655

Roll - 36044

GS SCORE

GEOGRAPHY TEST SERIES 2021

TEST - 05

132

GEOGRAPHY

Time Allowed: 3 hrs. *Max. Marks: 250*

Instructions to Candidate

- Good Attempt
- Focus on improving structure
- Content & Concepts are solid.

- There are Eight questions divided in two Sections.
- Candidate has to attempt FIVE questions in all.
- Question Nos. 1 and 5 are compulsory and out of the remaining. THREE are to be attempted choosing at least ONE question from each Section.
- The number of marks caarried by a question/part is indicated against it.
- 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.
- Word limit in questions, wherever specified, should be adhered to.
- Illustrate your answers with suitable sketches/maps and diagrams, wherever considered necessary. These shall be drawn in the space provided for answering the question itself.
- Attempts of questions shall be counted in chronological order. Unless struck off, attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in the answer book must be clearly struck off.

Name YASHARTH SHEKHAR

Mobile No. _____

1. *Invigilator's Signature* _____

Date 26/11/2021

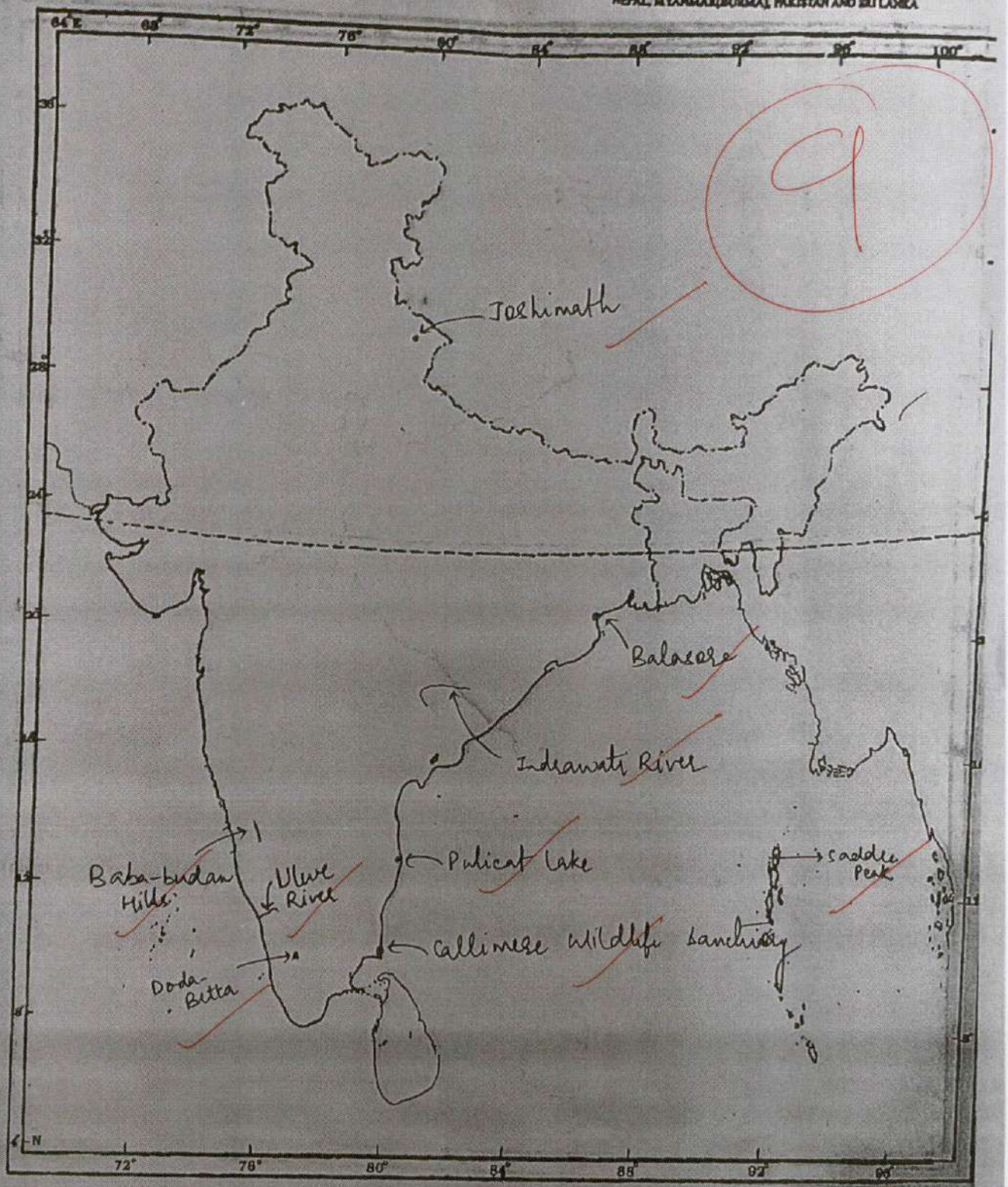
2. *Invigilator's Signature* _____

Signature _____

Topic..... Class Practice

INDIA

WITH AFGHANISTAN, BANGLADESH, BHUTAN
NEPAL, MYANMAR(BURMA), PAKISTAN AND SRI LANKA



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SECTION-A

Attempt all questions:

1. Answer the following questions in about 150 words each: (12.5 × 4 = 50)

   (a) Locate these map entries on the map and write about 50 words

   (1.) Joshimath

   (2.) Indravati River

   3. Vellayani lake

   (4.) Saddle Peak

   (5.) Dodabetta

   (6.) Balasore

   7. Ulwe river

   (8.) Calimere Wild Life Sanctuary

   (9.) Pulical lake

   (10.) Bababudan Hills

   (b) Write a short note on Malabar coastal region.

   (c) Write a short note on Shiwalik Himalaya.

   (d) Write a short note on emerging sources of clean energy

(1) Joshimath – an important religious centre in Uttarakhand. Associated with life of Shankaracharya who established one of his maths here. On route to Badrinath, close to river Alaknanda

(2) Indravati River – a river in Chhattisgarh, flows through Bastar Plateau and Dandakaranya Forest – Hotspots of Naxalism. Indravati Tiger Reserve on this river, along with Chitrakote waterfall.

Remarks

(3) Vellayani Lake - an important tourist lake located in Tamil Nadu. Boating and ~~birth~~ bird-watching important activity. Natural lake - freshwater - with crystalline based.

(4) Saddle Peak - highest peak of Andaman and Nicobar Islands. Located inside Saddle Peak ~~North~~ National Park. Located on the North Andaman Island. Main species include Andaman shrew, Mangroves on coast and corals flank the coast.

(5) Dode-betta - Highest peak of Nilgiris - Home of Toda and Palayars Tribes - part of Western Ghats. Forested by sholas and species endemic like Nilgiris langurs and Lion-Tailed Macaque found.

Remarks

(6) Balasore – also called Baleshwar – used by Bagha Jatin, a freedom fighter as HQ + it has integrated Test Centre for ~~DRD~~ DRDO testing new weapon. located close b APJ Abdul Kalam Island. Chandipur

(7) Ulwe River – an important river in Kerala where Always Aluminium Plant is located. Used for Tourism and fishing and generate employment activity.

(8) Calimere Wildife Sanctuary – Blackbuck is the flagship species + drained by Kaveri distributary. Formed by expanding deltas of Kaveri. Within city of Nagapattinam.

(9) Pulicat Lake – formed by coastal sea wave deposition in form of Sri-hari-kota Island

Remarks

+ Brackish lake shared between Andhra and Tamil Nadu. ISRO launching pad very close it.

(10) Baba-Budan Hills – Coffee growing hills, on the Western part of Karnataka + iron-ore mines on it (Kemmangundi) + drained by Bhadra and Tungaa river. Has Tropical & evergreen to & wet deciduous forest

(b) (1) Malabar coastal region is politically confined in Kerala.

(2) It is relatively moderate to narrow coastal region extending from Kannanore to Kanniyakumari

(3) Many cities on it like Kochi, Kotlayam etc

(4) Drained by West flowing rivers like Bharatpuzha, Periyar Pambiyar, etc – made up of course textured deposits.

Remarks

(5) coastline continuity is broken sea-wave deposition formed advancing tombolos and sandbar forming Kayals or Backwater - used for tourism

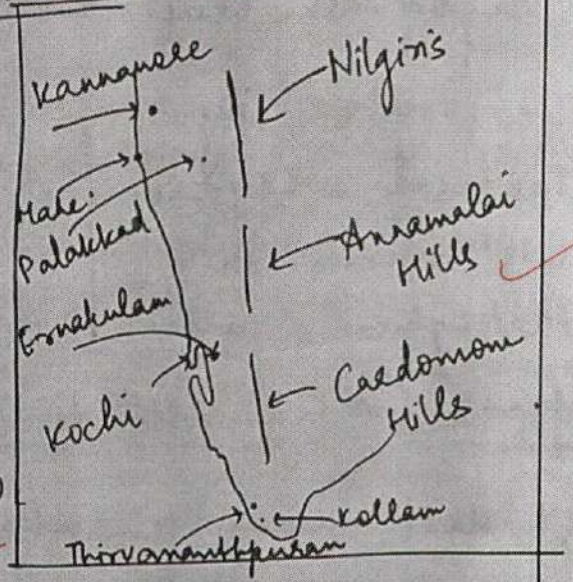
(6) ~~used~~ Economic activity

(1) ~~Es~~ Coconut growing

(2) Tourism on Houseboats

(3) Rice cultivation called Kuttanad (Below sea level)

(4) Pisciculture as well



(7) Many tribes inhabit it - Agastya, Palayar, Todas as well. emerged

(8) Formed by submergence of coast which now displays tectonic stability. Narrow continental shelf as compared to Konkan coast.

(9) Flanked by Tropical Evergreen trees like Ebony, etc

(10) Animal species like Lion Tailed Macaque, Hornbills found.

Remarks

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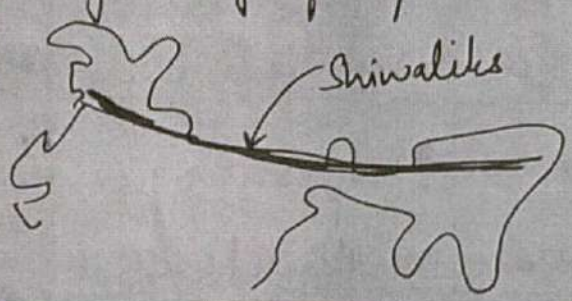
(1) Shiwalik Himalayas were formed last in the Himalayan Orogeny around Pliocene to Pleistocene period [lowest average height]

(2) Made up of Marine deposits + Fluvial → Flogback topography due to asymmetry of slope



(3) Forested by Tropical evergreen (NE) species like Mahogany to Alpine species (at high altitude) like spruce, fir, pine etc

(4) Host many important cities like Haridwar, Dehradun (formed due to impound of lake created by Shiwalik rise).

(5) Have "Duns" (longitudinal valley) and Duars (latitudinal valley) eg. Haridwar and Kotlidun

(6) Existed as dissected range in form of river divided relief eg. Miri, Abor, Mishmi etc.

(7) Flanked on the south by alluvial fan in term of Bhabar deposit where river disappear.

Remarks

known by diff names in diff regions.

diff vegetation ↑ (W–E)

Hill Station

GS SCORE

(8) Broad in West and almost non-existent in the East.

(9) Connected to plain by Himalayan Front Fault and to Himanchal range by Main Boundary Fault.

(10) Since they have exploited and deforested at many place it leads to landslide and environmental issues at places. eg Landslide in Rishikesh.

(d) PM Modi announced one "Panchamrit" on during COP 26. One pledge was to reduce emission intensity by 45% of 2005 level by 2030 and 500 GW of RE by 2030. Another was to use 50% of energy as RE. To accomplish, them, we have to explore new & energy sources. Advantages include

(1) ↓ CO_2 emission (2) ↓ pollution (3) ↓ Climate change

(4) ↓ import bill of forex/oil (5) Help us meet our NDCs.

5

relevant content needed

Remarks

(6) ↓ import induced inflation
(7) ↓ lung related problem.

establish clean energy sources

So we are exploring solar energy in term of solar Plant and wind energy at places like Jaisalmer.

Emerging
- H-Fuel cells
- Cold Fusion
- Ocean
  - → Tidal
  - → Wave
  - → Current

Other new emerging source include Biofuel as part of Ethanol Blending program to achieve 20% blending by 2025

Conventional other sources include Nuclear energy with an issue of disposal of nuclear waste.

GOI has set a Target 500 GW of RE. Majority of which comes from Solar and Wind. However, goi is promoting EV with electricity generation from Hydrogen under National Hydrogen Mission

Issues with clean energy:
(1) Interruptive nature of generation
(2) High cost of solar panels
(3) Battery storage infra is needed.
(4) unemployment problem from phaseout of coal, etc
(5) Lack of Awareness.

Remarks

2. Answer the following questions:

(a) Differentiate between Dharwad and Cuddapah rock system in India. Discuss its significance in the economic development of India. (250 Words) (20)

(b) Discuss the effects of relief and climate on the distribution of natural vegetation in India. (200 Words) (15)

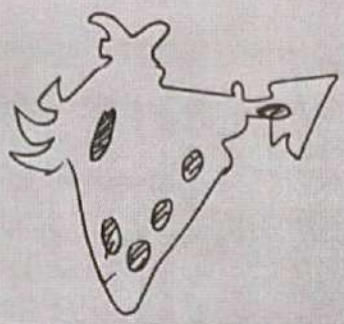
(c) What is the genesis of the Cauvery interstate river water dispute? What are the prospects of a national water grid in addressing the issue? (200 Words) (15)

Dharwad and Cuddapah are both part of Pre-Cambrian Rock structures in India.

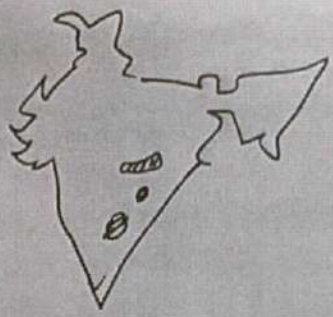
	Dharwad	Cuddapah
Time	- 4000 Bn - 1400 year ago	1400 - 600 years ago.
Nature	Metamorphosed sedimentary rock	Sedimentary rock
Fossil	No	Yes, may contain
Mineral	Mainly Metallic	Metallic like Fe, Iron, + Non-metallic like Sand, Shales etc
Distribution	Around Dharwad in Karnataka, Aravallis, Chattisgarh, Chota Nagpur Plateau, Meghalaya	Around Cuddapah + Bastar area, etc.

12 good

Remarks



→ Largest source of Iron Ore

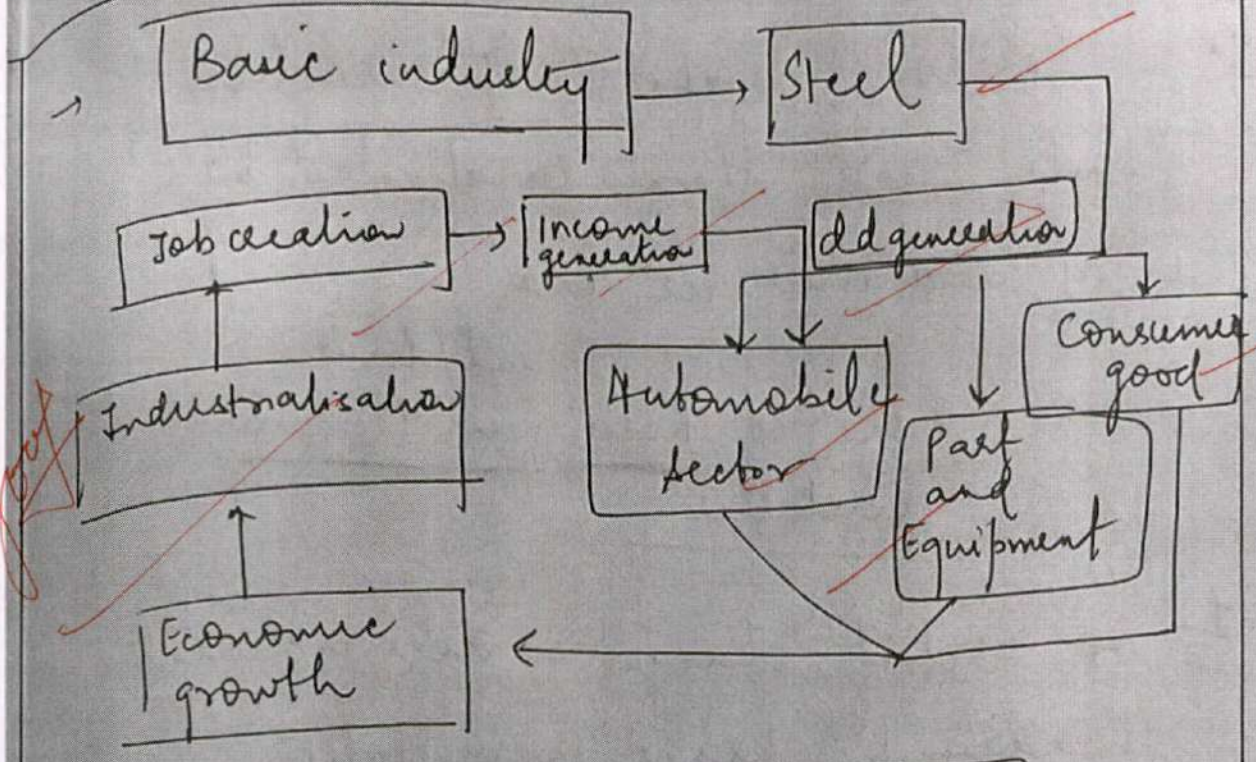


→ 2nd Largest source of Mineral grade limestones

Economic Significance of Dharwad

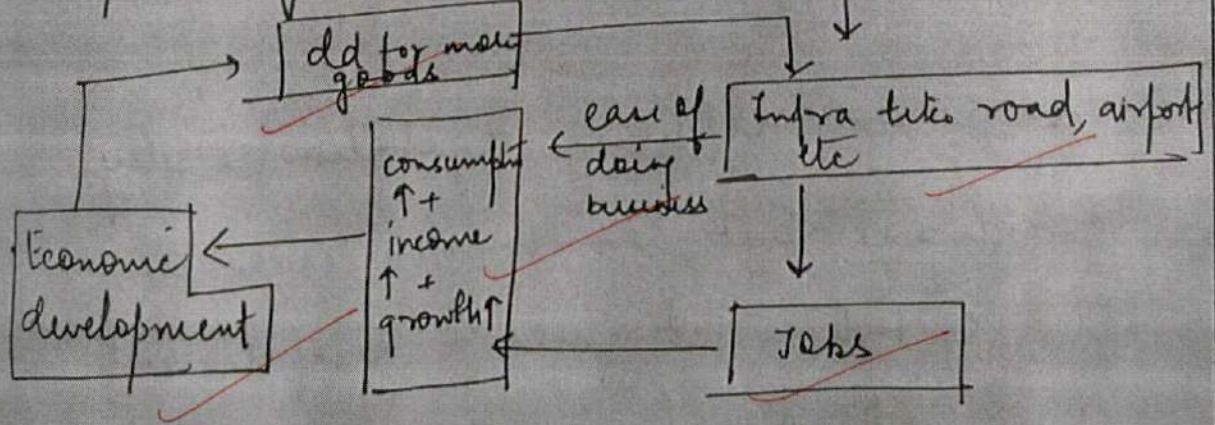
- Foundation of major metallic minerals like Iron at Kemmangundi, Sundargarh, Baila Dila, Kiriburu, etc
- Form foundation of basic good industry like iron and steel industry
- Provide employment
- Source of Copper, Zinc, Gold, Silver are also found in Dharwad rock system.

Remarks



Economic significance of Cuddapah

→ source of shale, sand and mostly importantly limestone ⇒ creation of cement



Remarks

(b) Natural vegetation is a function of climate and Climate is affected by relief and vice versa.

Role of Relief and Climate in Natural Vegetation

I As relief change so does climate leading to change in vegetation eg. as height increase on the Western side of Western Ghats so does rainfall and temperature affecting the type of vegetation eg. at

II At lower altitude, vegetation is dry deciduous but as height increases, the vegetation get more rainfall and thus wet deciduous species may be found.

arguments need to be organised more logically

Avoid repetition

Himalayas would be a more appropriate example - Vegetation changes with altitude

Remarks

III the fact that Monsoon wind blow parallel to Aravallis leads to low rainfall which in term leads to Tropical Thorny vegetation with species like Acacia, Euphorbia, Dhaman, etc.

IV Area located on leeside experience very little rainfall thus dry condition eg. Ladakh

V Area on the Northern slope receive less sunlight ⇒ different climate ⇒ different vegetation
Ladakh.

VI The need of human to grow tea has forced them to plant tea in area with good drainage eg Darjeeling ⇒ thus relief influences human decision for planting natural vegetation.

Remarks

VII As height increase in the Himalayas, the temperature decrease and we see a transition from Tropical (at Haridwar) to Alpine (at Nanda Devi and Valley of flowers)

VIII In upper altitude area, air drainage at night affect vegetative cover due to frost formation eg. valley of Pithoragarh*.

IX Climate influences adaptation mechanism thus a species which adapt becomes part of that area eg. Needle leaves of Pine in Alpine area or thick cuticle of leaves in desert.

In all these ways, relief and Climate influence natural vegetation.

(c) Cauvery interstate river water dispute arose with the formation of

Remarks

conceptual clarity needed - Introduce by identifying the parties to the dispute & highlighting the importance of the Cauvery

- Dispute emerged in colonial period itself
- Got amplified after States Reorganisation

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Tamil Nadu State by taking Tamil speaking area of Andhra and Karnataka and Kerala.

Mysore & Madras

Before then, the river was part of one geographical entity of Hyderabad State

Recent dispute is that of MEKEDATU PROJECT

Also other reason are responsible

1. Rise of Regionalism in anti-Hindi protest in Tamil Nadu
2. Federal Structure nature of polity
3. Politicisation of dispute
4. Need of development + Rising population + competing demand.
5. Dams in upper catchment areas eg. Mekedatu or Shimsha Reservoir.

Tribunal / Award / SC / Resolution / Current Situation

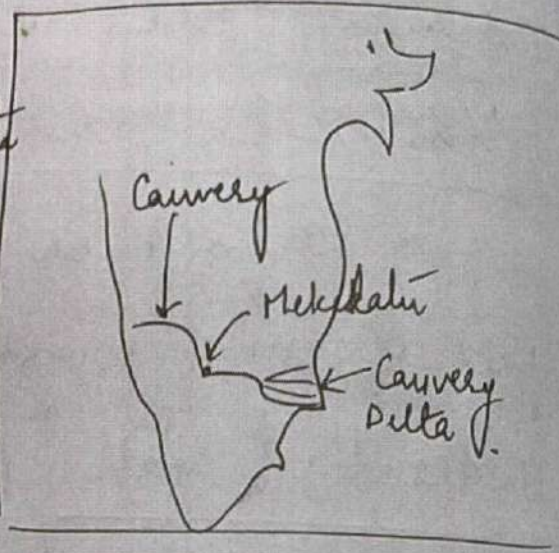
National Water Grid will contain info about the availability of water

Interlinking of rivers

Remarks

and thus help in making better judgements.

(1) It will help the States of TN and Karnataka to better understand each other position on respecting uses of water



(2) It will help the states understand the true nature of demand in their States

(3) The issues of climate change and future projection of water scarcity in National Water Grid will help the state better in depoliticising it and addressing issue rationally.

(4) It reduce the scope of conflict by providing idea on sustainable use of water resources.

(5) Encourage state to undertake measures like water harvesting, watershed management to manage situation alternatively.

Remarks

3. Answer the following questions:

(a) The current water crisis that India is facing would need innovative policies and proper implementation along with predominant human participation. Critically analyse this statement in the backdrop of Jal Jeevan mission. (250 Words) (20)

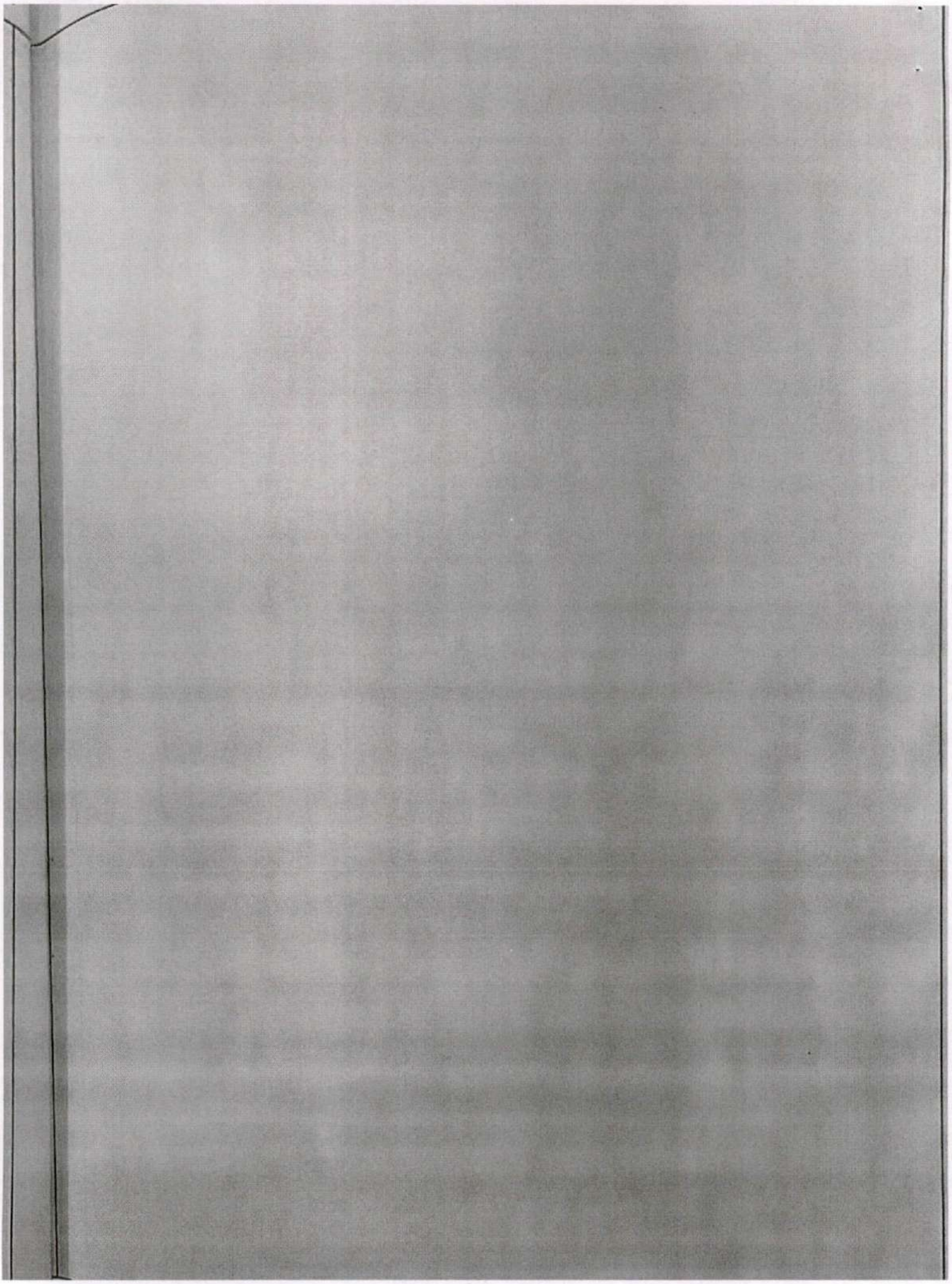
(b) Write a detailed note on Winter season of India. (200 Words) (15)

(c) Explain the geographical factors responsible for the growth of mangrove forest in India and discuss its role in coastal ecology and its conservation. (200 Words) (15)

(a) Per capita water availability in India is falling per year

Remarks

Remarks



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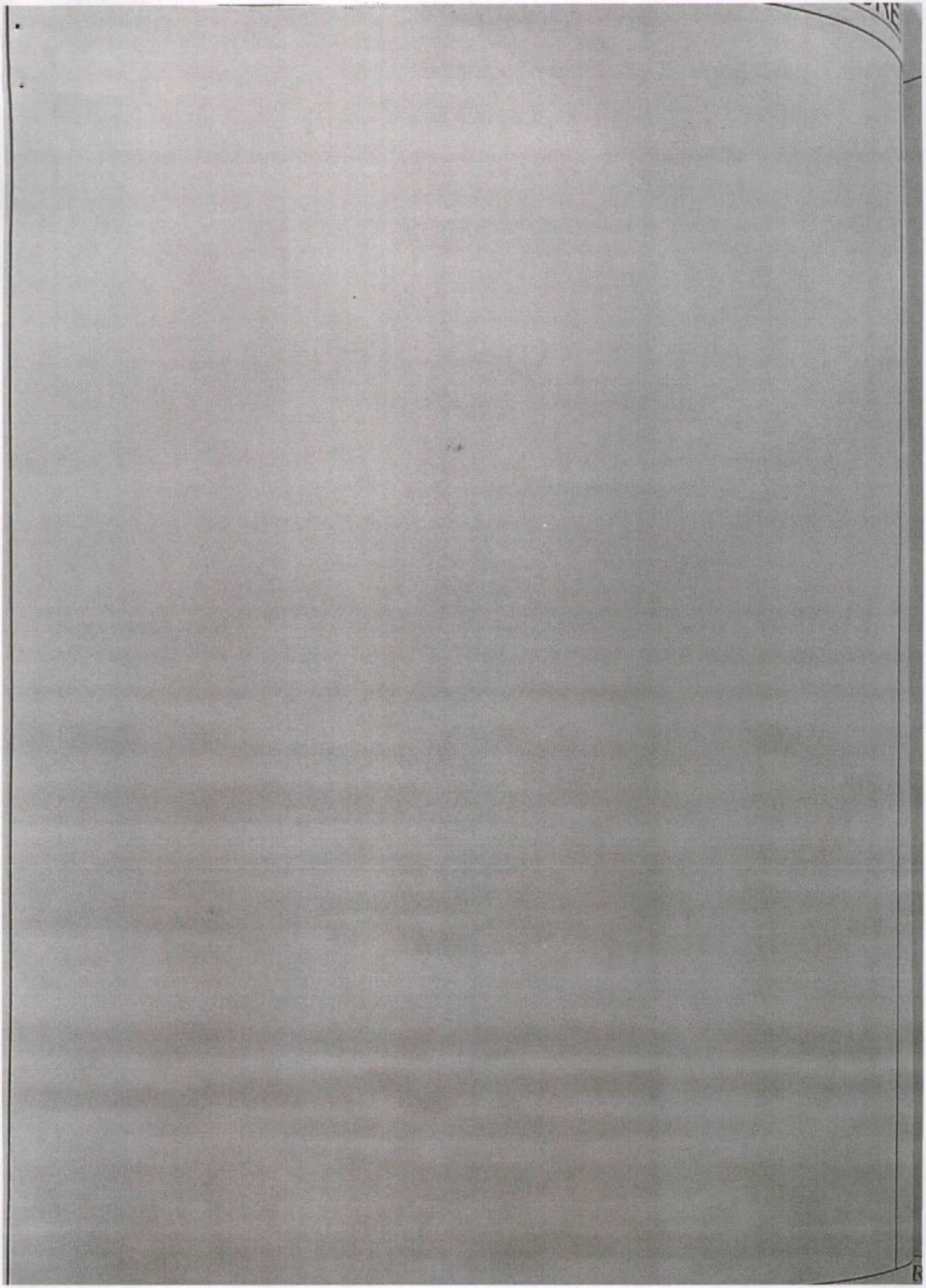
Remarks

Remarks



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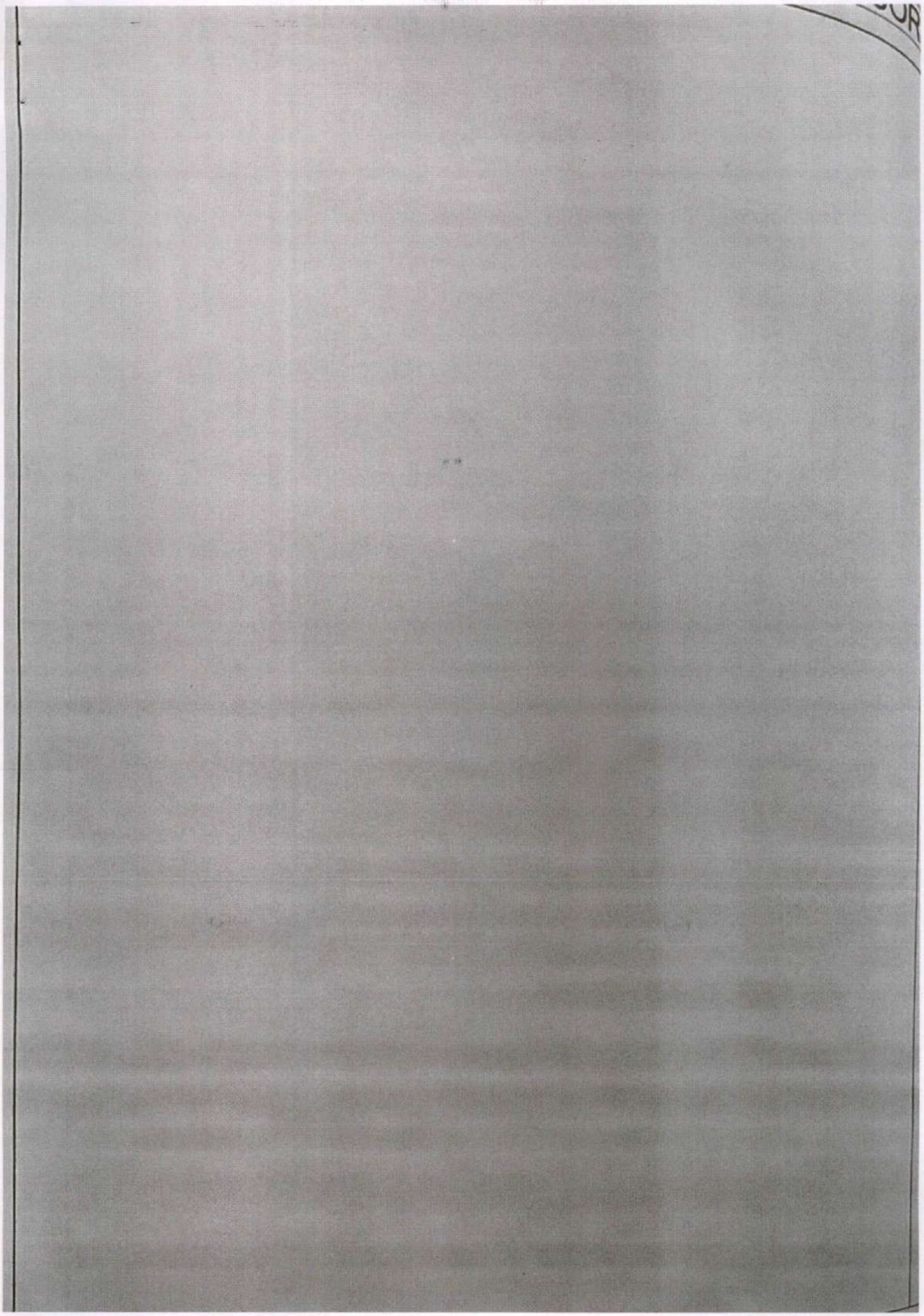


4. Answer the following questions:

(a) Discuss the Origin and mechanism of the Indian Monsoon in the light of recent theories. (250 Words) (20)

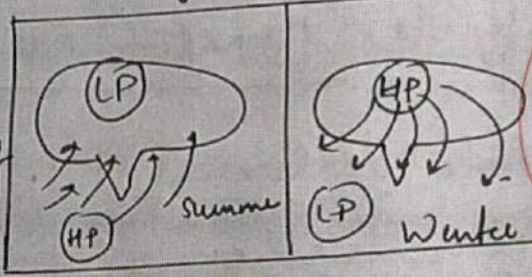
(b) Discuss the bases of climatic regionalisation and divide India into main climatic regions. (200 Words) (15)

(c) Discuss the origin and the physiographic features of the Himalayas. (200 Words) (15)

(a) Indian Monsoon is the result of many complex interactions and processes

(i) Early Theorist like Halley called Monsoon as land and sea breeze on a large scale

(ii) Flohn expanded the explanation by analysing the role of Equatorial Westerlies and argued that Monsoon were caused by shifting pressure belts



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good

III However, Later, Monex and P. Koteshwaram presented new aspects of Indian Monsoon to explain origin and mechanism:

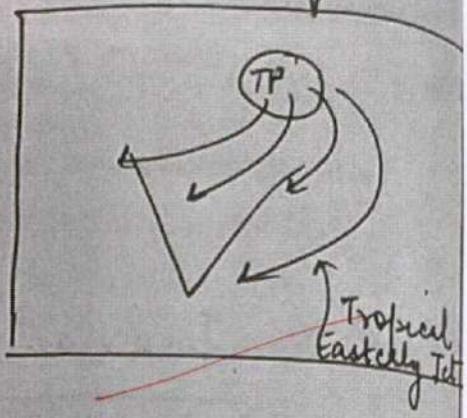
I Role of Tibetan Plateau → Heating and cooling (and snowfall) of (TP)

Remarks

affects the forming of Tropical Easterly Jet

Tropical Eastern Jet

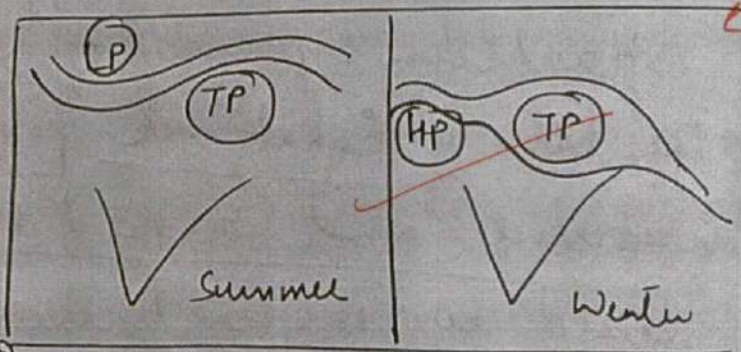
- intensified Mascarene High → ↑ Monsoon
- steer Tropical depression to India.



II Role of Sub-Tropical Westerly Jet Stream

it shift and division into 2 by Himalayas affects Monsoon burst in India.

III Role of Somali Jet in further strengthening of South West Monsoon winds



IV Recently, Madden Julian Oscillation have been found to affected Monsoon — presence ↑ quantity of rainfall.

V Another aspect of mechanism of Rainfall

Remarks

es the orographic nature as we witness in High rainfall on Windward side eg. West part of Western Ghats.

VI Climate change is affecting the rhythm of monsoon by changing avg rainfall of any season and delay in reversal eg 2021 Monsoon and Early arrival eg 2024. eg. Chennai floods of 2024.

VII Role of El-Nino and La Nina

↓ Monsoonal rainfall

↑ monsoonal rainfall

IOD

affected by Climate change as well

VIII Modern Theories also suggest the role played by IOD. + positive Indian Ocean Dipole enhances rainfall, while negative IOD reduce rainfall.

Remarks

All three factor have been suggested by new thinkers which affected monsoon.

(b) Many bases of climatic regionalisation

① Kendrew → used average annual rainfall

② Koeppen → vegetation = f(totality of climate)

↓

he used avg monthly monthly and yearly values of temperature and rainfall.

9 V good

③ R.P. Mishra → used temperature of coldest and hottest month and average annual rainfall

good

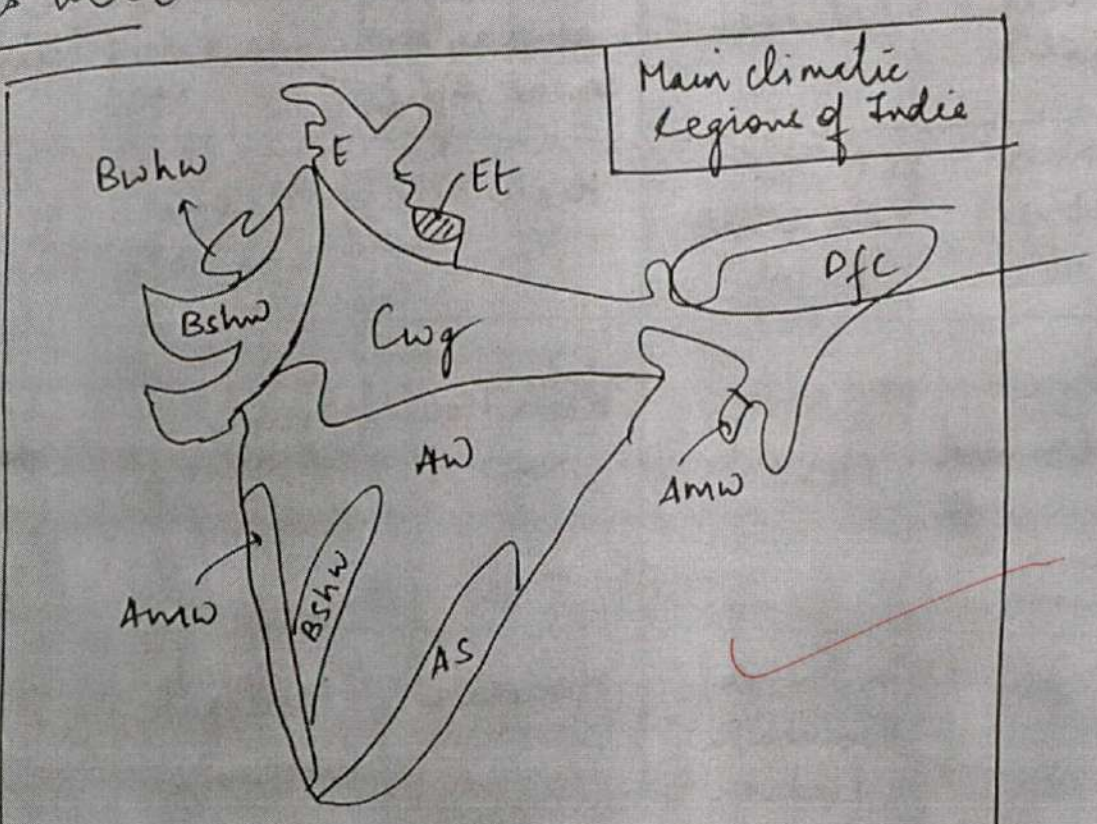
④ Stamp → used temperature and pressure

⑤ Trewartha → used Koeppen method

Thus any method may be chosen but the best is of Koeppen according to my

Remarks

observation. He argued the vegetation is the best indicator of climate and he used average monthly value of temperature and pressure and yearly averages as well



Climatic type	Area	Temperature	Rainfall	City
AMW	From Mumbai till Malabar coast	Moderately High	High, above 250 cm p.a	eg. Mumbai city
AS	Eastern Coromondal coast	High	Moderate to High from NE Monsoon (@ 100-200 cm)	eg Chennai

Remarks

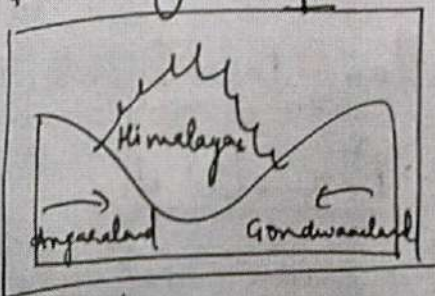
(3) E (Polar)	~~Polar~~ Ladakh region	Very low temperature	low rainfall but effect of Western Disturbance	eg Leh
(4) Et (Tundra)	Northern part of Uttarakhand	Very low	Very low	eg Mussoorie
(5) BWhw (desert hot)	eg Thar desert	Very High at day and low at night	Very Very low (<25 cm)	eg Jaisalmer
(6) BShw (Steppe)	eg. ~~Part~~ Rajasthan Bagar	High	BLow (25-50 cm)	eg Jaipur
(7) Dfc (cool humid winter with warm summer)	eg North East	~~High~~ Moderate low	High (>200 cm)	eg Itanagar
(8) Aw	eg. Central Peninsular Plateau	Moderate	Moderate (150 cm)	eg. Bhopal
(9) Cwg	eg Northern Indian Plains	Moderate to High (summer and very cold during winter)	Moderate usually summer	eg Lucknow

Remarks

(1) Himalayan orogeny explained by 2 theories

Geosynclinal origin

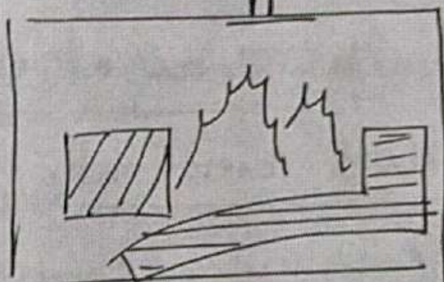
I



Tethys geosyncline where sediments were deposited were crumbled and folded into successive Himalayan range with Randkalten as Kunlun Shan and Himalayas and Median mass as Tibetan Plateau

Plate tectonic

II



Indian plate collided with Eurasian Plate during Eocene, Miocene and Pliocene to form Himalayas

⇒ Thus it is of tectonic origin

⇒ MORE ACCEPTABLE Today

Remarks

→ Parallel Ranges
→ Elevation, Width, Continuity, Bends

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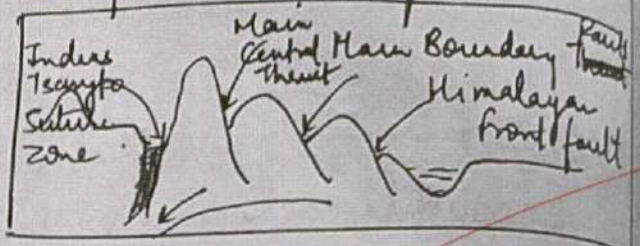
Physiographic features

(1) Hogback topography → steep southern slopes

(2) Reverse faults

(3) Issue of earthquake but no volcanism
eg. Nepal earthquake of 2015



(4) Valley present eg Kullu Valley, Paravati Valley

(5) Host cities like Mussoorie, Dhanolti etc

(6) Rich in metamorphic and marine deposits

(7) Dravidian Rock system present (Nainital series)

(8) Gave rise to many rivers and deltas formed by deposition of sediments. Antecedent

(9) Still rising + prone to Landslides and avalanches

(10) Elevation influence monsoon winds thus has influence on groundwater

(11) Features → Gorge (Barammula Gorge), Waterfall (eg Kempty), Dun (eg Dehradun) Duar (Duars of Darjeeling) etc.

Remarks

SECTION-B

Attempt all questions:

5. Comment on the following into 150 words: (10 × 5 = 50)

(a) Write a short note on West flowing rivers of our Country.

(b) Discuss the mitigation strategies against the tropical cyclone in India.

(c) The growing pattern of ecological footprint is uneven in nature .Analyze with respect to land resources in India.

(d) What are the main causes of ground water depletion in India?

(e) Discuss the role of IOD over Indian Monsoon.

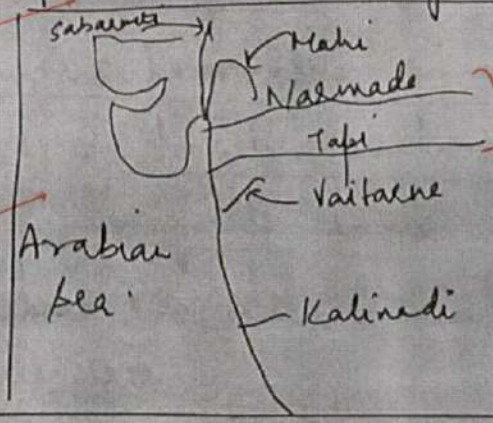
(a) (i) Western flowing rivers include Mahi, Sabarmati, Luni, Kalinadi, Periyar, Pambiyar etc

(ii) Originate from either Aravallis (eg Luni) or Western Ghats eg. Vaitarna or Maikala Hills (eg Narmada and Tapi from Betul) → inland drainage; → parallel drainage

(iii) flowing over short distance, they dont carry much sediment and thus coarse sediment coastal plains

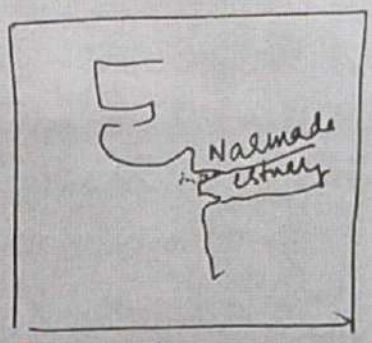
(iv) Dont form deltas but form Estuaries eg. Narmada estuary

(v) susceptible to flood during monsoon eg. Periyar and Mithi river in Mumbai



Remarks

(vi) These are some of the most polluted river eg. Mithi



(vii) Host wildlife eg. ~~Kalnadi~~ Periyar name close to Periyar Tiger Reserve + famous for tourism.

(viii) Bounde bases for port development of ports eg Karwar Bay/port

However these are extremly polluted. There is need for sustainable development of ports

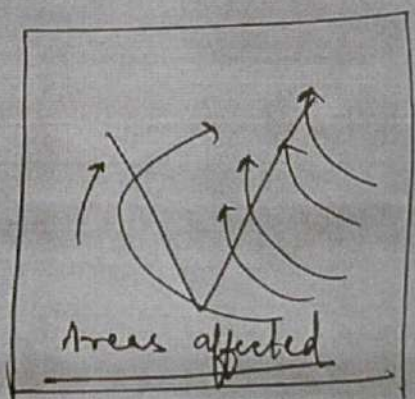
(b) begin with short definition — season.

Cyclone is ~~the~~ mainly found in the East coast and West coastal areas.

Mitigation strategies

(1) Understanding Disaster

Using information centre, observation network to clearly mark areas specifically prone to cyclones. Carry out Hazard risk and vulnerability assessment.



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Remarks

(2) Investing in DRR – Structural measures

① Hazard resistant shelter

② Hazard resistant building + retrofitting of all lifeline and critical infra like power lines, communication infra, hospitals etc

③ Building embankment and surface water tanks

④ All flood proofing measure like channelisation etc

(3) Investing in DRR – Non-Structural measures

① Early dissemination of cyclone risk

② Capacity building through mock drills, part of syllabus, empowering marginal communities, strengthening local bodies, etc

③ Afforestation measure like planting of casuarinas, wetland management, etc.

④ Awareness generation.

GOI is running National Cyclone Risk mitigation project in alliance with World Bank to help us deal with it

Remarks

(c) Ecological footprint is the opportunity cost of development

Different type of land resources have different opportunity cost.

I: With respect of forest lands, any mode of development is unevenly poised to hurt environment more eg. deforestation of Western Ghats and floods of Kerala

II Wrt plain especially Punjab and Haryana, due to excessive application of Fertilizer and Pesticides ⇒ growing ecological footprint through loss of productivity and stubble burning + lowering groundwater level

III Wrt desertland, application of canal irrigation has enhanced canal induced capillary action leads to waterlogging eg. areas affected by Indira Gandhi canals

Remarks — Urbanisation
— Population growth
— Migration
⇒ drivers of enhancement of footprint.

IV In mountain land, excessive urbanisation and resort to agriculture has destabilised slope, causing landslide eg on Shimla-Chandigarh routes → ↑ ecological footprint.

V In Central Indian Plateau and Tropical grassland, expansion of dryland farming has other issues.

SDG envisages a sustainable mode of living in consonance with nature. It is time, we devise schemes to help us achieve that.

(d) Groundwater is the water stored by pervious rock below land.

Which sectors consume groundwater?

Causes

Demand led	Supply led
① Growing population ② Traditional drying of land water resources like lake eg Chennai	① Change in rainfall → ↓ soaking up ⇒ ↓ groundwater

6

Remarks

(3) No cost price mechanism

(4) exploitation by farmers of Punjab and Haryana (Perverse incentive by subsidy & free electricity)

(5) Increasingly resorted to by industries

(6) Lack of clear delineation of rights over groundwater

(7) Development of new techniques like submersible technique to harvest groundwater

(2) Concretisation ↓ land → ↓ soaking of water

(3) Pollution of groundwater e.g. Arsenic in Bengal

(4) Lack of awareness of water harvesting measures

(5) Nature of surface of in South, surface is rocky → making it difficult to ↑ supply of groundwater as compared to Northern plain which allow soaking easily

(6) Deforestation reducing soaking

Need of the hour

(1) Water Harvesting

(2) Afforestation

(3) Watershed Management

(4) Awareness generation

(5) Law regulating groundwater usage

Remarks

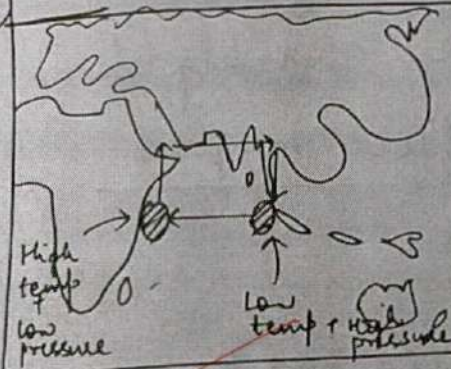
(c) eliminating perverse subsidy structure in India of subsidy on solar pumps, free electricity etc.

(T) Reducing climate change.

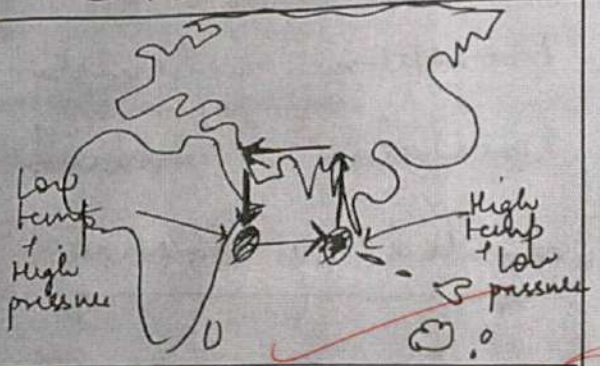
It is time, ~~Govt~~ Central Ground Water Authority make strict rules and regulation governing use of groundwater

(e)

+ve IOD



-ve IOD



Indian Ocean dipole is the atmospheric and oceanographic phenomena associated with changing temperature and pressure condition over two poles in Indian ocean → Western Indian ocean near coast of Somalia and Eastern Indian ocean near Indonesian Is.

good

Remarks

Positive Indian Ocean - when western part of Indian Ocean is warm and has low pressure → Good for monsoon and it enhances rainfall quantity + counteract the negative effect of El-Nino

Negative IOD → western part of I.O. has high pressure and low temperature and Eastern IO vice versa, reducing Monsoon intensity hurting quantity of rainfall in India. Its effect may be negated by La Nina

Climate change has been affecting the IOD, thus adversely affecting Monsoon — even in 2021, normal rainfall season continued beyond October and caused flood in in Uttarakhand (Nainital) and urban flood in Chennai

Remarks

Answer the following questions:

(a) What are the different Soil types of India? Briefly write the important characteristics and distribution of Major Soils. (250 Words) (20)

(b) Write an explanatory note on 'Energy crisis in India'. (200 Words) (15)

(c) Discuss the rising problem of air pollution in Delhi NCR also write about the initiatives taken by central and state governments to curb the menace. (200 Words) (15)

(a) Major soil types include

Alluvial Soil

→ formed by deposition + of 3 types

- coastal alluvium eg. Mumbai
- Deltaic eg. Kolkata
- Plain eg. Lucknow

→ most productive soil → used for wheat + rice + deficient in N_2

→ it is of many types → Khadar, Bhangar, Terrai etc

eg. Plain of Haryana and Punjab

Black Soil

→ formed in area of low temperature + high temp

→ breakdown of cretaceous lava

→ self ploughing capacity

→ Non-permeable so sticky when wet

→ Rich in Calcium,

→ Poor in Phosphorus, Nitrogen and Organic matter.

eg. Kathiawad, Malwa, Malwa City → Ahmadnagar

Red Soil

Area of High temp + low rainfall

12

good

Remarks

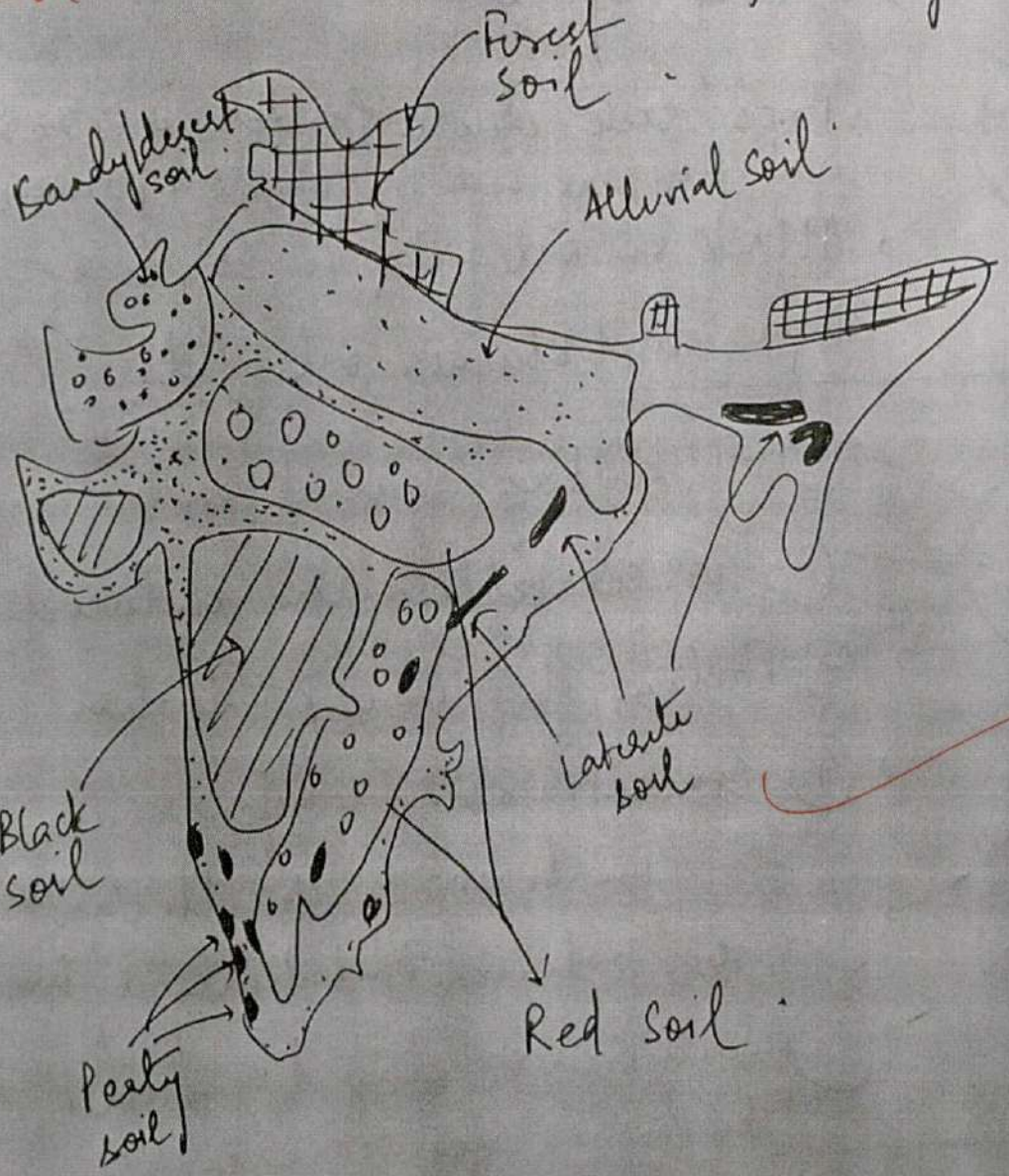
	- over archean base + crystalline igneous rock - rich in Iron + poor in Phosphorous, Nitrogen and organic matter → Rich in potash → Area like Chota Nagpur Plateau → crops like Oilseed etc → city → @ Gq Kurnool
Laterite soil	① formed in area of high temp + high rainfall ② acidic + highly leached ③ Red in colour due to Iron oxide ④ crop → Tapioca and Cashewnut ⑤ used for building ⑥ Area → Rajmahal Hills, Western Hills, Coast
Sandy Soil	→ High temp + low rainfall → Capillary action → Rich in bases + poor in organic matter + humus + phosphorus + N_2 → crops → Bajra → Area → Thar desert, etc.
Peaty Soil	→ Area under water logging frequency → gley horizon + dark colour + Large amount of organic matter + slow decomposition → infertile eg Kari soil of Kottayam

Remarks

Mountain soil

→ Brown forest Soil — < 1800 m
→ → cultivated + High organic matter due to deciduous trees e.g. Haridwar
→ Podsol soil — 1800 - 2800 m
→ in area of Pine forest.
→ ash grey colour + Silica rich e.g. Mussoorie
→ Alpine Meadow Soil → > 2800 m e.g. Pithoragarh.

Saline & Alkaline Soils -



Remarks

Energy crisis : mismatch b/w demand & availability of energy

(b) energy ~~crises~~ security is the availability, accessibility, and stability in the procurement of energy.

Cause of energy crisis

7

~~Coal Crunch~~ ↑development

Demand side
- Rising population
- Price rise due to Pandemic eg 2021 → price of petrol is high b disincentive purchase
- Attack on oil field in Saudi eg. Abqaiq and Khurais oil fields

SS side
- (1) oil blockage against India
- (2) OPEC cartellisation induced
- (3) Falling domestic production
- (4) Concentration on a few sources + few countries eg Middle East
- (5) Geo-political instability eg Iraq
- (6) Sanctions induced eg India stopped buying Iranian crude

Technical
- Generators may fail
- & Grid failure eg Mumbai
- Poor transmission

Remarks
- AT & C losses
- Wastage, inefficiency
- Lack of installed capacity
- Under-capacity production
- Grid, metering & regulatory issues
- Coal crunch

Solution

1. Diversifying fuel choice and source eg. India buying shale from USA
2. Enhancing crude production indigenously eg. OALP, HELP etc
3. Efficiency in energy use eg. EES Label
4. ↓ Wastage eg PAT scheme
5. Building forex to buy crude at high price (Highest right now at 640 Bn $)
6. Promoting RE eg. COP 26 → GOI Panchamrit → target of 500GW

Renewables

7. Biofuel → Ethanol Blending program (20% Blending by 2025)
8. Building War chest of Petrol → Strategic Petroleum Reserve at Padur, Udupi, Vizag etc
9. Protesting "Asian Premium" induced Price Hike
10. Solving Geopolitical risk in Middle East
11. Exploring new energy source eg CoalBed

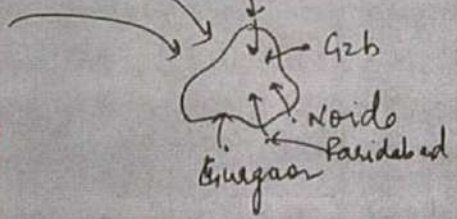
Remarks

Methane in Central India.

GOI has announced ambitious plan at COP in PM's Panchamrit. It is high we devise a new RE energy policy to become a E. growth Centric nation with sustainable development (Integrated Energy Policy Document of Planning Commission)

(C)

NW Wind during Winter



Delhi witnesses "hell" every winter - SC judgement. In this context, problem of air pollution in NCR are different in summer and winter

Summer

① Major cause is transport + construction material

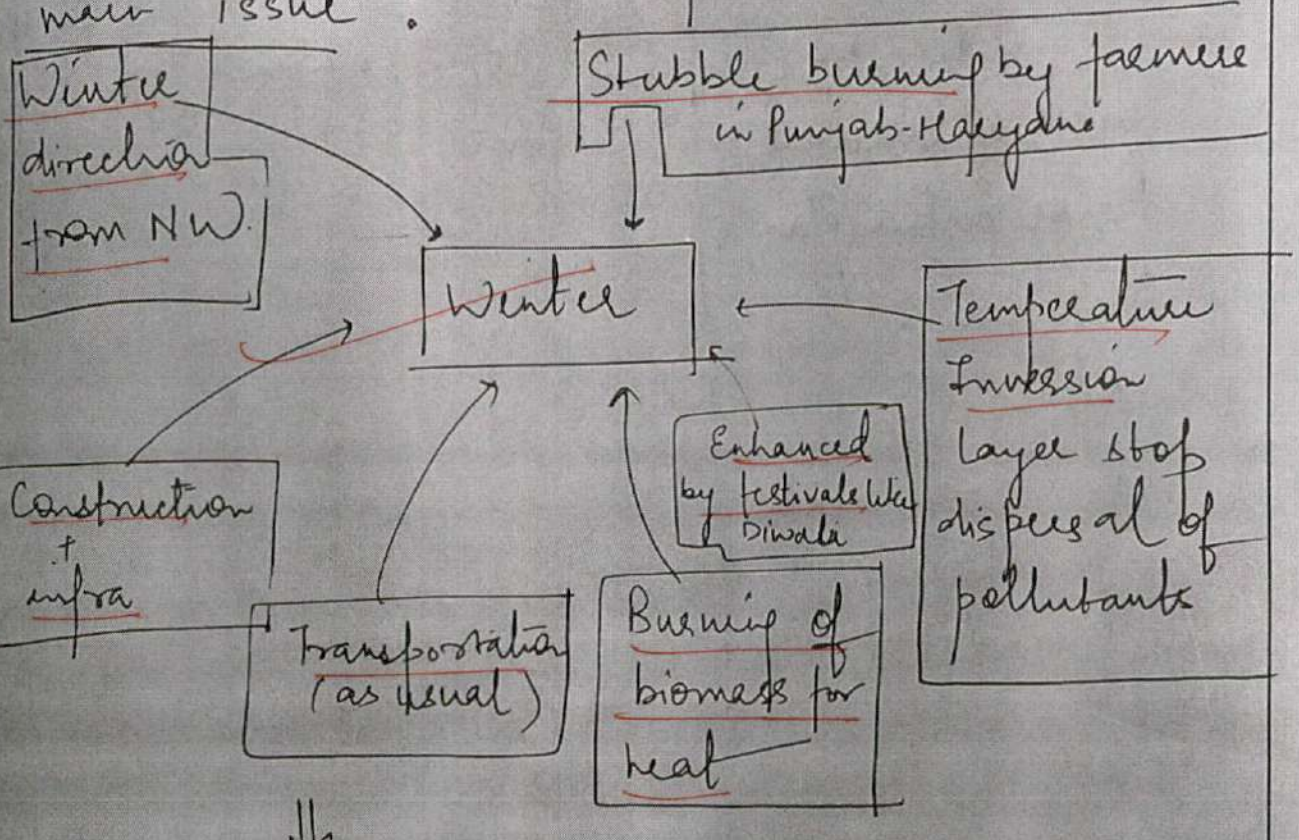
Remarks

+ infra dev in terms of roads, metro etc.

(2) open burning also causes pollution

(3) use of AC's → release of harmful pollutants

It is mainly winter which is main issue:



⇓

cocktail of worst air

Initiative by

Centre	State
(1) Commission for Air Quality Management.	(1) & IEC of stopping vehicles during traffic slop

Remarks

(2) Sprinkling of water on dust to settle down dust

(3) odd-even in 2016-17

(4) Banning construction, road building, schools as part of Graded response action plan

(5) Banning sale of crackers

(6) States gives incentive for purchasing happy seeder

(2) CPCB studies to identify solution

(3) NHAI developing Eastern and Western Peripheral expressways

(4) FAME scheme for EV

NAQI

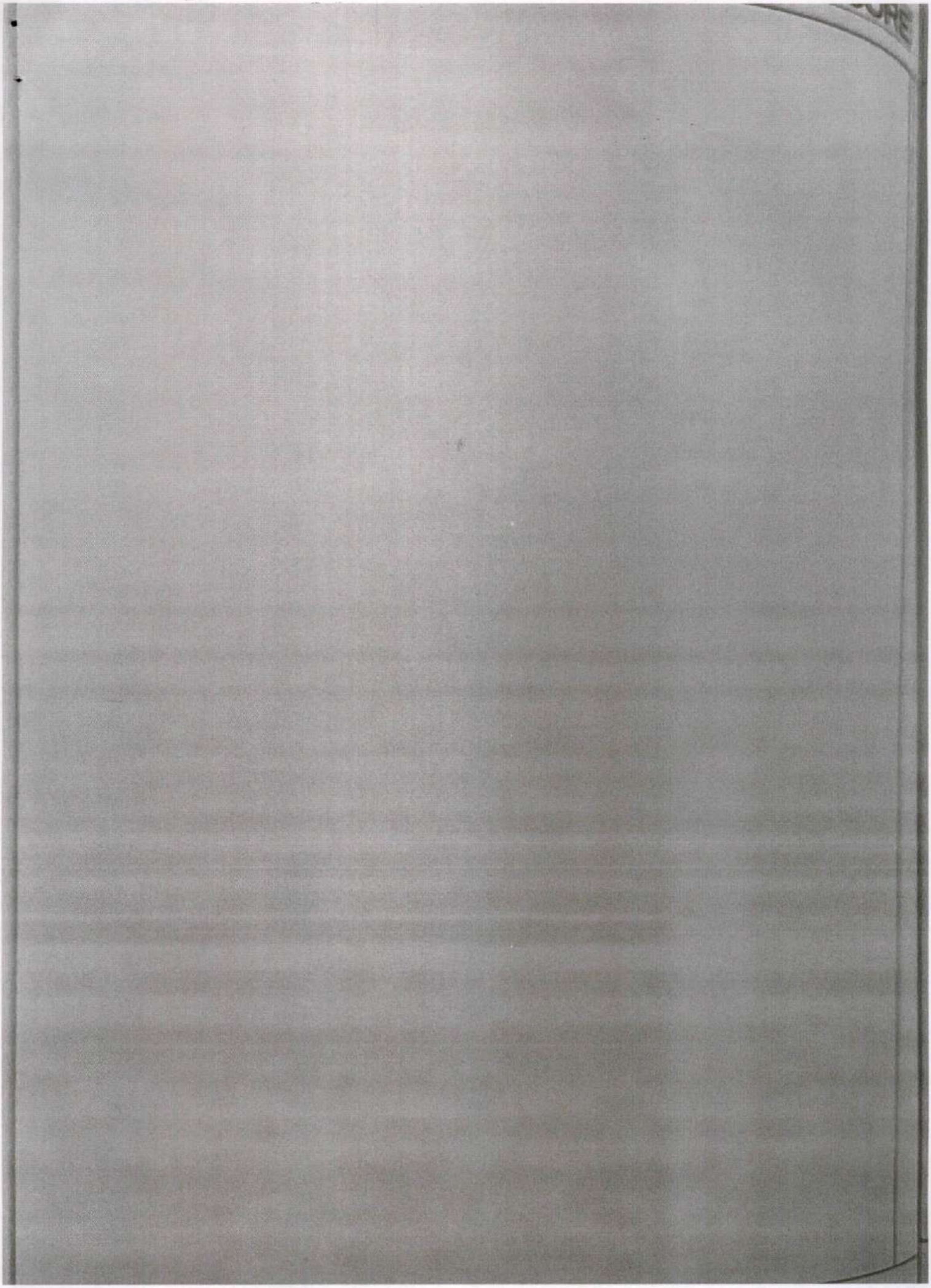
Remarks

Answer the following questions:

(a) Give an account of energy resources in the country. Comment on the need for developing and harnessing alternative energy sources support with appropriate arguments. (250 Words) (20)

(b) Give an outline of the geological history of peninsular India and explain the salient features of relief of peninsular India. (200 Words) (15)

(c) Discuss the ecological significance of increasing desertification in India and suggest measures to control it. (200 Words) (15)



Remarks

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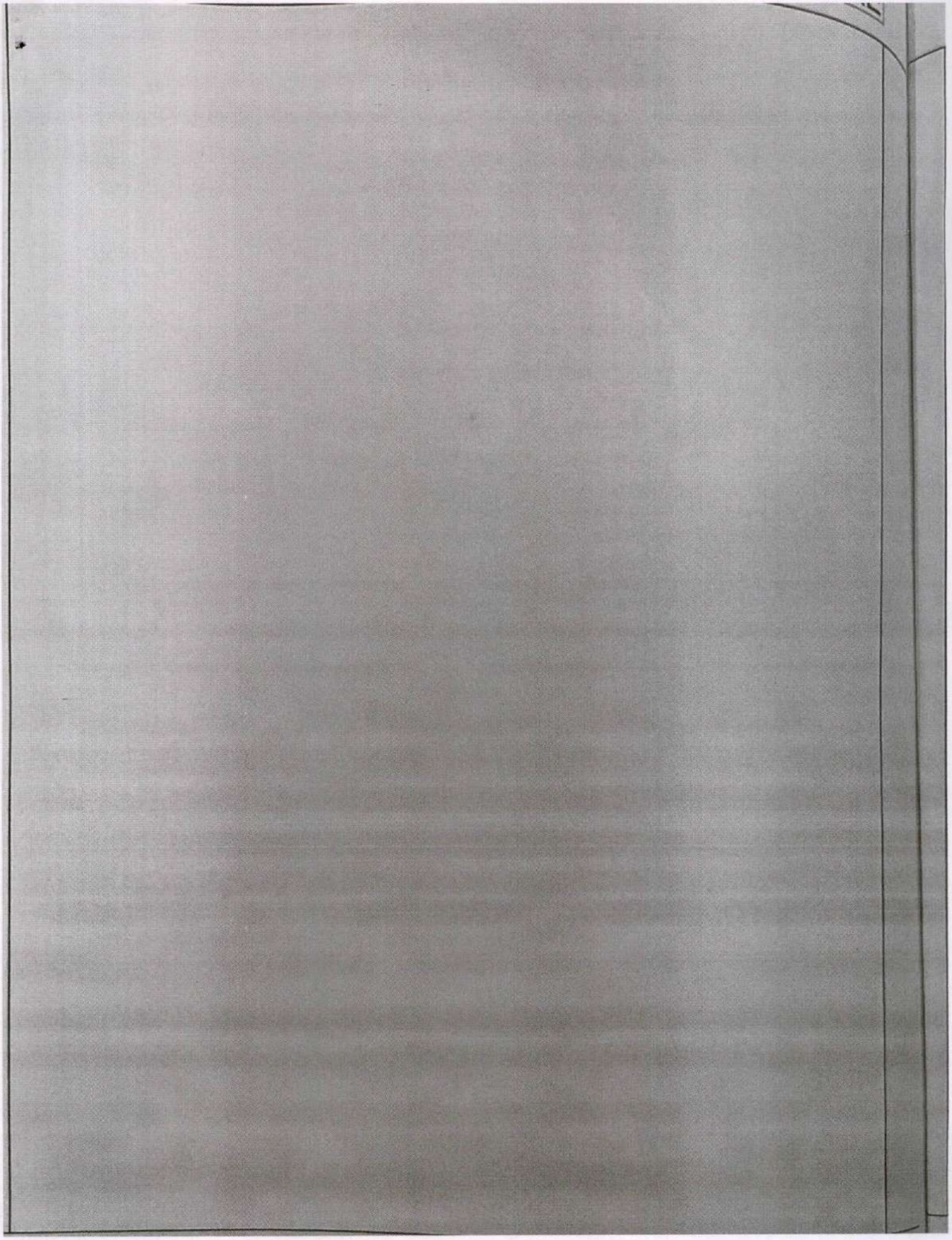

8. Answer the following questions:

(a) "Interlinking of rivers is an inescapable solution to India's flood and drought problems". Comment. (250 Words) (20)

(b) Examine the major causes of land degradation in India and suggest suitable measures to improve land use, especially cultural waste land and fallow land. (200 Words) (15)

(c) Give a geographical account of Coal resources of India in terms of its reserve and utilisation. (200 Words) (15)

(a) Inter-linking of River has been part of National Perspective Plan for long. It has many advantages, primarily flood and drought but related to secondary advantages as well :

1) It will help in preventing flood by transfer excess water from one river to other eg. Ken-Betwa (from Ken to Betwa).

2) Help in preventing drought through building canal work eg. Indira Gandhi Canal Command Area

3) Help us to better handle flood through reducing spillage

4) Drought & resilience

Remarks

Remarks

Remarks

Remarks

Remarks

Remarks

Remarks

Remarks