



SHUBHRA RANJAN

Always Ahead

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GS Answer Writing Module 2023

Test 3

Time Allowed: 1 Hour 30 Minutes

Max Marks: 125

Name: AAKRITI

Test Submission Date: ~~24/8/22~~ 11/8/22

Email Address: [REDACTED]

Instructions:

1. All questions are compulsory.
2. Question 1-5 10 marks each & Word Limit 150.
3. Question 6-10 15 marks each & Word Limit 250.
4. Answers must be written in the medium authorized in the admission Certificate, which must be stated clearly on the cover of the booklet in the space provided.
5. Content of the answer is more important than its length.
6. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
7. All parts of the question should be written at one place itself.
8. Filling all the details in BLOCK LETTERS is mandatory.

Q. No.	Marks	Q. No.	Marks
Q1		Q6	
Q2		Q7	
Q3		Q8	
Q4		Q9	
Q5		Q10	
Total Marks:		Evaluator Code:	

For any issue related to GS Test Series, write only at testseries@shubhrranjan.com



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	Poor	Average	Good	Very Good	Excellent
Understanding of Questions					
Structure & Flow					
(a) Introduction					
(b) Conclusion					
(c) Overall					
Subject Knowledge					
Presentation					
(a) Underline					
(b) Paragraph					
(c) Overall					

Overall Remarks:

Dear Student,

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.



Que.1

Explain the phenomenon and characteristic of Indian Ocean Dipole? Elaborate its impact on Indian monsoon. (10 Marks, 150 Words)

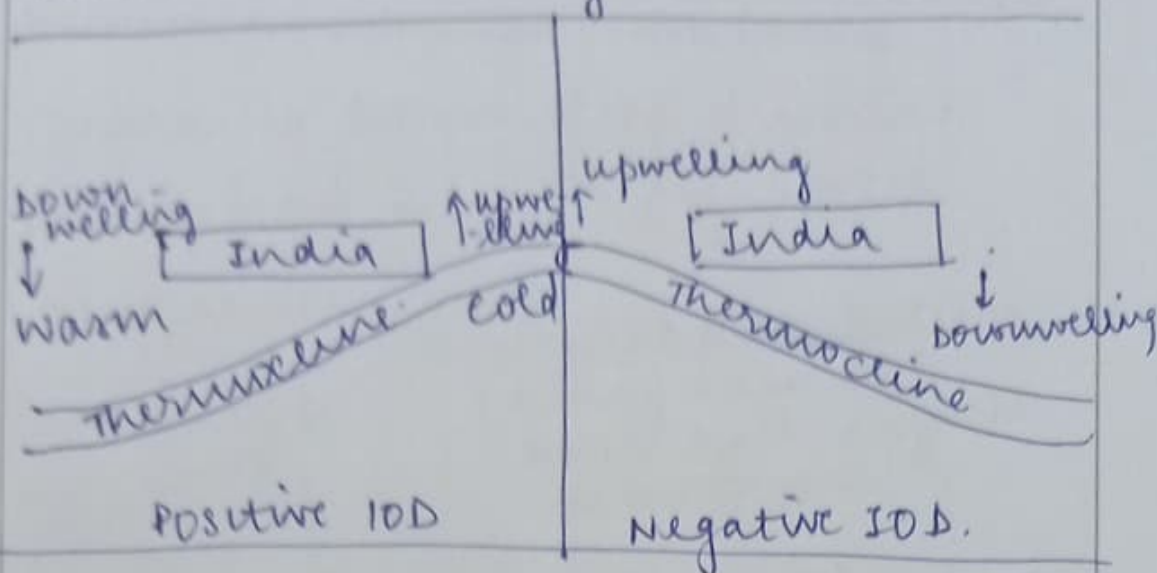
Indian ocean dipole is a ^(IOD) sea surface temperature anomaly in equatorial Indian ocean. It is an oceanic and atmospheric phenomenon, often regarded as the counter part of El Niño Southern Oscillation (ENSO) event in Indian ocean.

characteristic

- ① It has three phases → positive, negative & neutral.
- ② Positive IOD ⇒ warm western Indian Ocean (Arabian sea).
Negative IOD ⇒ warm eastern Indian ocean (Indo-Pacific).
- ③ Thermocline differential appears marking upwelling



and downwelling.



Impact on Indian monsoon

(1) Positive IOD causes a delay in withdrawal of monsoons (2019) $\Rightarrow$ beneficial to economy

(2) Increased rainfall $\rightarrow$ Positive IOD (even floods, cyclones) in Arabian sea
Decreased rainfall $\rightarrow$ Negative IOD (draughts, cyclones) in Bay of Bengal

(3) Positive IOD can also offset the impact of El Niño on Indian monsoon (2006, 1994).

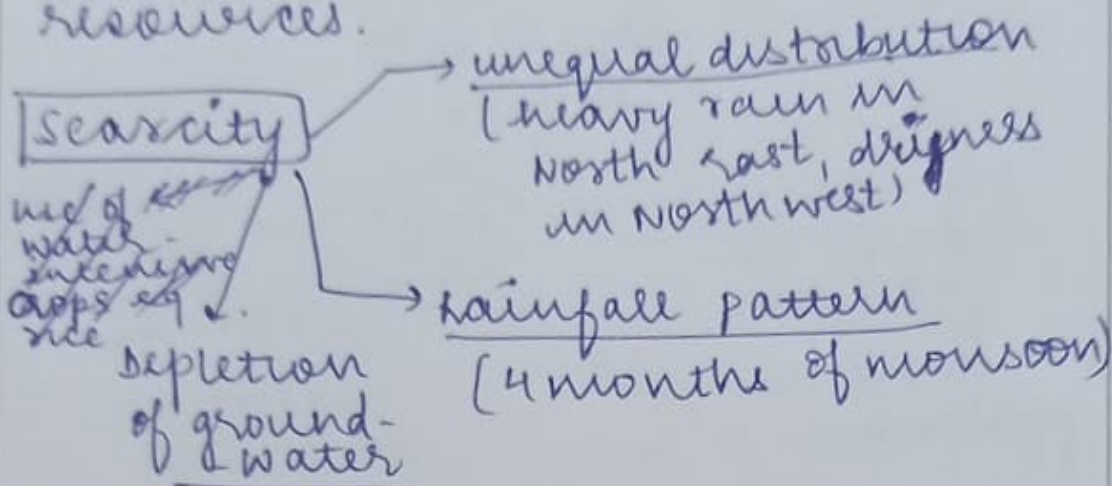
Indian Ocean Dipole is a rather recently discovered phenomenon. Its complete impact on Indian ocean is still being studied.



Que.2

Instead of a scarcity of available water, poor management is to blame for India's current water problem. Explain (10 Marks, 150 Words)

India is home of 18% of world's population and ^{only} 4% of water resources.



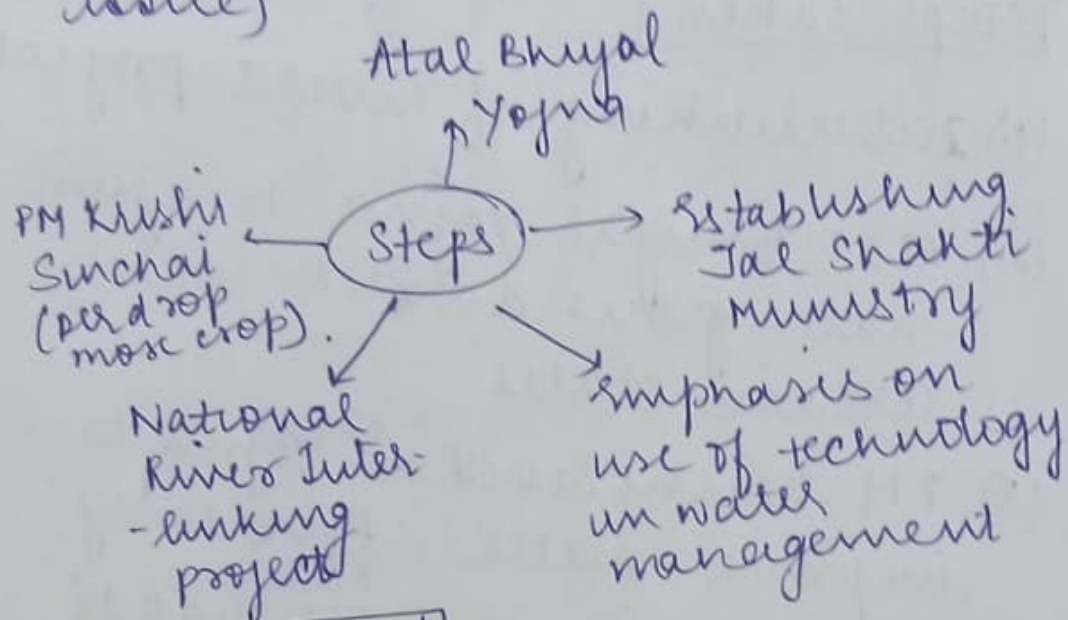
Poor management

- (1) ~~Less~~ Inadequate capturing of rainfall (only 8% → very low)
- (2) Expansion of cemented area → reduced groundwater rejuvenation
- (3) Flooding in some areas while droughts in other.
- (4) Excessive groundwater exploitation especially in

North-west India

(5) Reliance on water-intensive crops.

(6) Wastage of water (Behavioral issue)



Way forward

(1) Improve rainwater harvesting
→ community participation

(2) Micro-irrigation → prevent wastage.

(3) Technology & data use - water management (e.g. sensors).

Therefore, water is a critical natural resource that must be preserved & used sustainably not just for present but also future generations.



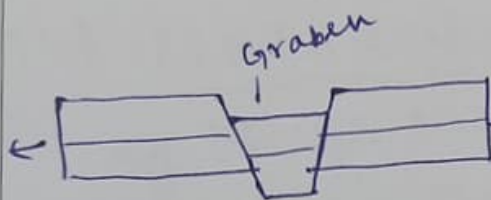
Que.3

What is faulting? Describe its various types and the resultant landforms of faulting. (10 Marks, 150 Words)

Faulting refers to the fracturing or breaking of landmass along a zone of weakness, usually due to force of tension.

After breaking up, the land mass moves to give ~~give~~ different types of geographical features.

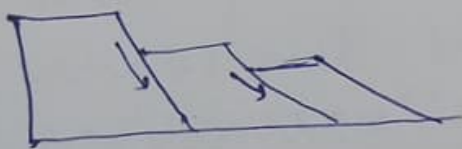
Types of faulting



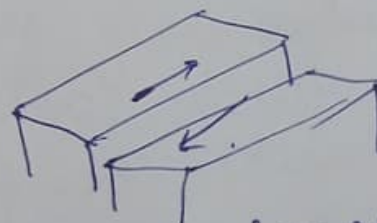
Normal fault



Reverse fault



Step fault



Transform fault
Dextral → Rightward.
Sinistral → Leftward.

Horizontal
movement
- cut



Landforms created

- (1.) Rift valley eg. Narmada
Rift valley, Great East African
Rift valley
- (2.) Block mountains eg. Vindhyas,
Blackforest Block mountain
(Germany).
- (3.) Steps / Traps eg. Deccan
traps.
- (4.) Plateaus ~~eg~~ & Basins
eg. These are due to warping
of earth's crust
uplifted → plateau eg Deccan
depressed → Basin eg Victoria
basin
(Africa).

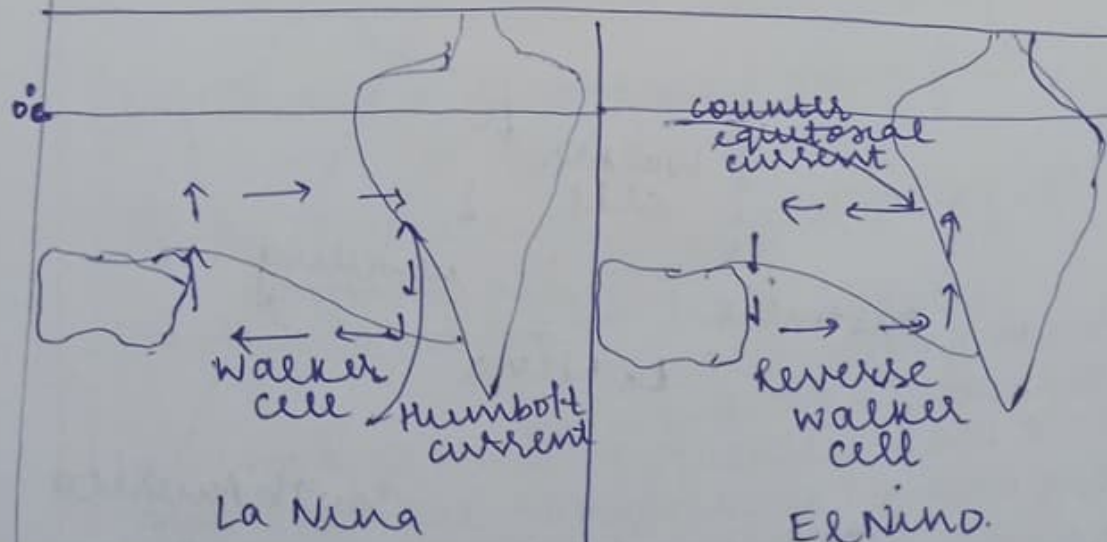
Faulting is not only geomorphologically important but also socio-economically eg. petroleum deposits in porous sedimentary rocks faulted against impervious shale bed.

4 discuss El Niño & La Niña & explain their impact on weather system around the globe. (10m).

El Niño & La Niña are opposite phases of the El Niño Southern Oscillation event (ENSO).

EL Niño → warm ocean along Chile-Peru
(warm phase)
→ weakened trade winds
→ cool ocean along Australia

La Niña → warm ocean along Australia
(cool phase)
→ strong trade winds
→ cool ocean along Chile-Peru.



Impact

El Nino

- (1) India → increased droughts, reduced rainfall
- (2) Australia → coral bleaching along the coast, reduced rain, forest fires.
- (3) US, Canada → reduced intensity of winters, reduced hurricanes.
- (4) Chile, Peru → increased rainfall, floods, adverse impact of fish-based economy.
- (5) Antarctica → melting of ice

La Nina

- (1) Europe → mild winter in North Europe, cold winters in South / West Europe.
 - (2) India → increased rainfall, flooding
 - (3) Australia → increased rainfall, floods
 - (4) ^{North America} ~~US, Canada~~ → hurricanes, tornadoes, strong winds in equatorial Pacific.
- La Nina & El Nino typically last 9-12 months, but sometimes even years, affecting global weather conditions.



Que. 5

What do you understand by sedimentary basins? Also, explain the characteristics of Indian sedimentary basins. (10 Marks, 150 Words)

Sedimentary basins refer to the low lying area of in earth's crust of tectonic origin. They are formed over millions of years of deposition of eroded material & precipitation of chemicals from water.

characteristics

- (1.) India has around 26 sedimentary basins eg. Krishna-Godavari, Assam-Arakan etc.
- (2.) 49% → land, 39% → Deep water
12% → shallow water, found in India
- (3.) sedimentary basins have rich hydrocarbon deposits eg. Cambay's 2/3rd deposits discovered.



14) 3 categories of sedimentary basins

I → Basins with reserves being exploited

II → Basins with contingent reserves not yet exploited

III → Prospective reserve basins

Indian sedimentary basins can help India achieve energy self-sufficiency. By discovering potential reserves & ensuring sustainable utilization, India's oil import dependence can be reduced. Data development & dedicated exploration can help



Que. 6

Government policies play an important role in the location of industries. Elaborate. Mention steps taken by the Government of India to stimulate industrial activity in underdeveloped regions. (15 Marks, 250 Words)

Government policies are one of the most important factors in promoting industrial development in an area.

Role of government policies

- (1) Facilitating investments
eg Special Economic zones,
National Industrial Manufact-
-uring zones
- (2) Electricity & water supply
for industries in a state,
land clearance norms etc.
- (3) Enabling infrastructure eg
Software parks, Mega food
parks etc.
- (4) Tax incentives & holidays



incentivize industries

- (5) conditional permissions eg.
a bank has to open 25%
branches in rural areas
to get banking license
- (6) skill development policies
of a state ensure the pool of
labour needed in an industry
- (7) Road & other connecting
infrastructure to coastal
areas for export, market
access etc. also enables
setting up of industries

Steps taken by government

- (1) North East Industrial & Invest-
ment policy → GST compensation,
tax holiday
- (2) Loans given in North East,
hill states etc. will be given



additional percentage to fulfil
Priority Sector Lending Norms.

(3) Jammu & Kashmir industrial
development policy to boost
development of districts

(4) Backward Regional Develop-
ment fund

(5) PM Swasthya Suktasha Yojna
to open AIIMS in regionally
backward regions

(6) UDAN-RCS for improving
market connectivity → industry
growth.

(7) Freight subsidy scheme for
Uttarakhand, Dargeling etc. to
encourage freight movement

Thus, state policy can have an
enabling impact on balanced
regional development of industries,
not only benefitting economically
but also socially (tackle regionalism)



Que.7

Indian ocean region is pivotal to India's growth. In this context explain how genome mapping of Indian ocean will aid in this regard. (15 Marks, 250 Words)

India is blessed with a coastline of 7516 km & this presents an opportunity for India to integrate the ocean resources in its development, sustainably.

Genome mapping of Indian ocean

- ① Provide knowledge of biodiversity in Indian ocean ⇒ repository enriched
- ② Provide access to mineral resources - calcium, nitrates, polymetallic nodules etc.
- ③ Promote further scientific exploration → Biotechnology development.
- ④ Help identify the impact of



climate change on marine biodiversity & guide of the steps to be taken to prevent or adapt.

- (5) The vast knowledge of marine resources can also offer health & economic benefits to the country

challenges

- (1) Inadequate technology eg. Matsya 6000 will allow human carrying submarine exploration → initial stage of technology development

- (2) environmental concerns → sustainable exploration must be ensured

- (3) Private sector involvement is inadequate.



- (14) Financial crunch → economic slowdown & fiscal deficit

Way forward

- (1) Public private partnership must be encouraged to retrieve maximum benefit
- (2) The exploration & exploitation must be done sustainably
⇒ standards can be set for any exploration
- (3) Roadmap can be created → timeliness.
Indian ocean ~~so~~ holds an important place in India's sustainable growth targets.
India has shifted its emphasis on development of "Blue economy", which holds many economic, social & environmental benefits (fisheries, nutrient & food security, sequestration etc.

Que.8

In recent years Brahmaputra Valley has become susceptible to recurrent floods. Discuss various reasons for it and suggest suitable measures for mitigation. (15 Marks, 250 Words)

Brahmaputra Valley flows through eastern & North-Eastern India. The floods in Assam have been increasing in intensity over the years consistently.

Reasons -

- (1) Climate change → changing weather → extreme rainfall events
- (2) Absence of embankments
- (3) Brahmaputra moves constantly & has a braided pattern.
- (4) Topography → presence of low lying areas.
- (5) Lack of effective control.

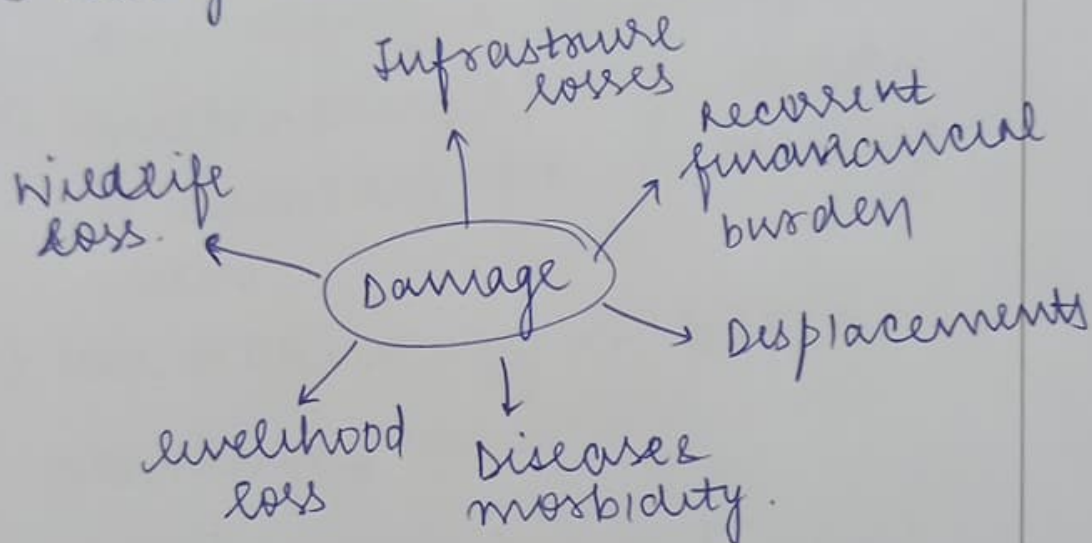


and management.

(6) China only provides data on river water release in upper catchment & that too sporadically.

(7) Failure of early warning system.

(8) Heavy siltation.



Measures to mitigate

(1) Embankments must be created to contain flood water

(2) Effective early warning



System is essential for minimizing losses.

(3) Environment Impact Assessment → mandatory to prevent infrastructure in high risk areas.

(4) Flood map zonation for effective administrative controlling & management

(5) constructing sponge roads to embrace the incoming water.

(6) use technology → GIS, AI, warnings etc

Flooding is the second most expensive disaster in India after cyclone. The area prone to floods is expected to rise to a whopping 60 mha by 2050. Effective measures today will reduce damage tomorrow.



Que.9

"Cotton textile industry has an important place in the economy of the country". Account for geographical distribution of cotton textile industry in India. Also, mention government initiatives taken to boost the sector. (15 Marks, 250 Words)

Cotton industry is considered the second most developed textile industry of India. India is the world's largest producer of cotton.

Distribution :



(1) Gujarat →
Surat, Vadodra,
Raykot etc.

(2) Maharashtra →
Nagpur, Bombay.

(3) Tamil Nadu -
Madurai,
Coimbatore,
Chennai etc.

(4) Karnataka → Bangalore, Mysore,
etc.

(5) Madhya Pradesh → Indore, Gwalior



(6.) Uttar Pradesh → Lucknow, Kanpur
Varanasi etc

(7.) West Bengal → Kolkata,
Murshidabad etc

Factors responsible Government

(1.) Electricity supply adequate
& consistent

(2.) Water supply

(3.) Soils → Black soil, alluvial
(Maharashtra, Gujarat)

soil red soil (Karnataka).
(Uttar Pradesh)
(4.) cheap & easy sand acqui-
sition

(5.) State policies → development-
al & regulation outlook of
the government, export duties,
transport etc.

Challenges

- Raw material scarcity
- High import cost of cotton



→ expensive raw material from domestic sources.

→ global competition eg Bangladesh, Europe etc.

Government initiative

(1) Amended Technology Upgradation Fund scheme →

- credit linked capital investment subsidy.

(2) Zero Defect Zero Effect → concessions for MSMEs.

(3) Textile SAMARTH → demand based placement oriented skilling scheme.

(4) PowerTex India → All inclusive scheme for development of powerloom sector.

With textile industry contributing 4% to GDP, cotton industry plays an important role in economy. By overcoming challenges, the growth & development can be given an impetus.



Que.10

Increased human encroachment on the environment along with climate change has led to an increase in the occurrence of landslips in the country. Examine the causes of frequent landslides in India and suggest suitable measures to prevent this phenomenon and mitigate its effects. (15 Marks, 250 Words)

Nearly 12% of Indian land is prone to landslides.

Landslides means slipping of rocks, mass of sand etc. on a slope under gravity or through sudden events.

Causes

- (1) Earthquakes → cause shaking
- (1) Geological → weak, fractured rocks, presence of clayey soil under country rocks
- (2) Morphological → loss of vegetation, agricultural expansion, droughts, sloping, deforestation.
- (3) Meteorological → heavy rainfall, earthquakes, glacial lake outburst floods, cloud burst



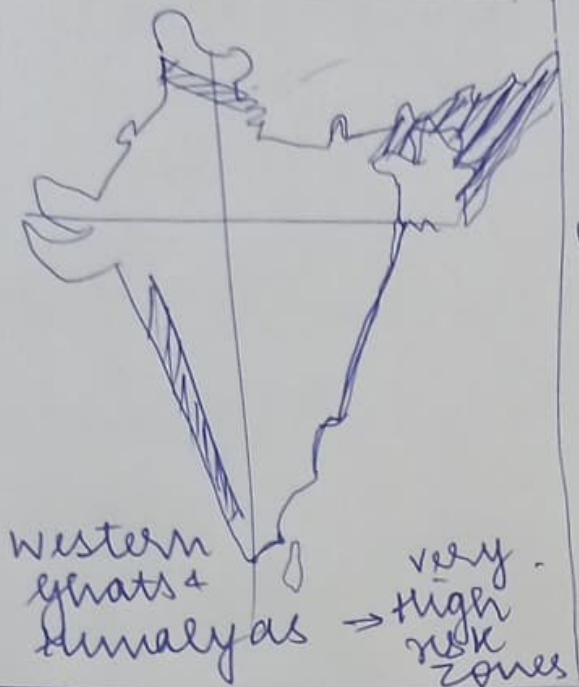
- 4) Anthropological → infrastruc-
-tural in sensitive areas,
rapid urbanisation, mining,
unsustainable tourism

Steps taken

- (1) Since 2020 monsoons, diurnal
forecast is given in Nilgiris
△ Darjeeling
- (2) NDMA guidelines on land-
-slide zonation
- (3) GSI's National Landslide
Susceptibility Mapping.
- (4) GSI is planning to add more
States under Landslide
Early Warning Systems (LEWS),
under the LANDSLIP project

Measures to be taken.

- (1) mandatory environment
Impact Assessment for.



all projects in
risky states

(2) High risk zones
should be
declared a
"No-go" zone.

(3) Increasing
funding for
landslide

planning & mitigation efforts.

- 14) Micro zonation in hilly areas
& construction of bunds to reduce
flow.
- 15) Community participation
is essential for landslide
Disaster Management.
- 16) Prevent deforestation &
agricultural encroachments
in North East & hilly states.

~~17~~