



**An Institute for Civil Services**

**IAS TOPPER'S**

**TEST COPY**

**KUNAL SHOTE**

**RANK - 640**

**GEOGRAPHY  
TEST- 4**



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16 July

71

**GS SCORE**

TEST - 04

## GEOGRAPHY

Time Allowed: 3 hr.

Max. Marks: 250

### Instructions to Candidate

- There are EIGHT question divided in Two Sections.
- Candidate has to attempt FIVE questions in all
- Question No. 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 carried 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.
- 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 Question-Cum-Answer booklet must be clearly struck off.

81

① You have missed intro and conclusion in most of the questions

② Bring spontaneity in your arguments by giving some examples

1. Invigilator's Signature \_\_\_\_\_

2. Invigilator's Signature \_\_\_\_\_

Name KUNAD SHARMA

Mobile No. \_\_\_\_\_

Date \_\_\_\_\_

Signature \_\_\_\_\_

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REMARKS

**GS SCORE**

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## SECTION-A

Attempt all questions:

1. Answer the following questions in about 150 words each:

(10 × 5 = 50)

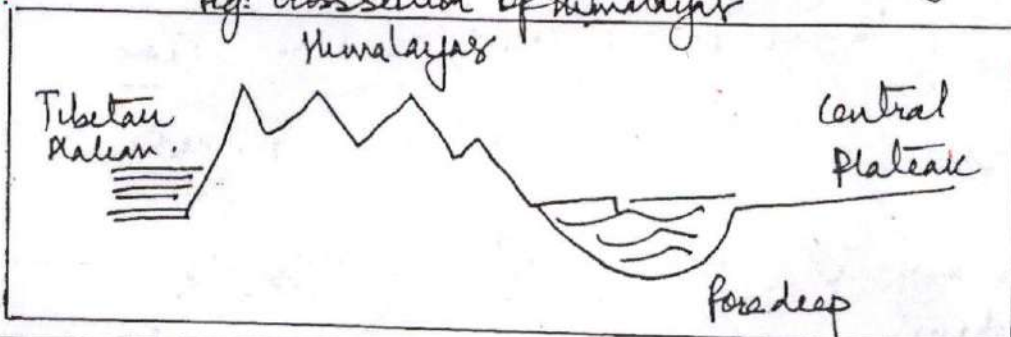
- (a) Write a short note on Archean and Dharwar rock system.  
 (b) Discuss the views regarding the formation of northern plains.  
 (c) Discuss the emerging problems in the cropping pattern of India.  
 (d) Write a short note on emerging sources of clean energy.  
 (e) Write a short note on Middle Himalayas.

(b) views regarding the formation of Northern Plains

① Accretion of foredeep by steers

- During the uplifting of shivaliks a foredeep was formed.

- This foredeep got filled with alluvium due to silting of a Himalayan River  
 fig: cross section of Himalayas



Remarks

② Ridge valley formation theory of W.S. Burrad

- According to Burrad, a trough of ridge valley between Himalayas and central plate plateau lead to formation of a gap.

- This gap filled by sediments and Northern plains were formed.

③ Sea level recession Theory of Blandford

- According to Blandford, northern plains formed due receding of sea water from foothills of Himalayas to present sea level.

- Saltwater lake in Rajasthan, Mangrove were evidenced

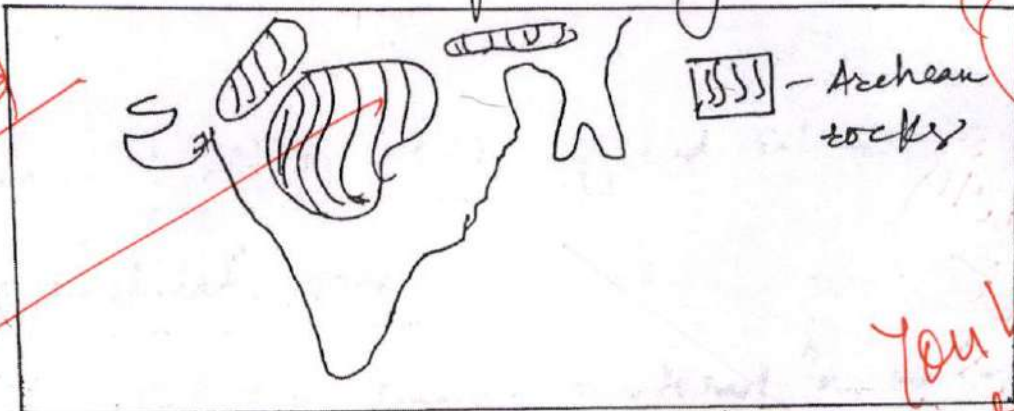
Remarks

Conclusion??



### (a) Archaean :

- Igneous rocks
- part of peninsular India, Aravallis, Chota Nagpur plateau, Mikir hills.
- Found
- formed at base of Himalayas



### Dharwadian rock : - Fig: Archaean rocks

- first time discovered by DN wadia
- found in district of Dharwad
- Sedimentary rocks
- Chota Nagpur Pl., Mikir hills
- peculiar minerals

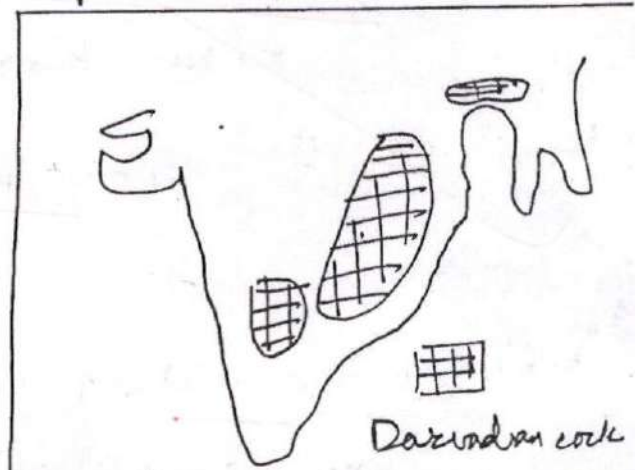


Fig: Dharwadian rock

Remarks

- (c) Indian cropping pattern is largely determined by prof Tashir Singh, Prof Dhyan Kaur, prof P. Kumar based upon statistical technique by KC weaver.

### Problems :-

Majors based on MSP offered rather than

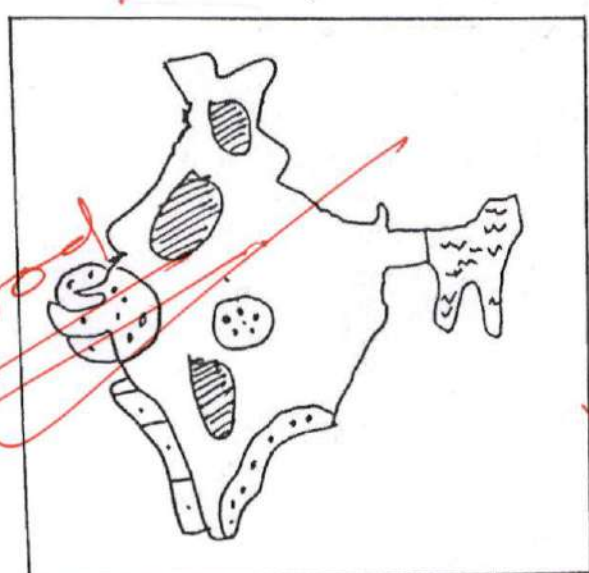
Agro-climatic zones

- Monoculture is largely practised in semi-arid regions eg: Rice or wheat in Punjab
- Dry farming technique not spread throughout arid and semi arid region
- unscientific use of livestock to complement farming
- Extensive farming couldnot be practised due to fragmentation of land.

Remarks



- ④ National Action Plan on climate change (NAPCC) of 2008 has provided a required boost to clean energy production.



- solar energy  
Ladakh, Rajasthan etc.
- wind energy  
Gujarat, Tamil Nadu
- Tidal energy (western coast)
- Bioethanol/Biomass  
North east region

Fig: Clean energy sources

Target by 2022: 100 GW from solar, 60 GW (wind), 10 GW (Biomass), 5 GW (small hydro).

#### Issues:

- Expensive equipment
- No proper technical know-how
- High capital cost

- Less density of power
- Improper power purchasing agreement
- Geography not linked to properly to energy

Remarks

#### ③ Middle Himalayas :-

- Known as Lesser Himalayas
- Separated by Main Central Thrust from Greater Himalayas and Bas Himalayas
- Boundary fault from outer Himalayas
- Average elevation 3500-5000 m.
- Pir Panjal in Kashmir, Dhaul Dhar in HP, Nag Tibba in Uttarakhand
- Hill stations like Shimla, Kulu, Manali

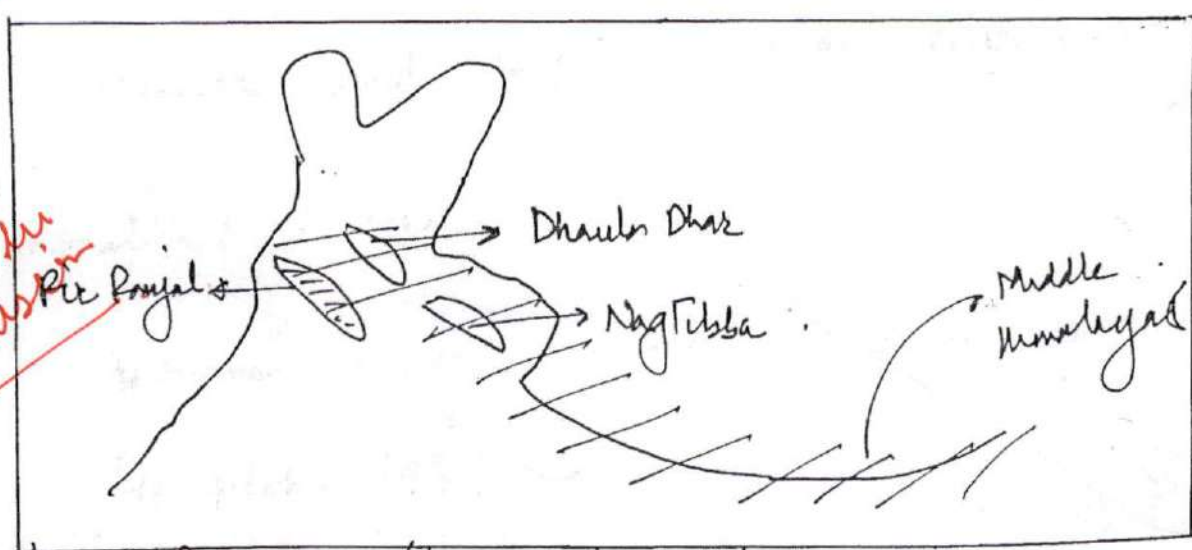


Fig: Middle/Lesser Himalayas

Remarks



3. Answer the following questions:

- (a) With the planet's second largest population at 1.3 billion, and expectant growth to 1.7 billion by 2050, India finds itself unable to serve the vast majority of that populace with safe, clean water. In light of the above statement discuss the causes of the water crisis in India. (250 Words) (20)
- (b) Compare the geographical, economic and cultural features of the Indian islands. (200 Words) (15)
- (c) Discuss the global, regional and locational factors which control the phenomena of monsoon. (200 Words) (15)

9

The recent Composite water Management Index of NITI A70h highly highlighted the impending water crisis in the country.

- 600 million people face scarcity of water by 2030.

- 22 cities will run out of water by 2020.

- Bangalore, Chennai, ~~Delhi~~ are among the first to experience water crisis.

Cause  
UN-World  
Population  
Prospect  
data.

Concise  
your  
intro

Remarks

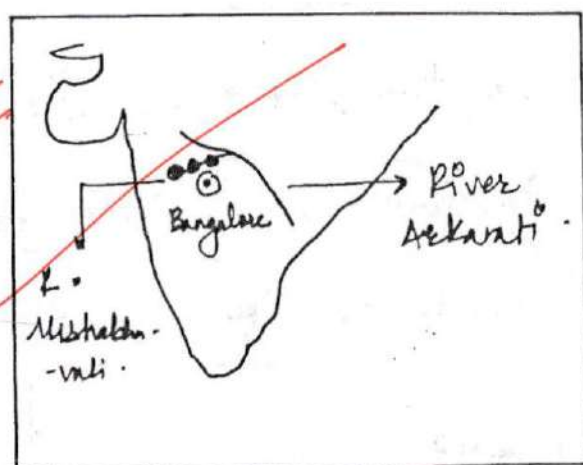
Causes of water crisis

- Bangalore:

- located at a higher elevation than the river Arkavati and its tributary Nishabharati.

- water has to be pumped up up to 500 m above sea level.

Good



→ pumping operation along River Nishabharati

Fig: Bangalore and surrounding river

Remarks



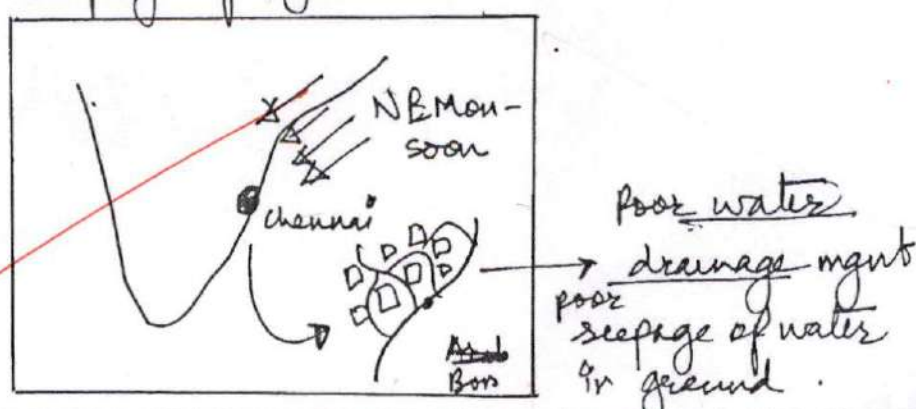
② North west India [Punjab, Haryana, R.T.]

- Improper cropping pattern, planting water intensive crops like rice.
- Free electricity promotes rampant depletion of ground water.
- Saline soil demands more water for irrigation.

good analysis

③ Tamil Nadu coast: Chennai

- Brackish ~~to~~ North east monsoon
- poor water harvesting structure
- low seepage of ground water



Remarks

④ North eastern region: ~~East~~ Meghalaya

- Receive over 10000 mm average annual rainfall
- rainfall from South west monsoon winds
- frequent drought during late winter and early summer due to improper water management and rain water harvesting

⑤ downward side of western ghat

- Rain shadow region consist of vidharba, Marathwada, central Karnataka, western Tamil Nadu and Telangana
- orographic rainfall cannot arrive and rampant use of ground water

Remarks

Conclusion

You have attempted this question with very good analysis



Intro is missing??

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## ⑥ Lakshadweep Island group

### Geographic features:

→ located in Arabian sea  
West coast of India.

- coral ~~is~~ group of island
- lagoon formed on eastern side (Pinging) Barrier)

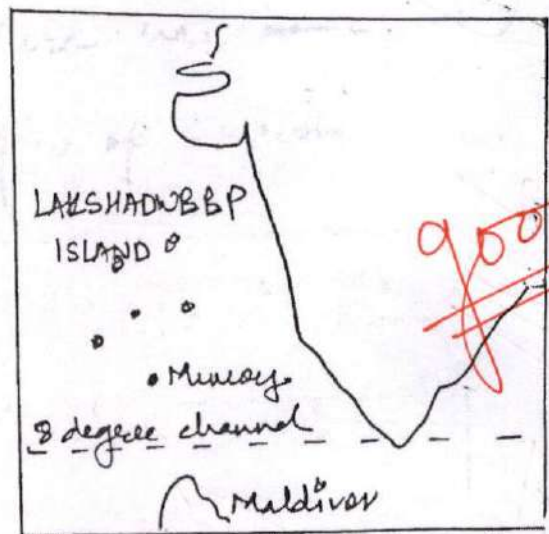


Fig: Lakshadweep Island.

### Economic

- Dependent majorly on fishing, tourism
- Island Development scheme to further promote tourism
- structures built are not concrete due to frequent sea surge due to cyclone.

Remarks

GS SCORE

## Cultural factors

- Majority population is Muslims.
- presence of Tribal culture has been maintained despite influx of tourism

## Andaman and Nicobar Group of Islands

### Geography

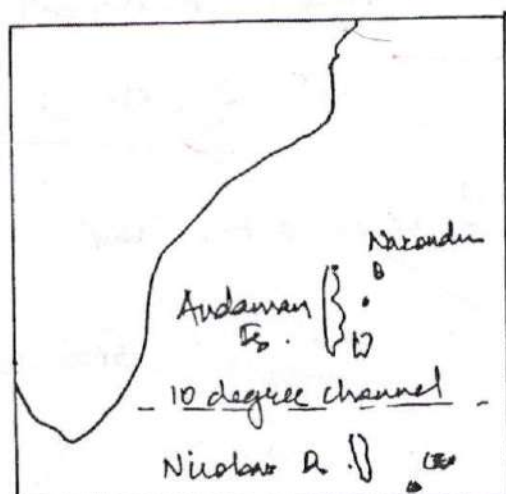
- located in Bay of Bengal.

- lowest point of Nation

- India's point.

- Duncan passage Andaman group of island.

- 6 degree channel separating India coast from Indonesia.



### Economic

- Economic dependent on forest produce

Remarks



like Bamboo, rubber, & palm oil,

Eucalyptus.

- Recently, boost has been given to

Ecotourism.

gine specific examples

Cultural

- Presence of PVT (Particular Vulnerable tribal groups) i.e. North Sentinels

- Negro and Mongoloid, both are present.

- Shampans of Nubas are merged with mainstream culture.

Conclusions

??

Remarks

(C)

Monsoon was the term coined by Arab travellers and geographers.

Monsoon refers to seasonal reversal of

winds in summer season in upper Indian ocean.

Gine specific names and work

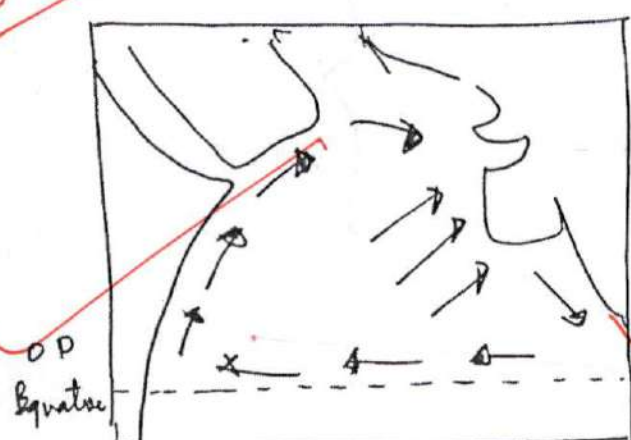


Fig: wind movement (summer season).

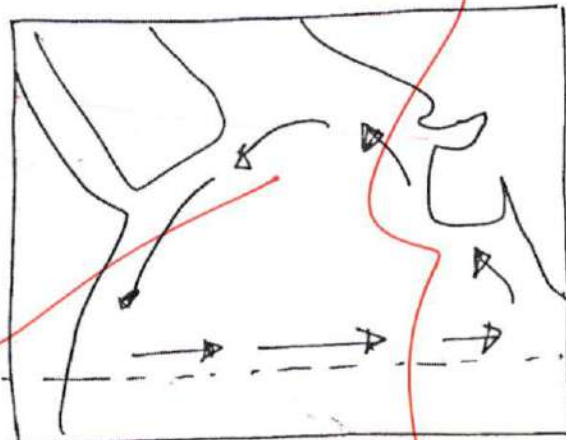


Fig: wind movement (winter season).

good presentation

Global factors

- Season reversal present predominantly in upper Indian ocean.

- Affected by EL-Nino (weak monsoon) and La-Nina (strong monsoon), Indian ocean

Remarks



dipole, southern oscillation etc.

### Regional factors controlling monsoon

- Due to heating of land in subcontinent onshore low pressure created
- winds blow from high pressure over Mozambique towards low pressure over subcontinent.

good arguments

- This concept was explained by Halley but could not explain the break in monsoon and late arrival of monsoon.

### Locational factors

- Dynamic concept of monsoon was explained by Flohn 1951.

Remarks

- Role of deflection (Coriolis' force), concept of ITCZ (highest temperature)

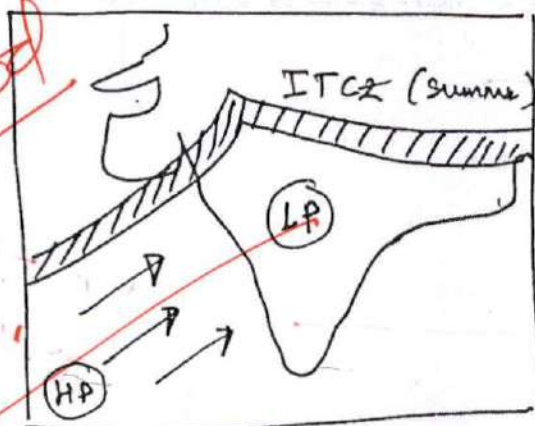


Fig. Dynamic concept by Flohn.

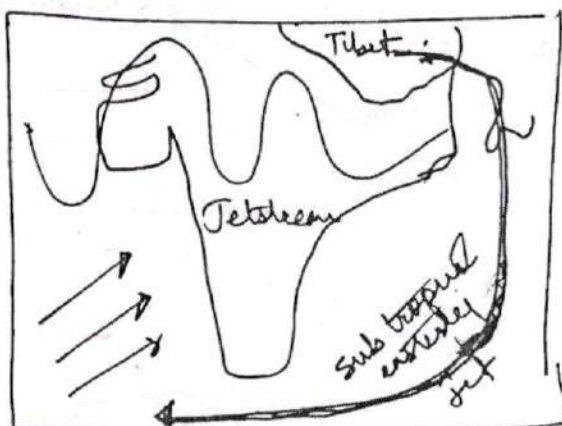


Fig. Dr. Koteswaram exp.

Dr. Koteswaram explained the role of Tibetan plateau and sub tropical easterly jet.

He could explain the break in monsoon and late arrival of monsoon and effect on jet streams. MONEX expedition confirmed his hypothesis.

Remarks



## SECTION-B

Attempt all questions:

5. Comment on the following into 150 words:

(10 × 5 = 50)

- (a) Discuss the mitigation strategies against the tropical cyclone in India.  
 (b) Koeppen's Classification of Climatic Regions of India  
 (c) Discuss the gender specific interventions in agriculture taken by India.  
 (d) Discuss the Jet Stream and Kootishwaram theory of Monsoon.  
 (e) Discuss the challenges in agriculture of the north-east region of India and suggest some measures.

① Tropical cyclones affect the eastern coast of India more severely than the western coast.

Mitigation strategy:

- Developing early warning detection systems using satellite technology, DOPLER RADAR etc.

- Developing cyclone resistance houses and animal shelters as evident from

Remarks

Coast efforts by Odisha.

- setting up separate cyclone mitigation fund amongst NDMF and SDMF.

③ - International cooperation to conduct humanitarian efforts.

- Setting up local force specially to deal with cyclones in vulnerable districts

② Gender specific  
gender roles in agriculture are generally

very skewed. Women are often treated as unpaid free labourers and employed in manual tasks.

Interventions by government are:-

Remarks



- Changing the property (land) rights from ownership by man to family ownership

- Making agricultural machinery female friendly eg: Bubble solar dryer, Happy seedee etc

- encouraging women cooperatives and SHGs and extending credit facilities

generic points  
Can add gender budgeting, PM-Kisan etc.

(d) Kotniswarani explained the concept of break in monsoon and late arrival of monsoon which could not be explained by Hall and Flohn.

Role of Jetstream

- monsoon does not arrive in Indian

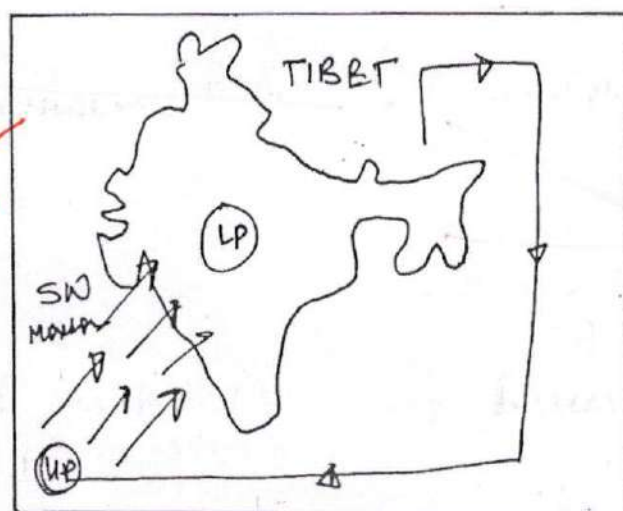
Remarks

subcontinent until and unless the subtropical jetstream leaves the foothills of Himalayas and shift towards the North of Himalayas. This explains the

late arrival.

- The heating of Tibetan plateau determines the subtropical easterly jet stream:

This descends over Madagascar and enters India as onshore winds.



Remarks



② Challenges of NEA agriculture

Solution/Measures

① Subsistence farming → Measures of land consolidation to boost yield.

② Low levels of mechanisation → creating cooperatives to reduce capital cost and extending credit facilities.

③ Shifting cultivation leading to forest clearing → provides organic fertilisers to boost soil health.

④ Low procurement of grains by FCI → providing facilities for private procurement and stocking.

⑤ Lack of market for tribal products like Bamboo, Silk → Increasing presence of TRIFED.

Follow the proper structure while answering a question

Just listing of facts

Remarks

6. 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) What are minor forest produce? Discuss their significance to rural and tribal economy. (200 Words) (15)
- (c) Discuss the importance of animal husbandry and also discuss socio-economic and environmental aspect of animal husbandry in India. (200 Words) (15)

Amount of energy resources in country

- Coal (45%)
- Biomass and waste (20%)
- Petroleum & other liquids (20%)
- Natural Gas (5%)
- Hydroelectric (2%)
- other renewables (12%)

As evident, majority of energy source is obtained in India has from coal.

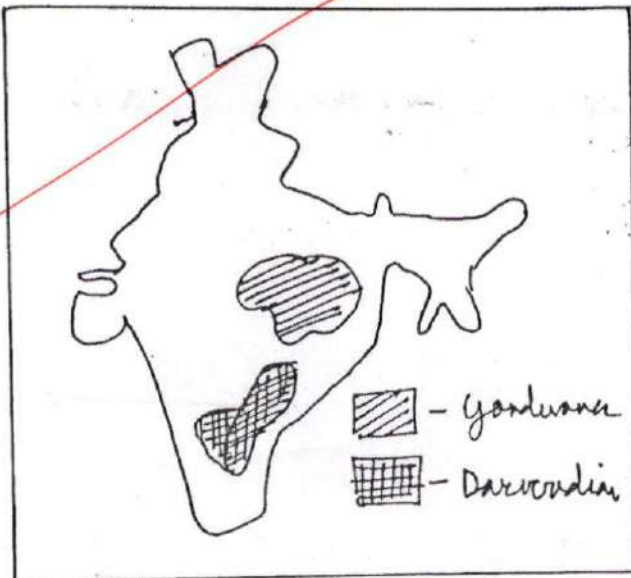
Remarks

Work on the structure



potential coal reserves of 300  
million tonnes.

Major coal producing areas are :-



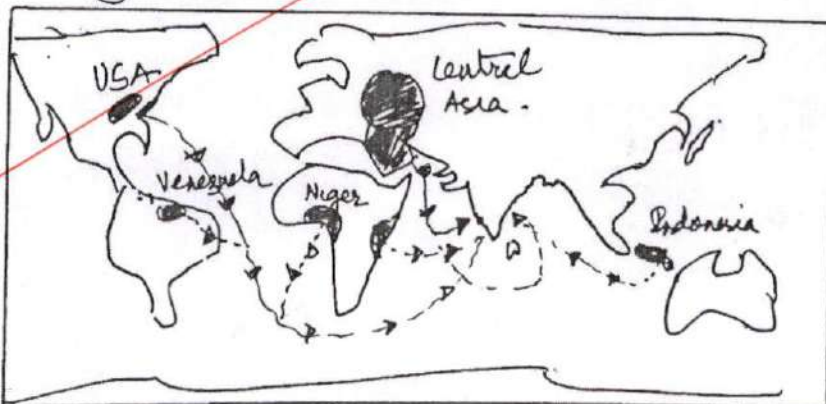
States :-

- Jharkhand
- Odisha
- Bihar
- Karnataka
- Tamil Nadu

good

Fig: coal producing areas

Majority of petroleum is imported :-



■ - petroleum exporting areas of

Remarks

Need for developing and harnessing alternative energy :-

- India's commitment in 1992 Rio Earth Summit, Kyoto protocol target, INDCs.

India's geography provides huge potential for renewables.

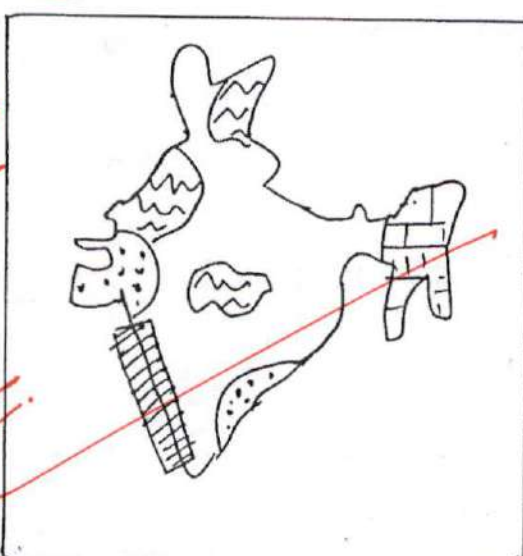


Fig: Renewable energy (India)

■ - potential of Bioethanol (production of Jatropha crops)

■ - Tidal energy along western coast

■ - wind energy along Gujarat and Tamil Nadu coast

■ - potential solar power in Rajasthan, Ladakh, Vidharba region.

Remarks

Can talk about INDC & SDG targets in detail



Measures to boost alternate energy

- providing land to set up tidal farm and wind farm (effect of agglomeration)

- subsidizing initial capital as it is a capital intensive industry

- providing proper power purchasing agreement to boost renewable power procurement by DISCOM.

- changing Building codes to link FSA to conditional solar rooftop potential.

India has tremendous potential for renewables. providing proper policy framework is need of hour.

Can provide some case studies  
↓  
Green Building Code, UREA ratings etc

Remarks

(b) Minor forest products are commodities obtained directly obtained from forest.

It includes no or basic initial processing.

These include rubber, honey, tendu leaves, gum, bamboo, mahua flowers etc

The area where minor forest product is dominant are:-

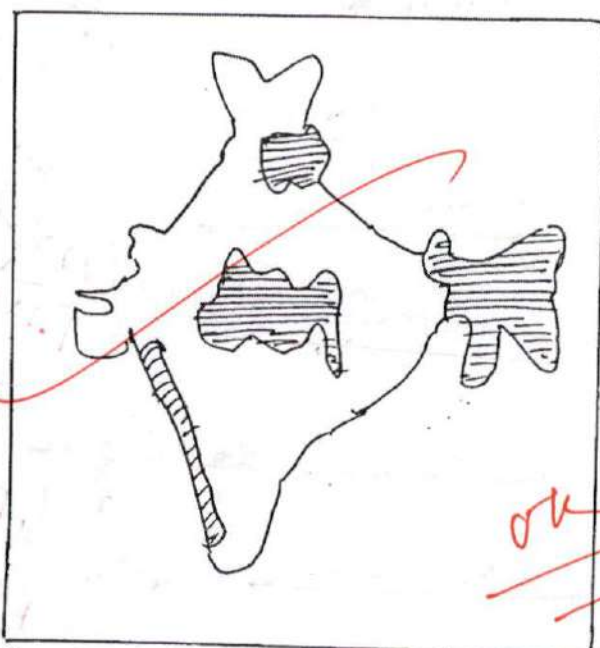


Fig: Areas of Minor Forest produce

Major  
Areas of minor forest produce states:- Western Ghats, Madhya Pradesh, Chhattisgarh, North Eastern Region.

Remarks



Significance :-

→ provides source of livelihood to

tribals living in forest area

eg: Gonds of MP depends on Mahua flowers.

Nagas of North East depend on sale of Bamboo.

→ provide a way for rural women empowerment

eg: women cooperative sell incense sticks from temple flowers in Kanpur.

→ provide opportunity to rural youth who have lost faith in agriculture and want to migrate to cities.

Remarks

(C)

Animal husbandry is defined as the activity of using feed animals to provide additional products like milk, eggs, meat, leather etc.

According to Prof Jasbir Singh, animal husbandry accounts for more than 50% of agriculture income.

Importance :-

- supplement income constant income contrary to erratic monsoon.

- provides opportunity for woman to contribute to family income.

- Waste from animals can be used as manure and fertilizer.

Remarks



Some economic and environmental impact:-

- Disease like foot and mouth disease cause enormous economic loss to poor farmers

- genetic stock of imported breeds has affected productivity

- social concern regarding recent meat ban controversy

- methane released from digestive system of animals has been source green house gas. This is causing environmental concerns

Conclusion ??

Can draw a map of major animal husbandry areas

Remarks

7. Answer the following questions:

- What are dry the regions of India? How do the physical and human factors intervene to create the unique conditions of poverty and deprivation in these areas? (250 Words) (20)
- Agriculture in North East India provides livelihood support to 70% of the region's population still it produces only 1.5% of the country's food grain production. Discuss reasons and suggest measures. (200 Words) (15)
- Critically analyze the overall change in cropping pattern in India post green revolution era. (200 Words) (15)

- (a) Dry regions of India are region receiving less than 20 cm of annual rainfall and variability of rainfall more than 60%.

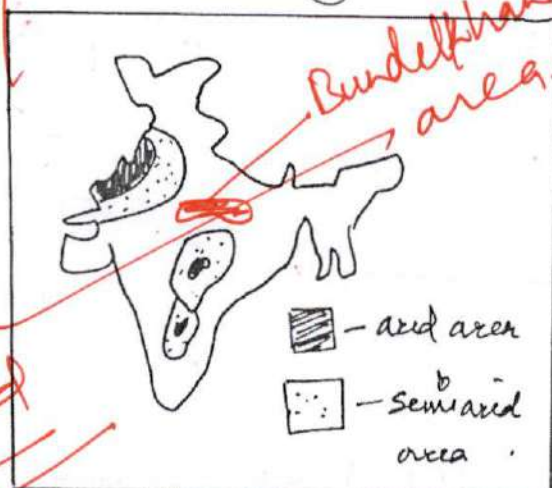


Fig: Dry areas of India

Regions consisting of dry areas:-

- Western Aravalli Region
- Central Indian region of Vidharb, Marathwade

- Telangana western odisha, western Andhra

Remarks



Roadside.

- Dry regions of India were classified by Gulna Sadsynk and prof Sen Gupta in paper "Regionalisation of India"

Physical factors leading to poverty and deprivation

- Due to lack of rainfall, sand and desert soil are formed. → give specific examples
- extreme weather [Hot days and cooler nights] limit the diversity of crops only crops like dates, figs are grown.

Remarks

- Lack of water leads to settlement being compact near a water source eg Lake, Pond as seen in Rajasthan.

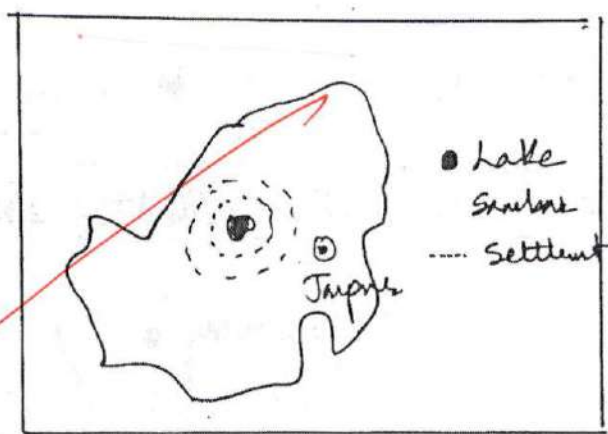


Fig. State of Rajasthan

- Less ground water further aggravates the problem. Dry farming is practised

Human factors leading to poverty and deprivation

- people According to miss Sample

Remarks



people living near dryland and passers  
are robbers

eg: criminals taking shelter in Chambal  
ravine

- Efficiency of people is low in extreme  
wealth; this further aggravates the  
problem of poverty

Solutions like Indira Gandhi

Canal, Ken-Betwa river linkage provide  
opportunity for agriculture. Further  
livestock and dry land farming can  
be practised to alleviate poverty and  
deprivation.

good  
conclusion

Remarks

⑥ Agriculture is one of the  
leading professions for people of North  
east: Reasons for such phenomenon:-

→ Rainfed agriculture can be  
sustained due to Bay of Bengal  
branch of South west Monsoon

good  
arguments

- Traditional and Tribal practices of

organic farming, shifting cultivation  
still prevalent.

- Presence of market (local population)

reduce dependency on government

interventions like MSP, crop insurance etc

Remarks



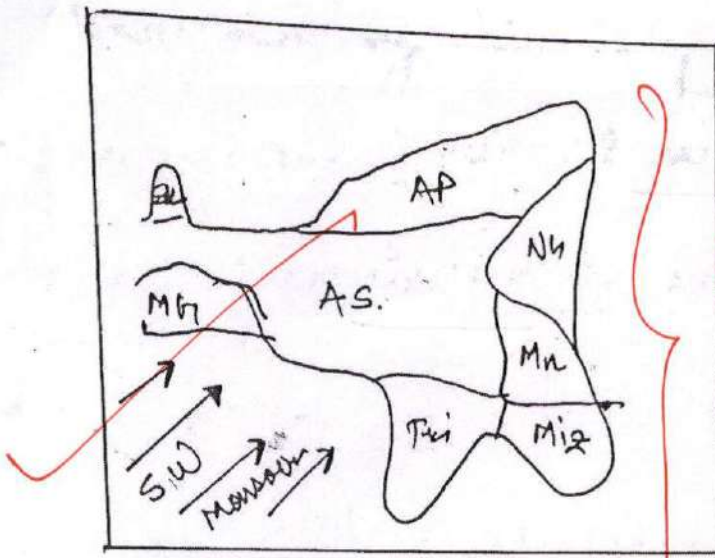


Fig. North east India

Reason for low contribution to food grain production :-

- Majority of farming is subsistence farming due to presence of small patches of land amidst forest.
- Lack of mechanization, modern pesticide and fertilizers leads to low productivity.
- Procurement of crops through APMC

Remarks

Mandi and by FCI is poor.

- Transportation cost of carrying grains from NER to main land is enormous.

Measures :-

- local farming practices should not be disturbed, they should be complemented with bamboo cultivation, silk production etc.

- TRIFED should work towards development of tribe market for tribal produce.

- Insurgency and inter tribe conflict should be stabilised to boost production.

Remarks