foreg. Koyana
Reservoir induced EQ.
Bhima fault Pongne

(3) Nuclear testing, explosives, mining
extra terrestrial impact can
also cause EQ.

5. Explain the reasons for the following: (a) Erosional forms dominate in the west coast while depositional forms dominate in the east coast of India. (b) Western Ghats in Karnataka receive more monsoon rainfall than Maharashtra and Kerala.

निम्नलिखित के कारणों की व्याख्या कीजिए: (a) भारत के पश्चिमी तट में अपरदनजन्य रूपों की अधिकता या बाहुल्य पाया जाता है, जबकि पूर्वी तट पर निक्षेपण रूपों का बाहुल्य पाया जाता है। (b) कर्नाटक में पश्चिमी घाट महाराष्ट्र और केरल की तुलना में अधिक मानसूनी वर्षा प्राप्त करते हैं।

(a) Erosional and depositional Landforms are the result of various agents like flow of water, winds etc.

(EL)
Erosional Landforms vis-a-vis - west coast

Various Erosional Landforms in west coast are due to

(A) High gradient of Rivers which makes the rivers to erode the surface.

(B) Low course of erosional event → so they fail to deposit and results into erosional ~~into~~ landforms
foreg. High flowing short rivers

like Mandovi, Zuari, Pamba →
Sharavati etc.

Depositional Land forms east coast

- (1) Low gradient of River.
eg. Krishna, Godavari
- (2) Long River course - gives
enough time to deposit

Part B.

Karnataka Receives Highest ^{monsoonal} Rainfall
than Maharashtra → Kerala -

- (1) Height of Mountains - is higher
in Karnataka than Maha-
rashtra ∴ this causes the
air to rise upto more heights

(2) Scattered Vs continuous nature of mountains -

- For Kerala, ghats are discontinuous but in MH, they are continuous.
Karnataka
- scattered ghats causes air to -
bypass without raining.

(3) Slope of mountain : slope of
ghats is more gentle in Karnataka,
giving more time to heat absorb
heat and rise, thus augmenting
condensation.

while in MH and Kerala,
Slope is steep and abrupt -
inhibiting the saturation of
air.

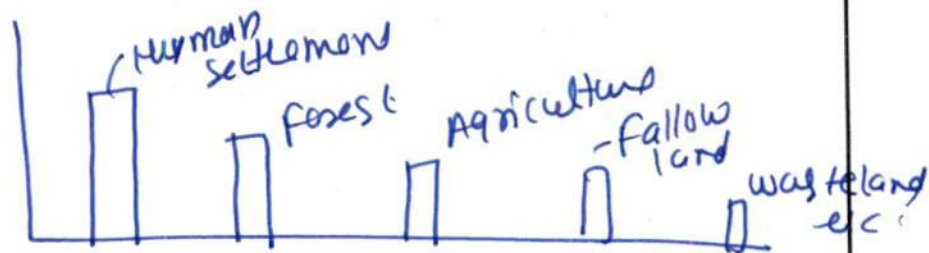
6. With increasing urbanisation in India the land usage pattern is undergoing major changes. Comment.

भारत में बढ़ते शहरीकरण के साथ ही भू-उपयोग प्रतिरूप में भी महत्वपूर्ण परिवर्तन हो रहे हैं। टिप्पणी कीजिए।

According to census 2011, 31.16% population is living in urban areas. According to UN population fund, by 2031, 50% population will be in cities.

Land use pattern refers to the purpose of land use at particular time span.

Major Land Use patterns



changes in Land use patterns

(1) Due to increasing population,

Land under inhabitation is increasing

(2) Due to rapid growth of Industries
Land under industries, mining etc
increasing.

(3) Land under forest: with Paris-
commitment and under green
Indus mission, India has pledged
to increase forest cover to 33%
from 23%. Forest Survey-2015,
reflects increase in forest cover.

(4) Land under agriculture is decreasing
to Land use conversion.

(5) Fallow and waste land is -
also decreasing which has -
compensated for changes in -
other land use patterns.

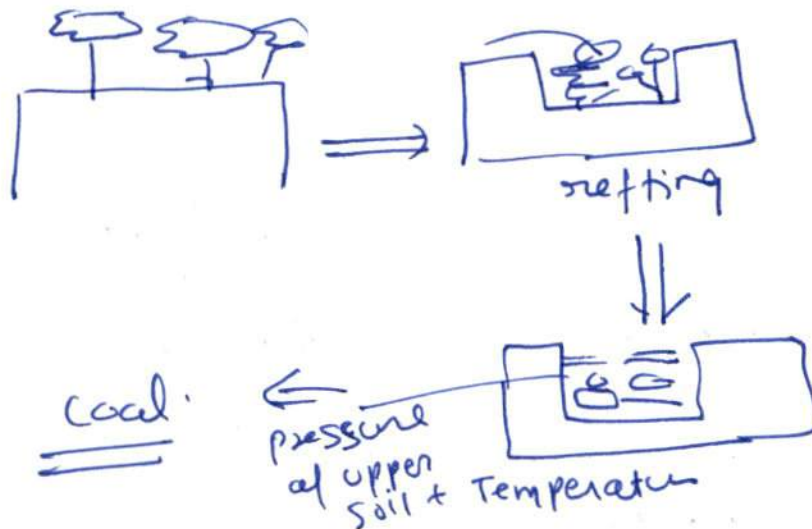
Excessive pressure on land
resources ~~later~~ is resulting into
Land degradation in seas etc
adversely affecting marine ecology
etc.

Thus, a suitable sustainable
mix of land use should be
promoted in spirit of SDG
15 (2) which mandates for sustainable
use of Land resources.

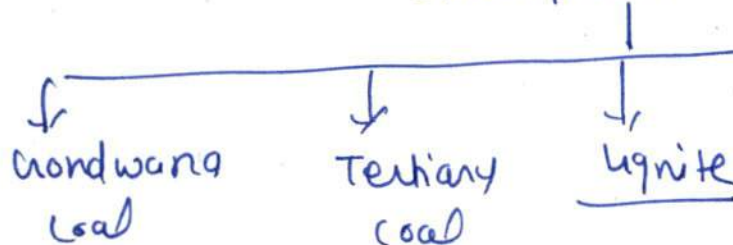
7. How is the coal bearing strata of India classified in geological terms? Why does coal remain the most important source of energy in India and what are its implications?

भूवैज्ञानिक शब्दावली में भारत के कोयला धारण करने वाले संस्तर को किस प्रकार वर्गीकृत किया जाता है? कोयला भारत में ऊर्जा का सबसे महत्वपूर्ण स्रोत क्यों बना हुआ है एवं इसके निहितार्थ क्या हैं?

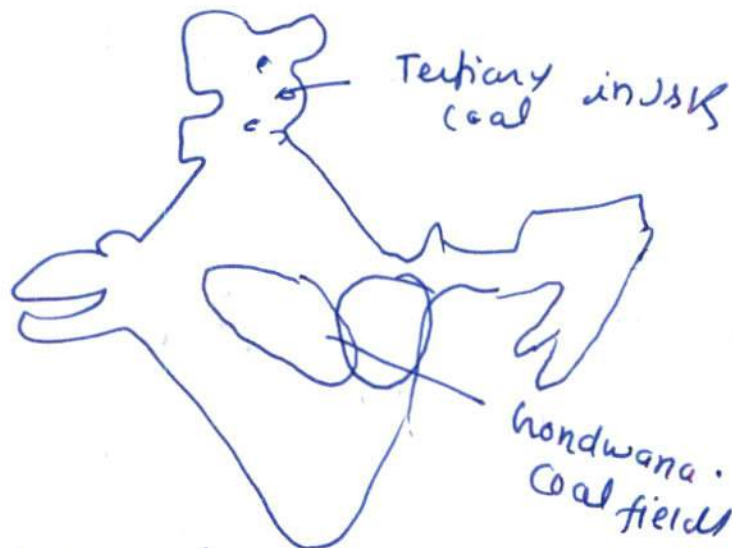
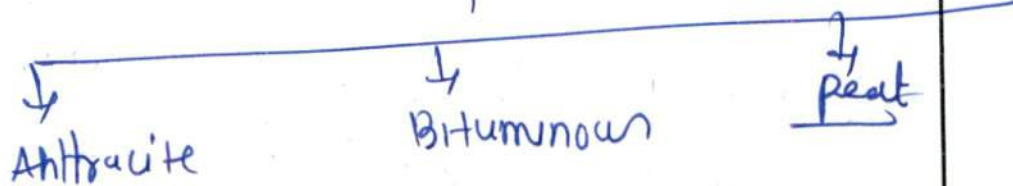
Coal formation is process of conversion of biomass and plants into carbon coalform through temperature and pressure.



classification of coal



Classification of Gondwana coal



Gondwana coal
eg. Jharia
Bokaro
Raniganj

Tertiary coal
eg. J&K

Why does coal remains most imp
source of energy → (India)

(1) Abundance of coal particularly

Bituminous - 300 million Tonne

(2) India's 55% of total energy capacity is at the coal-fired thermal plants -
eg. NTPC - Dadri
Panki power plant

(3) Energy security - as Renewable resources as wind and solar are ~~not~~ highly variable dependent on nature

(4) Industrial Development as coal is cheapest source of energy.

Implications:-

(1) Climate Change and Green House Emission issue - as - India has committed for reduction of coal use in Paris conference.

(2) India does not have a much anthracite coal and imports coking coal.

8. Forest fires have become a regular feature during summers in the Western Himalayas. What are the causes behind this phenomenon? Critically examine the efforts made by authorities in countering this problem. Do periodic forest fires have any benefits associated with them?

पश्चिमी हिमालय में ग्रीष्म ऋतु के दौरान दावानल/बनाग्नि (फॉरेस्ट फायर) एक नियमित घटना बन गयी है। इस परिघटना के पीछे क्या कारण हैं? इस समस्या से निबटने के लिए प्राधिकरणों द्वारा किए गए प्रयासों का आलोचनात्मक परीक्षण कीजिए। क्या समय-समय पर होने वाली दावानल की घटनाओं के कुछ लाभ भी हैं?

Forest fires are quasi Natural hazard.
According to a recent parliamentary
committee forest fire has increased
by 55%.

2015	16000
2016	25000

eg. Uttarakhand and Himachal
pradesh forest fire - 2016 in western
Himalayas.

causes

<u>Natural</u>	<u>Anthropogenic</u>
1. Lightning.	1. Spark in power lines
2. Dry spells	2. <u>Tourism</u> +
3. Low humidity	Cigarettes Bud
4. <u>ELNINO</u>	

5. Friction between
leaves, Bamboo
swaying etc.

6. collision of stones
due to winds

7. Chir and pine
forest ~~is~~ are -
highly vulnerable to
forest fires

8. Some Invasive
alien species -
also causes forest
fires eg. Lantana

3. sparks from
Railway
Tracks.

4. Jhum/Slash
& Burn cultivation

5. Clearing of
forest floor to
grow Grass
etc for
crazies

6. Collection of
minor forest
produce

7. To repel
the wild
Animal,

Efforts made by various Authorities

- (1) Intensification of Forest management Scheme (IFMS) to prevent forest fires
- (2) Terra & Aqua Satellite cooperation for forest fire info
- (3) Forest Division under MOEFCC has come with "modern fire-fighting scheme" to equip with modern technology

Recommendations of parliamentary committee

Use of
MNREGA
labour to
the replacement
pin

Research
& Institute for
forest fire

Benefits of forest fire

①
Nutrient
Recycling

②
Restriction
of Invasive
alien species

③
reduced
competition
for
Germination
of seeds

9. What are sunrise industries? Elaborate on the potential of these industries in India with a special focus on the food processing industry.

सनराइज उद्योग क्या है? खाद्य प्रसंस्करण उद्योग पर विशेष बल देते हुए भारत में इन उद्योगों की संभावना के संबंध में विस्तार से बताइए।

SUN RISE INDUSTRIES: The term refers to those industries which are at Nascent stage but have huge potential to

grow: eg. Apparel sector
(ECO survey-2016)
• Food processing Industry.

Potential of these Industries

(A) Macro-Economic potential

(1) Employment opportunities! - For eg. Dairy sector Amul cooperative movement

(2) GDP growth - There are high growing industries

(3) Export Growth and Reducing the
deficits..

Foreg. Food processing Indus
Industry
contributes 1.5% to global exports
and target is to double it to 3%

Other potentials

- (1) Reducing rural urban migration
- (2) providing forward linkages
to agriculture and other
raw materials -

However these industries faces
many bottlenecks like -

- (1) Issue of credit & capital
at initial stage
- (2) Issue of technology
- (3) Stiff competition

(4) Issue of Quality - such as
Sanitary and phytosanitary measures.

Exeg. Alphamango Ban by EU.

• Maggi Row

Thus, there is need
to create infrastructure facilities
such as canning, preservation,
connectivity, testing lab to
improve quality standards.

10. Scientific and technological advancements have removed the constraints posed by geographical factors which determine the location of industries. Comment. Giving examples, discuss the new factors that have come into play as a result.

वैज्ञानिक और प्रौद्योगिकीय प्रगति ने उद्योगों की अवस्थिति को निर्धारित करने वाले भौगोलिक कारकों द्वारा प्रस्तुत की जाने वाली बाधाओं को समाप्त कर दिया है। टिप्पणी कीजिए। इनके परिणाम स्वरूप उभरने वाले नए कारकों पर भी सोदाहरण चर्चा कीजिए।

Location of industries depends upon on various geographical and Non-geographical factors as proposed by Max Weber.

Geographical Factors

- | | |
|-------------------------------|----------------------|
| (1) Land cost | (3) <u>Climate</u> |
| (2) <u>Labour</u> | (4) <u>Power</u> |
| (5) <u>Water availability</u> | (6) <u>Transport</u> |

Non Geographical factors-

- eg. 1) Government policies
- 2) Availability of credit etc.
- 3) Technological developments

Role of Scientific and technological advancement in removing the constraints posed by Geographical factors

(1) Economies of scale! Technological developments have promoted the Economies of scale. ~~the~~

(2) New machinery has resulted into relocation of industries
eg. sugar industry is shifting to South from North.

(3) e-technologies! has reduced the e market orientation location by facilitating e-commerce.

(4) Moving preservatives, and coming

technologies has reduced the
bottlenecks of transportation.

Other factors have also reduced
the role of • geographical factors-

eg.

(1) Government policies : For eg. JPM

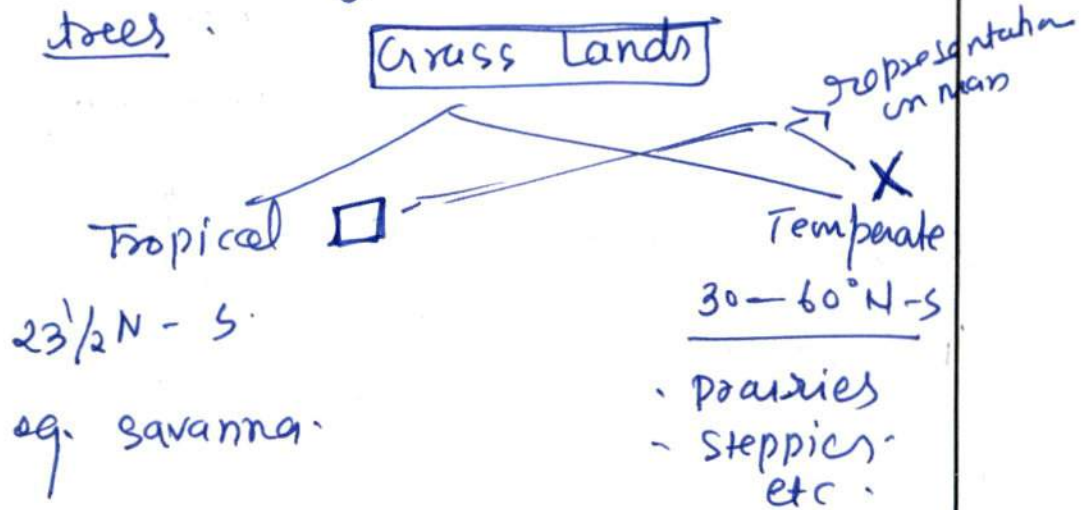
Act or restriction on sugar
will location have played role in
their localization.

(2) Availability of credit/capital/Banking
etc has also gained importance.

11. Give a brief distribution of major grasslands of the world. Discuss the reasons behind the temperate grasslands becoming the grain baskets of the world. Also compare their performance vis-a-vis tropical grasslands in this regard.

विश्व के प्रमुख घासस्थलों के वितरण का एक संक्षिप्त विवरण प्रस्तुत कीजिए। शीतोष्ण घासस्थलों के विश्व की खाद्यान्न टोकरी बनने के निहित कारणों की चर्चा कीजिए। इस संबंध में उष्णकटिबंधीय घासस्थलों की तुलना में उनके प्रदर्शन की चर्चा भी कीजिए।

Grass lands are the ecosystems -
dominated by grass, not by
trees.



Tropical

- Savanna
- Llanos
- Campos

Temperate

- prairies
- steppes
- Puszta
- Downs
- veldts
- Pampas
- manchuria

Reasons for Being grainBasket

(1) Growth of ~~the~~ wheat, Rice
and coarse grains Jowar
Bajra etc

(2) well developed farm mechanization
eg practices of USA
Canada

(3) Suitable climate for growth
of food crops

(4) Govt support for production

- (5) well developed Forward $\rightarrow$ Backward linkage, market, High yielding seeds, long term facilities etc.

comparison of Tropical / Temperate

<u>Temperate</u>	<u>Tropical</u>
(1) <u>Yield/Hectare</u> is <u>Low</u>	High
<u>Reason</u> - Larger work force efforts in Tropical season	
(2) <u>Yield/person</u> is <u>High</u>	<u>Low</u>
due to low population pressure in temperate area	
(3) Area covered by temperate grass lands is <u>much higher</u>	
(4) temperate grassland mostly fall in <u>developed countries</u>	

12. Weather and climate information plays a significant role in increasing agricultural productivity as well as minimising crop losses. Comment. Also examine the ways in which forecasting system can be made more effective and inclusive.

मौसम और जलवायु संबंधी सूचना कृषि उत्पादकता को बढ़ाने एवं साथ ही साथ फसल के नुकसान को कम करने में महत्वपूर्ण भूमिका निभाती है। टिप्पणी कीजिए। इसके साथ ही उन उपायों का परीक्षण कीजिए जिससे पूर्वानुमान प्रणाली को और अधिक प्रभावी एवं समावेशी बनाया जा सकता है।

Weather and climate is one of the ~~factor~~ most important ~~factor~~ not only affecting productivity of farms but also providing support like irrigation etc.

Weather and Climate information is
agricultural productivity -

(1) By growing the crop according to AGROCLIMATIC

ZONATION -

Foreg. faulty practice of Sugarcane cultivation in drought prone areas.

- (2) weather and climate info will also synchronize inputs with climate
eg. western disturbances are helpful in increasing Rabi crop productivity
~~best~~ - Rabi

Reducing crop losses

- (1) By providing information from satellites such as Metsat etc
- (2) Pre weather information such as cyclone alert, flood, drought, forecast etc ~~help~~ help in reducing damages.
- (3) It will also help in rationalizing ~~the~~ premium of crop insurance such as oidar

Pradhan mantri Fasal Bima Yojana

making Forecasting more effective
and Inclusive

- (1) SMS Alert system
- (2) Adopting dynamic monsoon
model
- (3) using satellite information -
and seeking global cooperation
- (4) Involving knowledge of Local
communities
- (5) Incorporation of Traditional-
Knowledge

13. The Paris Climate agreement sets ambitious goals but does not go far enough in mechanisms to achieve the aims. Comment. Also highlight the challenges which a developing country like India faces to achieve the targets it has set for itself.

पेरिस जलवायु समझौता महत्वाकांक्षी लक्ष्यों को तो निर्धारित करता है किन्तु इन लक्ष्यों को प्राप्त करने के लिए पर्याप्त प्रावधानों की व्यवस्था नहीं करता है। टिप्पणी कीजिए। साथ ही, भारत जैसे विकासशील देश द्वारा अपने लिए निर्धारित किए गए लक्ष्यों को प्राप्त करने में सामना की जाने वाली चुनौतियों पर भी प्रकाश डालिए।

Paris climate agreement adopted in
December 2015 for post 2020 climate

Action:

Ambitious goals

- (1) To ~~reduce~~ ^{limit} the temperature rise upto 2°C for pre-industrial levels.
- (2) promotion of renewable energy
- (3) Mobilization of 100 Billion Dollar green climate fund.
- (4) Facilitation of green technology to developing countries.
- (5) Adoption of Loss & Damage principle.

flaws in adopted mechanism!.

- (1) clause of withdrawal — for eg.
USA has declared to withdraw
from deal.
- (2) excessive focus on mitigation
and less on adaptation.
- (3) clear guidelines regarding —
the mobilisation of the
Green Climate fund have not
been stated.
- (4) No clear mechanism on
technology transfer.
- (5) issue of climate Refugees
agreement mentions about climate
migrants but is silent.

on methodology to accommodate -
climate refugees -

(b) conspicuous silence of developed
countries on loss & damage -
compensation.

Challenges to developing countries.
like India

India's
commitment

33-35% reduction
of GHG by 2030

40% non fossil
fuel ~~the~~ induction

→ 2.5 - 3 Billion
tonne ~~co2~~ carbon
sink creation.

challenges

(1) Rising population vs Afforestation
programme

(2) Rapid urbanization

(3) Funds issue

(4) ~~to~~ Technology - foreign
Lack of - san dispute at
WTO.

14. Describe the factors responsible for increase in marine pollution in the past few decades. What impact does marine pollution have on the ocean ecosystem? Discuss the measures taken by the international community to deal with it.

पिछले कुछ दशकों में समुद्री प्रदूषण में हुई वृद्धि के लिए जिम्मेदार कारकों का वर्णन कीजिए। महासागरीय पारिस्थितिकी तंत्र पर समुद्री प्रदूषण का क्या प्रभाव पड़ता है? इससे निपटने के लिए अंतरराष्ट्रीय समुदाय द्वारा किए गए उपायों की चर्चा कीजिए।

Marine pollution suffers to the increase of unwanted substances in marine ecosystem.

with increase in maritime traffic, and population rise, maritime ecology is under threat as highlighted in SDG-13.

Factors

- (1) Rapid ~~urban~~ and unplanned urbanization
- (2) Industrial waste
- (3) solid waste disposal
- (4) port, activities on coastal areas
- (5) over exploitation of resources.

eg. Trawler fishing

(6) Oil spill

(7) Noise Pollution due to shipping
Noise.

Forq. motion of Dolphins get
affected.

(8) Land reclamation has also
resulted into marine pollution.

(9) Reduction in mangrove areas
etc.

In order to fulfil the
mandate of convention on migratory
birds and SDG-13 - Global
community has taken following
Steps -

(1) Bunker convention on oil -
Spills.

(2) Nairobi Convention on wreck
Removal

(3) MARPOL convention and —
MARPOL protocol

other measures needed

- (1) Better traffic management
- (2) abandoning trawler fishing
- (3) promoting sustainable blue Economy

In this regard —
India has setup coastal —
Regulation zone rules
under Environment protection act,
1986

15. Discuss the environmental impact of electronic waste and the best practices for its handling in the context of the E-waste (Management) Rules, 2016. Also suggest some ways to incentivise consumers to utilise and dispose-off the e-waste properly.

इलेक्ट्रॉनिक अपशिष्ट के पर्यावरणीय प्रभावों एवं ई-अपशिष्ट (प्रबंधन) नियम, 2016 के संदर्भ में इसके निष्पादन के लिए सर्वोत्तम तरीकों पर चर्चा कीजिए। ई-अपशिष्ट के उचित उपयोग और निपटान के लिए उपभोक्ताओं को प्रोत्साहन प्रदान करने हेतु कुछ उपाय भी सुझाइए।

E-waste refers to old and obsolete electronic materials.

~~is~~ According to KPMG -

Assocham report

India is
fifth largest
generator of
e-waste

telecom
sector
largest
generator
(12%)

95%
Handling
by
unorganised
sector

various e-wastes are

↓ ↓ ↓ ↓ ↓ ↓
Arsenic Lead Selenium mercury Cobalt Nickel cadmium

Environment Impact!

Impact on Human Health

- (1) Lung diseases, heart and Neural diseases.
- (2) Black foot disease - Arsenic
- (3) Ouch - Ouch - by cadmium

Impact on Flora-Fauna

- (1) Loss of Biodiversity and Death of Animals etc. - Adverse impact on food chain

Impact of Resources/Pollution

↓
Air pollution

↓
Due to
incineration
of e-waste

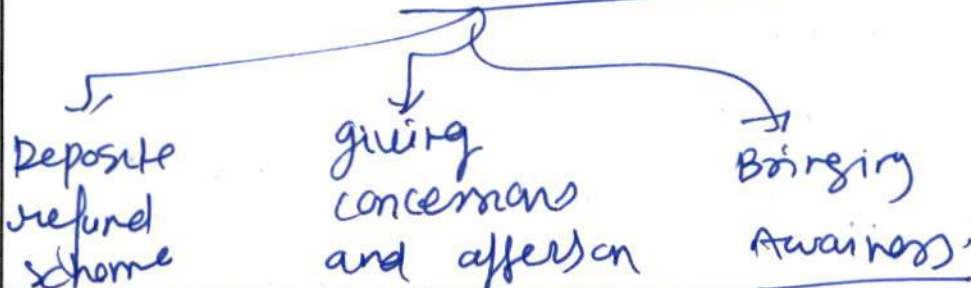
↓
Water pollution
due to
leaching

e-waste - rules and best practices -

(1) Extended producers Responsibility

(EPR)

10% in first 3 years
70% in 7 years

(2) setting of recycling centres
like - e-paushan - Bangalore.(3) Deposit refund scheme - Incentivising
customers on refund of obsolete
electronic material(4) Adoption of RoHS (Restriction on
use of hazardous substances) on the
lines of 'European Union'.Incentivising customers

16. An emissions-reduction approach to fighting global warming is not enough. Alternative solutions involving climate engineering might have to be deployed sooner than we think. Defining climate engineering, critically examine the statement.

ग्लोबल वार्मिंग से निपटने के लिए केवल उत्सर्जन-न्यूनीकरण उपागम (दृष्टिकोण) पर्याप्त नहीं है। संभवतः हमें अनुमानित समय से पूर्व ही, क्लाइमेट इंजीनियरिंग को सम्मिलित करने वाले वैकल्पिक समाधान को अपनाने की आवश्यकता पड़ सकती है। क्लाइमेट इंजीनियरिंग को परिभाषित करते हुए, इस कथन का आलोचनात्मक परीक्षण कीजिए।

With Global warming becoming evil
reality, multipronged, innovative
strategies are required for
combating GW.

(ERA)
emission reduction -
approach focuses on reducing
emissions i.e. on mitigation,
rather than adaptation.

For eg. → In INDCs
at Paris agreement, India
committed to reduce the GHGs
by 33-35%.

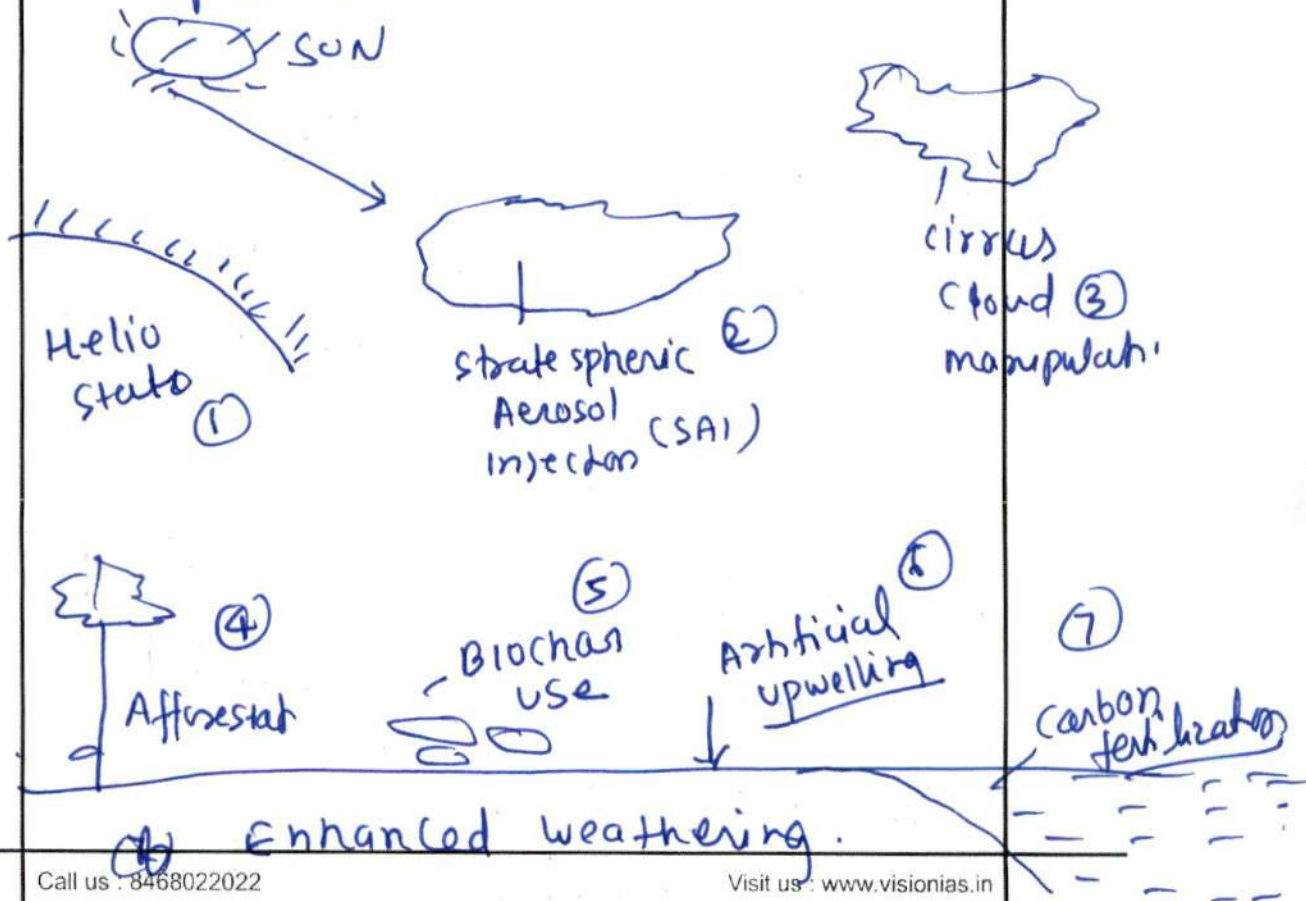
ERA may not be sufficient —

(1) failure of Kyoto Protocol

Kyoto could not achieve its targets

(2) Increasing population pressure,
industrialization, and urbanization.

(CE)
Climate engineering : CE refers to
the adoption of engineering/science
and technological tools to
manipulate the climate change.



Carbon Sequestration, such as
Lohafex and carafix project

Significance of Climate Engineering

- (1) Focuses on Adoption
- (2) Takes the realities of —
Population increase, urbanization

Challenges

- (1) Funds for technology
- (2) Lack of Technology Transfer —
from developed countries
- (3) Inadequate research
- (4) Unverifiable results: foreq —
effect on cloud to manipulation
is not known —
A global cooperation
and coordination is required

17. Discuss how drought is more of a man-made disaster than a mere deficiency of rainfall. Elaborate on the consequences of desertification that drought prone regions face. Also, bring out the preventive steps to be taken in light of targets to curb desertification as mentioned under the SDGs.

चर्चा कीजिए कि किस प्रकार सूखा केवल वर्षा की कमी से पैदा आपदा न हो कर मुख्य रूप से एक मानव-निर्मित आपदा है। सूखा प्रवण क्षेत्रों द्वारा सामना किए जाने वाले मरुस्थलीकरण के परिणामों को विस्तार से बताइए। साथ ही, मरुस्थलीकरण पर अंकुश लगाने के लिए SDGs के अंतर्गत उल्लिखित लक्ष्यों के प्रकाश में उठाए जाने वाले निवारक कदमों को स्पष्ट कीजिए।

Drought refers to prolonged large
dry conditions over a large area.

68% of the total area
of India is drought prone.

Recently IMD has changed
the classification of droughts.

Drought as a man made Disaster

Natural Reason	man made:
1. Climate change	1. Large population
2. monsoon uncertainty	2. Faulty agricultural
3. <u>ELNINO</u>	practices.
4. Dry spells.	eg. <u>Sugar</u>
	<u>cultivation</u> in

Marathwada

3. poor surface water management
eg. river pollution.
Inter state disputes
4. poor ground water management
→ Irrational use in industries
+ agriculture
→ No rain water harvesting
5. unplanned urbanization + waste disposal
eg. Pallikarni inlet land
in Chennai

Desertification - is the process of
increasing semi arid, arid and
desert like conditions due to climate
change and human actions

Consequences of desertification in Drought

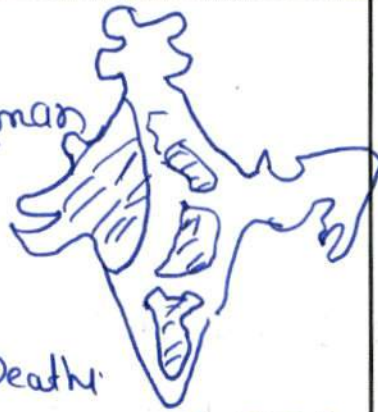
prone area

(1) Consequences on Human

A) ~~Agri~~ Damage to —
agriculture economy.

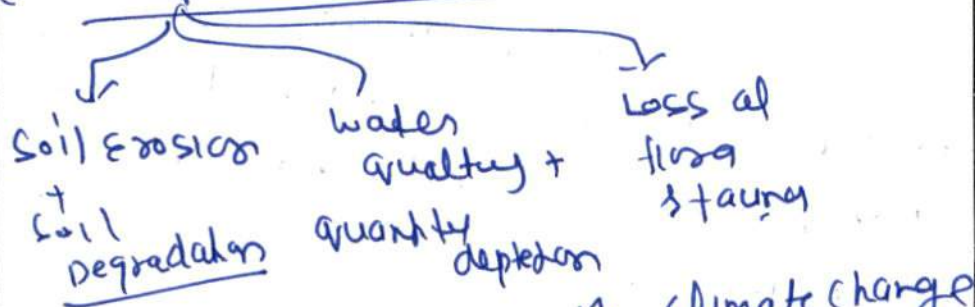
B) Poverty, Malnutrition, Death

C) Increasing pressure on
other land resources,
cumulative impact.



Drought prone
region of India

(2) Impact on Ecology/ environment



SDG-15 (+ 14) — 14 Climate change

15- Sustainable use
of Land & resources

steps

(1) Ground water recharge

(2) Integrated watershed management

(3) Afforestation

18. India's first National Disaster Management Plan may fulfill the legal requirement of having a plan but it may not be very effective in achieving its objective of building resilience. Critically analyse.

भारत की प्रथम राष्ट्रीय आपदा प्रबंधन योजना, भले ही एक योजना होने की विधिक आवश्यकता को पूर्ण कर सकती है किन्तु यह प्रत्यास्थता निर्माण करने के अपने उद्देश्य को प्राप्त करने में अधिक प्रभावी नहीं हो सकती। आलोचनात्मक विश्लेषण कीजिए।

NDMA Act 2005 has mandate
of creating plans at national, state
and district level and in the
lines of SENDAI framework, India's
first disaster management plan has
been adopted.

Further NDMA, 2005 also
mandates to create plans at each
ministry level and interministerial
coordination.

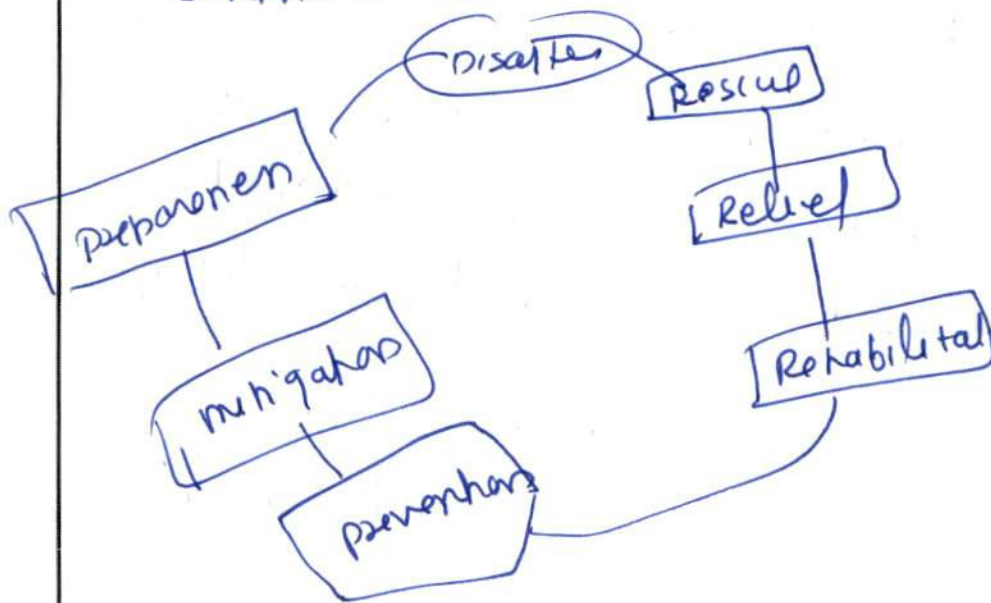
effectiveness of the plan

(1) comprehensive Definition of
Disaster with 15 disasters

(2) Each ministry has been -
assigned a clear role.

eg. For Tsunami and Cyclones-
Ministry of Earth Sciences.

(3) The plan recognizes DCM —
continuum cycle



(4) Plan also put ethical guidelines
for media to show disaster
victims (human rights angle)

(5) community participation has been
envisaged

Issues with the plan 1.

- (1) No specific targets - unlike the sendai framework.
- (2) No Disaster ~~insurance~~ Insurance
- (3) Knowledge of local people and traditional knowledge has not been adopted accordingly.
- (4) Role of private sector has not been highlighted clearly.
- (5) silent on mobilization of funds.

Way forward

provision for using CSR funds, Disaster Insurance and enhancing technological capabilities to make the plan more successful.

19. A better prepared community is key to effective disaster risk reduction. Citing specific examples, examine the importance of the role of local government and community in dealing with disasters.

प्रभावी आपदा जोखिम न्यूनीकरण के लिए एक बेहतर रूप से तैयार समुदाय महत्वपूर्ण है। विशिष्ट उदाहरण देते हुए आपदाओं से निपटने में स्थानीय सरकार एवं समुदाय की भूमिका के महत्व का परीक्षण कीजिए।

(CP)
community participation in disaster
management is of paramount
importance highlighted by Hyogo
Sendai, JCP and committee and
2nd ARC.

Why role of community participation
is paramount -

(1) Initial hours are the golden
hours and local community
is first to respond.

(2) Local community is more aware
of local topography & challenges

(3) Local community is key

Component in providing Psychological
support to victims.

(4) community preparedness can
help in effective mobilization-
of resources, doctors, volunteers -
Hospitals etc.

Recommendations of 2nd ARC

(1) Local community should -
prepare a list of available
resources and manage them
effectively during disasters.

specific example

(1) During cyclone Hudhud,
and phalin, community
preparedness maximized

the human life loss and -
Economic damage.

(2) During manmade disaster -
crisis community involvement -
increased coping capabilities.

The National Disaster
Plan 2016 envisions higher -
participation of Local Bodies, communities
and private sector to improve
the resilience to deal with disaster.

20. What is the role of NDRF in managing disasters in the country? Highlighting the challenges that NDRF has been facing, discuss why it is still the armed forces which end up being the most visible force at hand during disasters.

देश में आपदाओं के प्रबंधन में NDRF की क्या भूमिका है? NDRF द्वारा सामना की जाती रही चुनौतियों पर प्रकाश डालते हुए चर्चा कीजिए कि आपदाओं के दौरान केवल सशस्त्र बल ही क्यों अभी भी सहज और सर्वाधिक उपलब्ध बल के रूप में दृष्टिगोचर होते हैं।

NDRF (National Disaster Response Force) were created after through NDMA - 2005. It comprises of various Battalions of Central Armed police forces (CAPF)

```

graph TD
    CAPF[CAPF] --- CISF[CISF]
    CAPF --- CRPF[CRPF]
    CAPF --- BSF[BSF etc.]
  
```

challenges of NDRF

- (1) No Separate cadre : ^{Due to} deputation system, experience of trained personnel is not utilized effectively.

(2) Personnel from other services comes ~~from~~ for 5 years - and after completing 3 years of training, they have very less time to serve.

(3) Undermanned NDRF

(4) Issue of funds -

(5) overreliance on Army

Foreg. - operation Satdharna in J&K flood was carried out by Army not by NDRF.

• Similarly during UK Cloud Burst Army was used extensively.

