

**GS SCORE**

**An Institute for Civil Services**

**IAS TOPPER'S**

**TEST COPY**

**HARPREET SINGH**

**Rank - 19**

**GS Mains Geography**



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82

**GEOGRAPHY**

Time Allowed: 3 hr.

Max. Marks: 250

Q.	Marks	Instructions to Candidate
1.		<ul style="list-style-type: none"><li>• There are 20 questions.</li><li>• All questions are compulsory</li><li>• The number of marks carried by a question/part is indicated against it</li><li>• Answer the questions in <b>NOT MORE THAN 200</b> words each. Contents of the answer is more important than its length.</li><li>• Answers must be written in the space provided.</li></ul> <p>Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.</p>
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Name Harpreet Singh

Roll No. \_\_\_\_\_

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

Date \_\_\_\_\_

Signature \_\_\_\_\_

1. Invigilator Signature \_\_\_\_\_

2. Invigilator Signature \_\_\_\_\_

Remarks

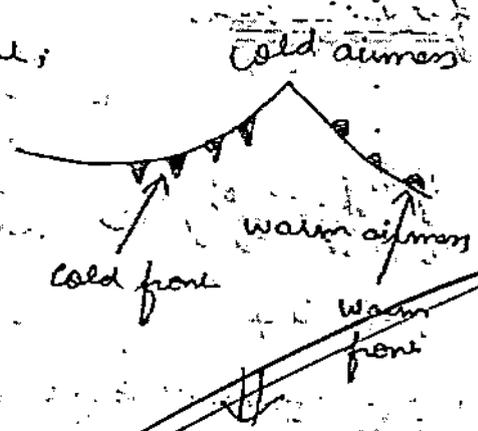
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4.5

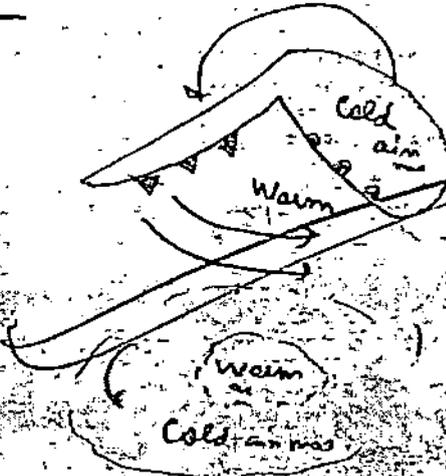
Q1. Extra-tropical Cyclones are a year round phenomenon appearing whenever the conditions suit the formation and growth of such systems. What are major reasons for the more frequent occurrence of extra-tropical Cyclones in the winter season? (12.5 Marks)

Extra tropical cyclones occur when cold air mass and warm air mass, come in contact with each other, this frontogenesis forms in such a way that cold front and warm front are formed side by side as shown in figure;

cold air mass warm air mass forming cyclone

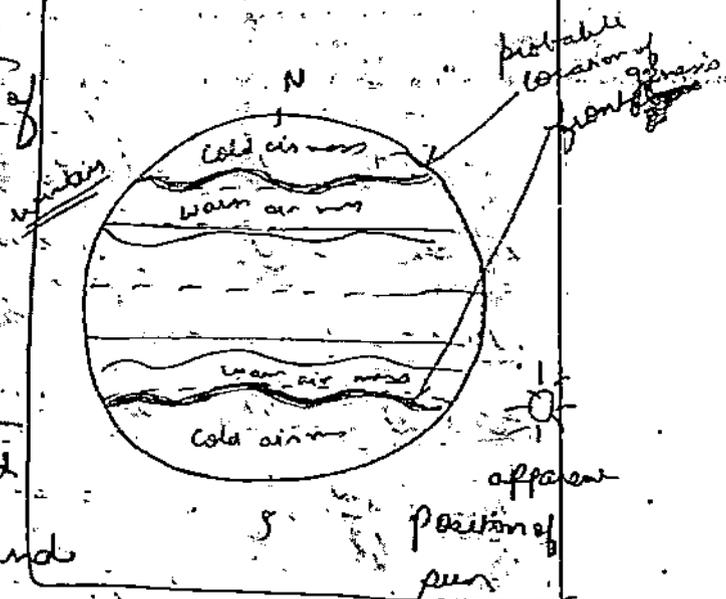


More frequent occurrence of extra tropical cyclone occurs in winter season because in



This is a phenomenon normally witnessed between 30°N/S to 60°N/S.

in winter,  
cold air mass of  
 northern polar  
 hemisphere,  
~~expands~~  
~~contracts~~ gets  
drawn near mid  
latitudes, and



ideal conditions for formation of  
front occur, at mid latitudes.

Further during winters,  
temp difference between  
warm air front and cold air front  
 is sharp, thus fronts occur  
 easily, resulting in formation  
 of extra tropical cyclones.

Q2

Q2. Elucidate the statement - "In a sustainable energy security system, various modes complement each other". (12.5 Marks)

In Sustainable energy security system, focus is laid on different sources that complement each other and traditional energy resources. Solar energy, wind energy, tidal energy are few examples.

As it is the sun in many areas sun does not shine perennially, and similarly wind does not blow all time the year.

So, an efficient and robust comprehensive energy security system. It is the mix of

various modes that complement each other in providing energy security and complementary traditional sources like coal energy, hydroelectric

further in hilly areas,

solar energy is trapped more easily, for example done in

efabot

Leh region of India,

A centralized sustainable energy system spread uniformly over large areas is not possible.

With different geographical features, different techniques of tapping sustainable energy are to be utilized.

Sustainability of energy security

System lies in complementary various renewable energy sources with traditional energy sources.

also focus on other forms of energy generators such as wind power, geothermal, for use of biomass etc.

35

Q3. Discuss the important characteristic features of Mixed Farming. Why Mixed Farming is found mainly in the highly developed parts of the world? (12.5 Marks)

Mixed farming is a system in which farming sector is supplemented by livestock activities for eg. poultry, piggery, dairy activities.

As one of the characteristics, waste products from livestock is used as manure for farming and a small amount of farming produce is used for food and fodder of these livestock. They complement each other mutually.

Without any extra large investment or effort, both type of activities give economic incentives to owners.

Mixed farming is found mainly in highly developed part of world because of

high capital  
requirements  
heavy mechanised  
etc.

- <sup>less</sup> availability of large tract of lands, so being mixed farming gives economic incentives.
- There is high demand of dairy, meat, eggs in these areas, so this act as another factor
- increased awareness among people.
- favourable policies of developed countries. (incentives, tax rebates)
- many of the livestock products are processed and exported according to demand.  
for eg dairy industry of New Zealand, Holland.

It is because of these reasons, many developed countries have been able to reap benefits of mixed farming in their countries.

(C)

Q1. Explain how ocean currents help in establishing global heat balance. Also explain the relationship between ocean currents and habitability of the coastal areas. (12.5 Marks)

Because of differential heating of water of oceans, there is development of relative pressures due to difference in temperatures.

To equally circulate the temp. and pressure, ocean currents develop and flow balancing the relative heat of equatorial ocean areas and coldness of polar seas.

Further because of these ocean currents, events like La Niña, El Niño, Southern oscillations, dipoles occur, which act as balancing heat in atmosphere.

Thus, ocean currents help in establishing global heat balance.

Habitability of coastal areas have usually dependent upon fisheries activity.

When warm oceanic currents and cold oceanic currents have met, the areas have been highly beneficial for fishing activities.

In these areas, fisheries developed naturally because of optimum temperature (for e.g. fish banks).

So, habitability was largely affected by these oceanic currents.

Further, these oceanic currents bring with them aesthetic sea breezes, which have resulted in development of tourism industry, dependent upon presence of oceanic currents.

3.3

Q5. Forest fires pose a threat not only to the forest wealth but also to the entire regime of fauna and flora seriously disturbing the bio-diversity. Explain the man-made reasons for forest fires and ways for controlling it. (125 Marks)

Forest fires are considered one of the worst man-made disasters because of their effects on flora and fauna, rather complete forest ecosystem disruption, food chains, climate changes and economies.

Certain man made reasons

for forest fires are

- 1) Carelessness by travelling humans.
- 2) Establishment of infrastructure like electricity poles etc in forest areas which are often the cause of forest fires.
- 3) Change in forest use patterns have resulted in afforestation of soft woods for match stick purposes, plywoods etc. And due to use of this vulnerability of forest fires have increased.

Forest's jobs:-  
Shifting  
Cultivation  
improper  
collection practices  
Forest products  
etc.

4) Increase of human reach in many forest have been a great concern, which is to be regulated.

To control forest fires, following measures can be undertaken.

1) Regulation of human reach, including economic activities,

2) Carefully following the protocols established by forest departments

3) Special forest fire teams with equipments and strategies for eg:- presence of airplanes spraying water etc. and strategies like Ring fence

strategy

1) Use of Geographic Information Systems (GIS) <sup>focus on</sup> early detection

2) Efficiency in evacuation of endangered fauna

Use of firebreaks

watch towers with experienced staff.

etc.

for hot

With these proactive steps, forest fires can be dealt with.

4

Q6. Discuss the economic and strategic significance of Indian islands. (125 Marks)

Indian islands can be largely segregated into 2 island groups i.e. Andaman and Nicobar (A & N) islands, and Lakshadweep island group, where Lakshadweep is predominantly a coral island group. A & N was formed on collision of Indian - Australian plate with Eurasian plate.

Economic significance of Indian Islands lies in

1) They are tourism hubs and can be promoted for it. They have huge potential because of clean beaches, different culture, luxuriant vegetation, flora and fauna.

2) Further, new islands for eg. recently found near Kolkata is expected to possess oil reserves.

3) A & N can act as base for India 'Act East' policy and promote economic interactions with ASEAN countries.

nearby 36% of the country's EEZ can be attributed to these two island groups for foreign fish collection

4) These islands groups possess exclusive vegetation and some of the herbs are found nowhere else and have high demand, so can be established as one of medical (AYUSH) centres.

When strategic significance of Indian Islands is concerned

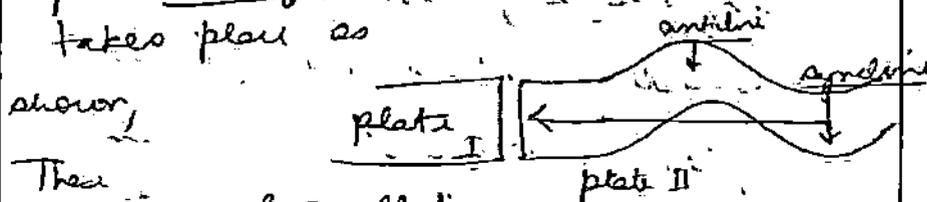
- 1) A & N islands act as naval base of Indian Navy.
- 2) By close proximity to Malacca Strait, this naval base can be effectively used to insulate India Ocean from South China Seas, during event of war.
- 3) Lakshadweep Islands, can be used to promote naval interactions with Diago Garcia (V.K), Mauritius, Madagascar, Seychelles and can be used to counter piracy and sea crimes.

Thus, Indian Islands are of great significance in both economic and strategic terms.

3.5

Q7. Minerals formed in geosynclines are the drivers of the global economy.  
Elucidate. (12.5 Marks)

When two plates collide with each other, due to compression, formation of anticline and syncline takes place as



These synclines, also called geosynclines also forms basins of

many rivers.

Being basins of many rivers, luxuriant vegetation sprouts in these synclines,

With time, more and more sediments gets settled over these geosynclines, and the dead vegetation with high pressure and high temp, which was buried, forms into minerals.

These minerals are the drivers of global economy.

The best examples of geosynclines where minerals have

highlight  
the generation of  
heat & pressure  
in these geosynclines  
to post-carboniferous  
carboniferous  
age of formation  
of coal &  
hydrocarbons  
in these geosynclines

been found in Ural  
mountains, Appalachians  
etc.

In India, Godavari,  
Maharadi basins are the best  
examples, where coal and iron  
field mines have been major  
sources of India's mineral  
production.

4

Q8. Pulse cultivation in India has witnessed a shift from northern and eastern states to southern and central states. Give reasons for this and also suggest ways to increase pulse production in India in the light of increasing pulse prices. (12.5 Marks)

Pulse cultivation shift, from ~~Northern and Eastern states~~ towards ~~southern and central states~~, have

following reasons.

1) ~~Northern states~~ <sup>& eastern states</sup> have shifted to cultivation of Rice and wheat due to better support facilities like MSP, irrigation. This gives them security of assured income.

2) No major policy is there for pulse production and this ignorance, has resulted into increased shift away from pulses.

3) In southern and central states, where irrigation facilities are not as good as Northern states, have adopted pulse cultivation due to adaptability of climate and substandard irrigation.

Pulse prices have increased majority due to demand-supply mismatch. Demand has always remained high and lack of interest of farmers in pulse cultivation has both limited the supply. Thus high prices of even basic necessity like pulses

Various measures that can be adopted to increase pulse cultivation are

- 1) focus on so called "Yellow Revolution", which has been cheered so much providing MSPs, insurance schemes, farmer support systems.
- 2) Awareness campaigns showing benefits of pulse cultivation. For eg. it helps in nitrification of soils.
- 3) Technological research activities in producing HYV (high yield variety) seeds, for increased yield of pulses.
- 4) Market development of pulses, assured

buying of pulses etc.

These proactive measures will help in reducing pulse prices by increasing pulse production.

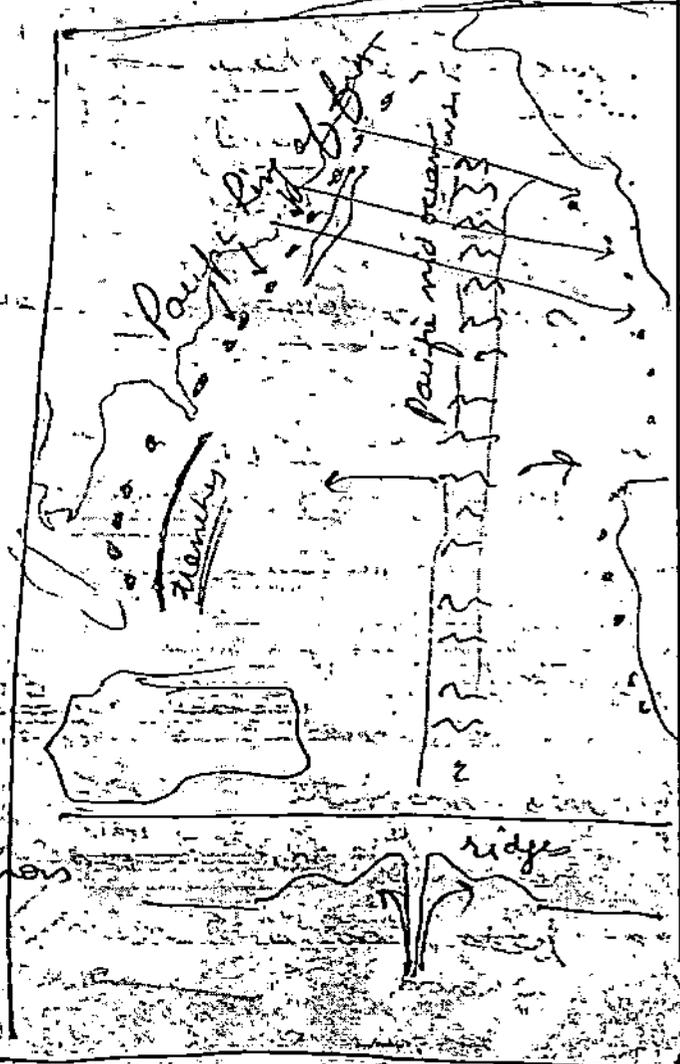
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Q9. The discovery of the mid-oceanic ridges opened doors to not only plate motion but the age of the ocean floor and other geological phenomenon. Elaborate. (12.5 Marks)

4  
Until mid oceanic ridges were not discovered, Continental drift theory was in vogue.

After the discovery of mid oceanic ridges, it was discovered that tectonic plates move, not the continents.

The largest Pacific oceanic ridge further helped in discovery of other geological phenomenon.



① It results into discovery of Earthquakes and reasons

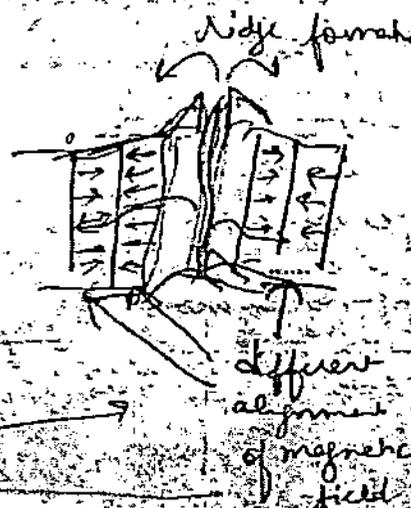
for eg → Pacific ring of fire

② It results into explanation of trenches - for eg. philippines trench

③ It resulted in ~~explanation~~ <sup>explanation</sup> of presence of large <sup>numbers</sup> of oceanic islands like indonesian islands, philippines islands and epicontinental ~~islands~~ <sup>seas</sup>

④ Further Hoppers in ridges told us about the age of sea bed

⑤ Further, it gave insights into magnetic fields of sea beds, as shown in figure →



7.5

Q10. Do you agree that a coordinated system of transport plays an important role in the sustained economic growth of a country? Substantiate with examples. (125 Marks)

Sustained economic growth is all about linkages between raw materials, manufacturing centres, service centres and markets.

Thus, the coordinated system of transport becomes important in establishing these forward and backward linkages.

A well coordinated system in which seaways, railways, roadways, airways and waterways are connected give every economic venture the options, and with well coordinated system, raw material, men, money, machines can be transported with speed and efficiency.

Countries like China, USA have heavily invested in coordinated transport systems and the positive coordination with economic growth is clearly visible.

Take an example of business venture which needs raw materials, labour, machinery.

Also, it needs linkage with market when products can be sold.

A coordinated system will not only provide the business linkages but at reduced cost and business could flourish only when he will get inputs at right time and he can sell according.

This business investment highly depends upon transport system.

Sustained Economic growth clearly plays an important role in economic growth of country.

Refer to L

9

Q11. Establish the relation between water resources of India with social issues related to it that need to be addressed. (125 Marks)

With increasing demand pressure on water resources, the water resources have mostly been in limited supply. This lack of water availability has given rise to various social issues.

In many villages, it is seen that backward castes are not allowed to fetch water from common wells. They have their own separate wells with poor quality of water.

People attach significance to rivers as River Ganga being called mother.

Industries causing pollution, leather tanning industries of Kanpur, for eg, are change of as doing social work.

Effort of govts of interlinking rivers are being discredited by some interest groups on basis of religions.

due to lack of water resources, issues like poor sanitation, health problems are being happening.

In slums, provisions of water availability are not being met, causing serious health concerns.

These issues need to be addressed. Though Swachh Bharat Abhiyan, Nirmal Bharat

Abhiyan has been started,

but they have not addressed the basic premise of problems water availability.

leading to  
sanitation slipping  
back into the  
grip of poverty

4

Q12. Explain the variety and value of tourist resources of India. (12.5 Marks)

India hold a huge variety and value of Tourist Resources.

1) First of all, India has large variety of geographical variation. From Himalayas in North, Deserts in Rajasthan, Plains, Coastal areas and what not. It has almost every type of climate available within its territory.

2) Further, luxurious wildlife, different Natural Parks, Wildlife Sanctuaries, Wetlands have potential of eco tourism especially in North East India.

3) Further, India has potential of being meditation and spiritual hub, with old

history. Hinduism, Buddhism

Jainism, Sikhism and other

major religions have roots in India.

4) India has potential in medical tourism. Many foreign tourists come to India for its excellence in medical services at inexpensive rates. Further, AYUSH Mission tries to develop India into Ayurvedic centre.

5) Historical Monuments of India from Mughal Architecture, to French Architecture, Ashoka to British, It can serve as great study centre of History, Architecture style. Beyond Taj Mahal, India has huge potential in this sector.

6) Beautiful beaches, coral islands are present.

7) Adventure sports, tourism from paragliding in Himalayas to sea surfing. India has potential

Ther India offers huge variety and value of tourist resources. It is unparalleled in whole world.

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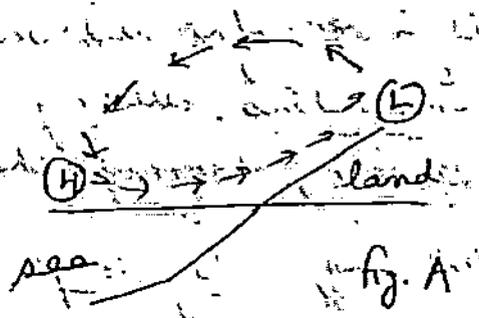
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Q13. What do you understand by land breezes and sea breezes? Discuss how these breezes modify the urban coastal environment?

(12.5 Marks)

Due to differential warming of land and sea, winds blow at coastal areas. These winds are called land breezes and sea breezes, depending upon the direction of wind, which further depends upon day or night.

During <sup>mornings</sup> ~~day~~ land gets warm quicker and sea is relatively cold. Due to which high pressure develop at sea and low at land and wind start circulating as shown in figure A.



During Night, Sea retains heat for longer time, and land gets cold relatively early. Due to this high pressure develops at land side and low pressure at sea side, and wind start revolving other way. It is called land breeze.



a shown in fig (B)

These breezes modify urban coastal environment by fig B.

keeping the temp equitabile  
It is one of the reasons, that temperature during different seasons, does not change much.  
And also, day temp and night temperature are almost equitabile relatively from far off areas.

These breezes further distribute the polluted air over large area decreasing its concentration, helping in reducing negative impact of pollution.

Thus, these breezes are highly beneficial for urban coastal environment.

however, urban  
phenomena occur  
within 50 km of  
coast.  
also helps in  
reduced impact  
of urban coastal  
environment due  
to work done  
of urban coastal  
authorities

(4)

Q14. The success of Soil Health Card scheme depends on rationalisation of fertilizer subsidies. Discuss. (12.5 Marks)

The ultimate idea of soil health card scheme is testing of soil, and telling the farmer in which nutrients soil is lacking, so that he selects fertilizers according to need of soil.

Knowing of which fertilizers to use, is not going to give any benefit, unless it is complemented by rationalization of subsidies.

What is happening now a days is subsidy is being given of fertilizers like Urea. Farmers are using urea even if soil is not lacking in Nitrogen.

The N:P:K (Nitrogen Phosphorus Potassium) concentration is dependent upon crop. For eg. in case of wheat is around 5:3:1 where

10:41

in practice it goes like 20:4:1,

The reason for this is irrational fertilizer subsidy.

The other components which are required are too costly.

Only thing cheap is urea which is already present.

So, farmer continues to use urea because of unawareness and problematic policy of irrational fertilizer subsidy.

So, if the Soil Health Card Scheme is to be made successful, It is a necessity

that fertilizer subsidy be rationalized, and farmers can

actually get what fertilizers are required at reasonable rates.

~~4.5~~ 3

Q15. India's long coastline has potential for major contribution in development of the country. Elaborate. (125 Marks)

Indian coastline has huge potential for development of country.

Coastal areas have huge potential for port infrastructure which will help in trade and get market connectivity.

② Large coastline provides for large potential for fishery industry, i.e. Blue Revolution.

③ Coastal area provide for potential of tourism, beaches, coastal surfing, etc.

④ Long coastline calls for tapping tidal energy which can help in complementing other traditional energy sources.

⑤ Huge coastline allows for location of oil drills like recently found off West Bengal Coast. Even China is ready to

engage in joint search with  
India along India's coastline  
and Bay of Bengal.

⑥ Indian coastline is rich in  
monazite ore, which can be  
extracted to produce thorium  
having potential of nuclear  
energy.

⑦ Coastal areas have luxuriant  
mangroves and wildlife can  
be protected and made use  
of in scientific research, medicine  
and tourism.

With all these benefits,  
Indian coastline shows a  
major contribution potential in  
development of India.

Good

5

Q16. Unscientific exploitation of resources is more hazardous than over-exploitation of resources. Critically analyse. (12.5 Marks)

Both overexploitation and unscientific exploitation of resources is hazardous. But when comparing to each other, unscientific exploitation of resources is more hazardous. Because, in unscientific exploitation there is element of wastage. Along with wastage, it poses further threats for eg. disaster causing tendencies, environmental pollution.

In overexploitation of resources, no doubt, sustainability is lost but in actual, resources has been put use to, it is not wasted, its utility is utilized efficiently.

unscientific  
But in case of overutilization it is not so. This also creates

a legal problem when natural resources which are global commons are used inefficiently.

Recently AG had whipped mining industries regarding unscientific techniques and unscientific utilization.

Take an example of shale gas extraction or CBM (coal bed methane extraction), if extraction is not scientific, it can pose threats of earthquakes in vicinity areas, threatening life and property.

Thus, it can be established that though both are hazardous i.e. over exploitation and unscientific exploitation, unscientific exploitation is more hazardous.

Good

4.5

Q17. Unlike other natural disasters, human beings play an important role in the genesis as well as spreading of floods. In the light of above statement, bring out the major differences in nature of floods occurring in the western and eastern part of the country. (125 Marks)

The only reason of flooding is mismatch between inlet and outlet of water. Human beings play important role in genesis as well as spreading of floods:

- 1) by irregular planning of cities, unscientific sewage systems; because of which water get clogged up causing flood.
- 2) by unplanned levelling of land for agricultural purposes destroying the natural path of water flow.
- 3) <sup>because of</sup> lack of any planning and mitigation measures for floods, disasters of flood spreads creating havoc.

There are major differences in nature of floods occurring in

Western and eastern part of country.

In eastern parts of country, due to heavy monsoons, rivers overflow leaky embankments, flooding the area, whereas in western parts, due to heavy rains, water gets logged up at the location itself. For eg. during Monsoons in Mumbai, every year die to lack of effective sanitation and sewage system, flood occurs.

In eastern parts of country, flood conditions caused by Kosi, Ganga, Brahmaputra rivers, prolong for long time causing life threats and emergency evacuation conditions.

Whereas in western part of country, floods are for short duration, water recede eventually to inundate again during next rain.

U.S

Q18. Describe the factors that have contributed to the increase in cotton cultivation in Punjab despite the unfavorable soil and climatic conditions. (125 Marks)

Cotton in Punjab is cultivated as a replacement to paddy.

As paddy consumes huge water, it has been abandoned in many areas of Punjab Malwa region.

Even though cotton is also unfavourable to soil and climatic conditions.

It is made favourable by uses of fertilizers and proper irrigation.

One reason for its success in Punjab is well off farmers with funds to spend on fertilizers.

Other reason for success is presence of textile industry in Ludhiana and Amritsar Areas.

Further, cheap labour supply from ~~haryana~~ migrant states of

U.P, Bihar, MP, has helped in cultivation.

also the enterprising nature of the farmer is a very big reason for such exponential

of cotton as cotton flowers  
are plucked with hands.

These all factors have  
contributed to cultivation of cotton  
in Punjab despite, not having  
black soil or favourable climate.

U.S

Q19. Intra-state and inter-state migration in India is compulsive in nature.  
Discuss. (12.5 Marks)

Migration is almost always  
compulsive in nature whether  
it is intra-state

Migration is generally  
attributed to 2 factors.

- 1) Pull factors
- 2) Push factors

In India, it is the push  
factors which affects the  
migration the most and makes  
migration compulsive in nature.

Major push factors that are  
common in India are

- 1) Poverty; (no subsistence on agriculture).
- 2) Unemployment, (no employment, no jobs)
- 3) Conflict (Naxalite areas)
- 4) Social boycotts/alienation at native places.
- 5) Lack of education, basic necessities at native places.

All these factors  
club together, and form a

Compulsive decision of migration  
whether intra state or inter  
state.

Result of this migration  
results in shift of people  
from rural backgrounds to  
urban centres in search of  
hope and jobs, so they can  
sustain their families.

Though there is certain  
population which is migratory  
because of pull factors of  
growth, fame, <sup>better</sup> employment;  
but majority of population  
is migrating because of  
compulsion of poverty, conflict  
and other reasons stated  
above.

Q

Q20. India has registered a decline in barren and wasteland, culturable wasteland, area under pastures and net area sown in recent years. Explain the causes and also enlist the environmental impacts of this decline. (125 Marks)

Decline in barren and wasteland, culturable wasteland and area under pasture, has happened because of pressure on land for development purposes and agriculture.

New projects have been allotted land in these barren wastelands, and many of the wastelands have been made suitable for agriculture.

Areas under pastures have been used for the same purposes. These reasons are major causes of decline in wasteland and pastures.

Environmental impact of this is mixed where wastelands have been utilized for development activities.

And agriculture, this results in betterment of environment, system. But, where pastures have declined, the impact is negative.

Many food chains depend upon these pastures. This could also result into extinction of many species which feed on these pasture.

This decline in pasture land is element of concern.