

(481)

TEST - 14

GS SCORE

GS MAINS TEST SERIES 2021

GEOGRAPHY

Time Allowed: 3 hrs.

Max. Marks: 250

Q.	Marks	Instructions to Candidate
1.	4.5	<ul style="list-style-type: none"> There are 20 questions. All questions are compulsory. The number of marks carried by a question is indicated against it. Answers to questions no. 1 to 10 should be in 150 words, whereas answers to questions no. 11 to 20 should be in 250 words. Keep the word limit indicated in the questions in mind. Answers must be written within the space provided. Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.
2.	5	
3.	5	
4.	4.5	
5.	5	
6.	4	
7.	4.5	
8.	5	
9.	4	
10.	3.5	
11.	6	
12.	5.5	
13.	6.5	
14.	6	
15.	7	
16.	6	
17.	5.5	
18.	6.5	
19.	6	
20.	7	

106

Name S ShivaramanRoll No. 41659

Mobile No. _____

Date 24/11/21

Signature _____

1. Invigilator Signature _____

2. Invigilator Signature _____

- focus more on analysis
- write impressive introduction and conclusion.

6: *Myself*
Human Geo.
Answer

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 कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
 Content of the Question is more important than length.
 (Specimen Answer Booklet - For Practice Purpose Only)

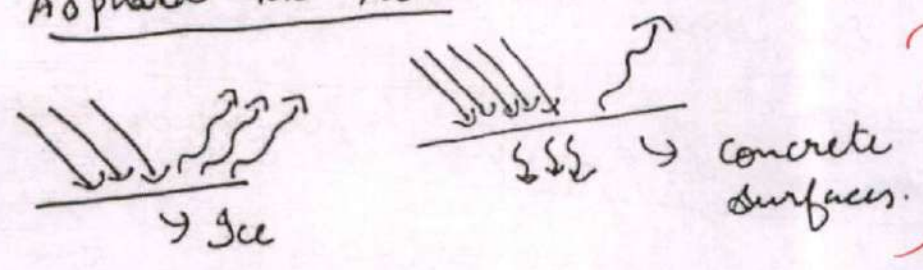
उम्मीदवारों को इस हद्दिका में नहीं लिखना चाहिए।
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Section A

1) Albedo is the measure of radiation reflected back by a surface.

Cryosphere has an albedo over 0.9 i.e. greater than 90% of radiation is reflected back) where as Asphalt in road has a value of 0.03

Aptly introduced

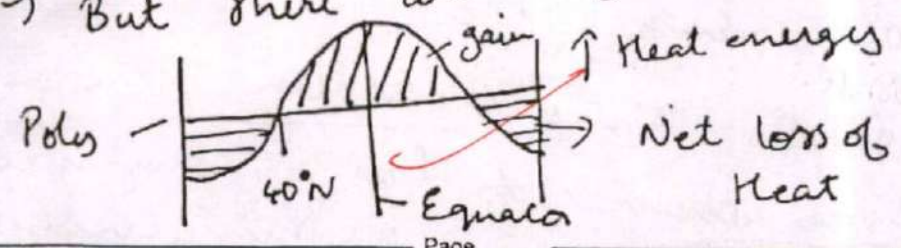


Nice use of Diagram

Ice Caps & Heat Budget

→ Heat budget of earth overall is 0 i.e. heat energy coming in is reflected back

→ But there are regional variations



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कोई लिखना
नाहीं।
Candidates
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write on this
margin

→ The icecaps present in
arctic and antarctic regions
help in radiating more heat
than they receive

→ This offsets the heat gain
in tropical & subtropical
regions. ($40^{\circ}\text{N} - 40^{\circ}\text{S}$)

Diverse
points are
covered

Impact of deposition on Black carbon

i) Decrease in Albedo of Ice

ii) Increase in temperature of
earth surface

iii) Surface temperature + Atmospheric
temperature = Intensification of

glacier melt down, drastic weather
events etc.

Include
conclusion
to summarise.

→ India's National action plan on
climate change has a component
on himalayan region.



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2) Jetstreams are high velocity,
high altitude, persistent winds
vertically ~~above~~ subpolar ^{low} ~~high~~
pressure belt and subtropical
low high pressure belt.

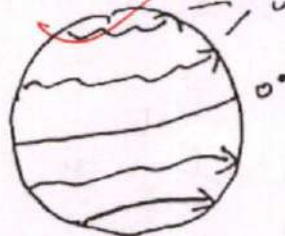
Speeds - Above 200 Km/h

Altitude - 9-12 Km

Formation : Arctic subpolar jet-

stream - divergence of rising
wind over subpolar low pressure
zone.

subtropical jet : convergence of
descending wind over subtropical
high



Applly
Introduced

Good
explanation
of
Jet streams

Please do not
write anything in the
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नहीं लिखना
चाहिए।
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Jetstreams and climate change

- 1) Weakening of Polar jetstreams
- Spread of Arctic climate to lower latitudes.
Adverse impact in UK, Montreal, New York etc.
 - Increase in arctic temperature.
Rapid melting of ice caps.
 - Decrease in polar stratospheric cloud → lowering in polar ozone depletion.

- 2) Subtropical westerlies occur at lower latitude.

- Recurrence of cyclones affecting west coasts of India Eg: Gujarat
- Greater cyclonic disturbances in Indian North west.

Thus climate change affects Jetstreams which again affects climate change.

Various points covered with correct examples

5



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अतिरिक्त कुछ
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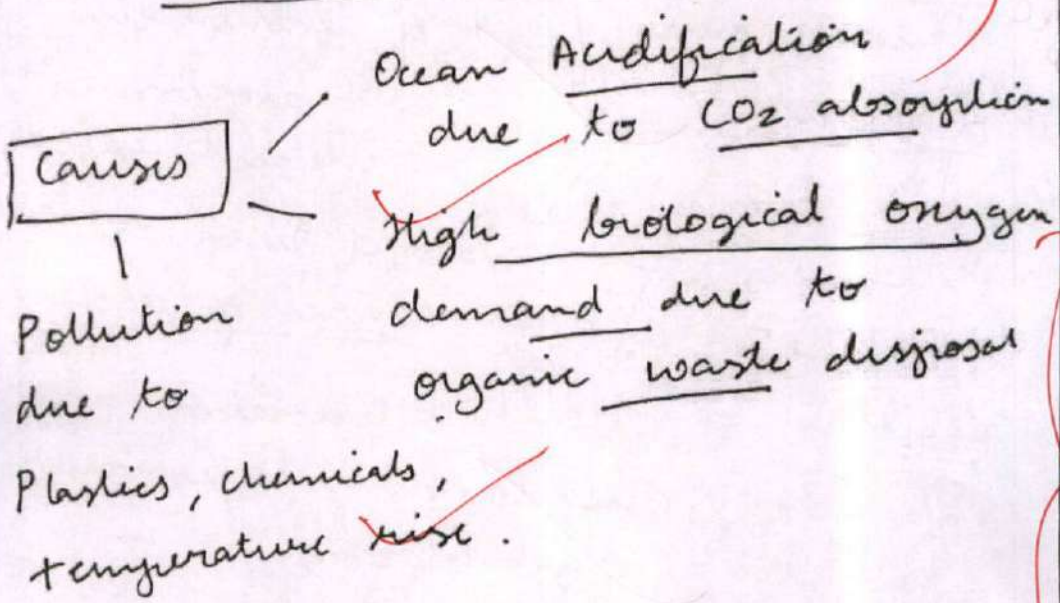
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इस स्थान पर
श्री संख्या-
वर्तिका
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3) Formation of dead zones have
been increasingly observed over
the last two decades according
to IPCC special report on oceans.

Define
characteristic
of Dead
zones



Nicely
points
described

Ecological Ramifications

- Depletion of coral carbonate
species eg: polyps - due to
decomposition of CaCO₃.
- Death of larger species sensitive
to temperature variations.

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कृपया इस स्थान पर प्रश्न संख्या पर अतिरिक्त कुछ न लिखें

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उम्मीदवारों को इस हार्डिंग में नहीं लिखना चाहिए।
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→ creation of dead zones due to oxygen deficiency - occurrence on only at anaerobic microbes

All dimensions addressed well.

Socioeconomic Effects

Affecting livelihood of fishermen and processing industries

↓
Hindering tourism sector

Loss of important source of protein

Health deterioration due to toxic emissions / Algal blooms.

Remedial Measures

→ Identification of point & non point sources of organic & inorganic & thermal pollution

mention govt. & international initiatives

→ Treatment of waste.

→ global cooperation for CO₂ neutrality

→ continuous monitoring & data collected

Oceans and have been the greatest buffer in climate change, hence should be protected

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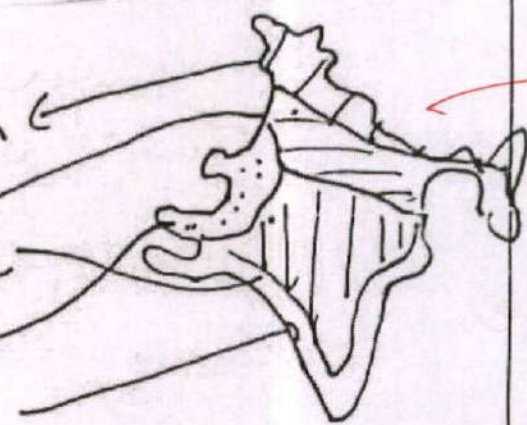
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बिना लिखना
नाहीं।
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write on this
margin

write
better
introduction

4) India is blessed with diversity
in physiography :

- Himalayas in North
- Gangitic plains
- Peninsular plateau
- Deserts
- Coastal plains etc



Nice
use
of
map.

Complementary Nature of Physiographies

- i) The Himalayan Ice caps provide for perennial flow of Northern rivers.
- ii) The higher altitudes of plateaus help in formation of coastal plains

Socioeconomic development of India

- (i) High hydroelectric potential from Himalayan Ranges
- ii) Intensive Agriculture from northern plains.

Separate
social &
economic
development
under
different
Headings.



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उम्मीदवारों को इस स्थान पर प्रश्न संख्या के अतिरिक्त कुछ नहीं लिखना चाहिए।
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Multiple diverse dimensions covered

- (iii) Occurrence of Metallic, Non metallic minerals & Coal from peninsular plateau
- (iv) High potential for solar energy from cold desert of Ladakh and ~~Thar~~ desert.
- (v) Tourism potential across Shivalik region.
- (vi) presence of petroleum & Natural gas in delta regions near the coast eg: coal bed methane - Kaveri delta, Andkol etc
- (vii) Different ecological regions provide different cultures, Improving diversity of India.

4.5

→ Address social & economical under different Headings

Thus the diverse physiography of India positively affects the socioeconomic condition in the country.

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कандिडेटों को प्रश्नों में अधिकतर शब्दों का उपयोग नहीं करना चाहिए।
प्रश्नों के अर्थों को ध्यान से समझना चाहिए।
उम्मीदवारों को इस स्थान पर लिखना नहीं है।

5)

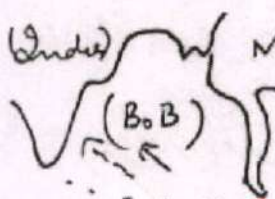
Historically Bay of Bengal has borne the brunt of major cyclones in India eg 1999, Odisha

But recent disturbing trends of supercyclones in Arabian sea shed light on effects of climate change
Eg: Maha, Kyarr etc.

Higher occurrence in Bay of Bengal

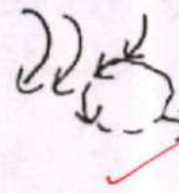
(i) Higher sea surface temperature

due to enclosed nature of

sea  → North west direction of cyclones

(ii) Ideal direction of surface

wind flow during North east monsoon

 → Anti clockwise

(iii) Stable Atmosphere

absence of vertical wind shear.

Nicely introduced with example.

Correct use of Diagram

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कृपया इस स्थान में केवल प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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changing pattern in Arabian sea

(i) General surface temperature rise due to climate change.

ii) Increase in occurrence of positive Indian ocean dipole.

iii) Lowering latitude of westerly jetstream causing a recurrence



→ Affecting Kathiawar region in Maharashtra

Thus the trends are primarily due to climate change.

Thus global cooperation is required to curb the such disturbing occurrences.

→ Consensus is required on Paris climate deal & CoP 26 decisions

All points covered.

5

Addressed question well



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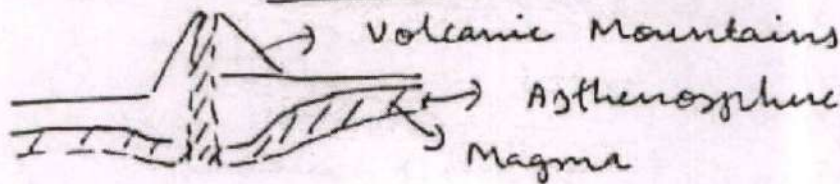
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प्रश्नों में
प्रति प्रश्न
की सीमा
लिखें
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6) Volcanoes are geomorphic phenomenon where the magma from the Asthenosphere reaches and breaches earth's crust.

Nicely introduced with Diagram



Harm to life and property

- i) Large scale displacement of people eg: Around Merabung volcano in Indonesia.
- ii) Pollution due to settling of Ash over water, land & suspension in air.
- (iii) Increase in short term local temperature.

Good points written

historically the ancient city of Pompeii is known to be destroyed by Vesuvius Volcano

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कृपया इस स्थान
में प्रश्न संख्या के
अभिलेखन न करें।

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उम्मीदवारों को
इस हॉगिग में
कोई लिखना
नाहिए।
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Benefa [Benefits to people]

- i) Increase in soil fertility due to ashes mainly potash.
- (ii) Access to many precious minerals from earth's mantle. Eg Poly metallic Nodules, Diamond etc
- (iii) Decrease in stratospheric temperature of the atmosphere due to Ash clouds
- (iv) Potential for new tourist destination

Thus large scale volcanoes, though disastrous, can provide scope for environmental, socio economic growth.

Add more points like
Tourism,
Minerals,
Heat Balance,
land formations,
Global Cooling,
Albedo etc.

↳

→ Add more points in 2nd part.

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प्रश्न संख्या में
रही संख्या
लिखनी
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7) National river linking project was an ambitious mission to reduce ^{variation in} inter regional availability of water, ~~is~~ and to manage both floods & draughts.

Mention
some data
Related to
interlinking

Delay in Interlinking projects

- (i) High cost projects, delay in resource mobilization.
- (ii) Complex engineering / Planning due to variation in topography
- (iii) Social issues -
 - Large scale displacement of tribal population. Eg: Baigas of M.P.
 - Need for proper compensation, rehabilitation & resettlement
 - Protests by tribes and NGOs.

Good points covered.

(Please do not write anything except the question under (i) the space)
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(iv) Environmental Issues:

- flooding, destruction of National parks, forests eg: part of Panna tiger reserve in Ken-Belwa project

Diverse points covered

(v) Multiple states, stakeholders involved, hence delay due to consensus.

Effectiveness of River Linkage

↓ Flood Drought Management
↓ Inland Water Transport
↓ Boost to Agriculture
→ Potable water Availability

→ Tourism, long term ecological growth.

The recent pact between governments of UP, MP and India has been long step forward toward this ambitious project.

4-5
Also add some extra measures to solve water crisis.



Read the
question
carefully
and
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Candidates
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प्रश्नों में
दिए गए
शब्दों
के
अंदर
लिखें।
उम्मीदवार
यहाँ
लिखें
ना।
उम्मीदवार
यहाँ
लिखें
ना।

8)

Over the years geologists have gathered knowledge about earth's interior through both direct and indirect methods

Direct Methods

→ Deep surface drilling Eg

Diamond mines of Namibia & Kimberly in South Africa reach a depth of 8 km.

→ Volcanic eruption: Identification of minerals in Earth's mantle

Indirect method

→ Earth's magnetic field

┌ Magnitude provides elements in the earth's core

└ The direction of field lines provide the physical state.

Eg: Identification of core composition to be Ni & Fe

Various dimensions explained
deeply

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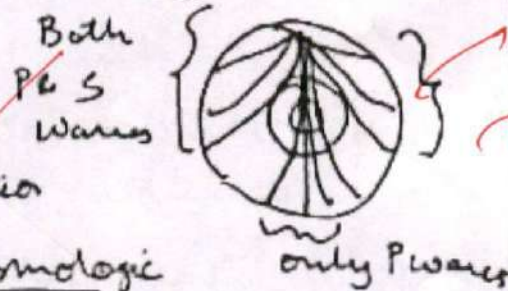
ii) Seismology

Advantages of Seismology

(i) Indirect methods give no information only about Earth's Crust & Asthenosphere

(ii) Magnetic method doesn't give detail about earth's mantle & dimensions of various regions.

(iii) Seismology provides both the dimensions of various regions and the physical state through the study of Primary & secondary waves



A global cooperation in setting up seismologic centres helped in this study.

Well explained advantages

Nice use of Diagram

5

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write anything except
the question number
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न लिखें।

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प्रश्नोत्तरों को
केवल प्रश्न संख्या
में लिखें।
Candidates
must not
write on this
margin

9) The himalayan region has been
central to India's culture,
history, climate and economy.

Recent reports by IPCC on
cryospheric region show drastic
melting in himalayan region
compared to the poles.

Thus sustainable development
should be the main focus in
this region.

Economic opportunities
↓
Vast
hydroelectric
Potential

opportunities
for tourism

— use of
Indigenous
Knowledge
on forest
resources

Good
introduction
by
importance
& IPCC

mention
more
points

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उत्तरों में
शब्दों की
संख्या
अधिक
नहीं होनी
चाहिए।
प्रश्नों के
अर्थों को ध्यान
से पढ़ें।
उम्मीदवारों
को इस
सीमा में
लिखना
होगा।

प्रश्नों को
सही ढंग से
पढ़ें। प्रश्नों
के अर्थों को
ध्यान से
पढ़ें।
उम्मीदवारों
को इस
सीमा में
लिखना
होगा।

Issues with current developmental Model

- (i) Lack of awareness on ecological fragility - Heavy dams, deforestation
- (ii) Truncated Environmental Impact assessment model method (EIA)
- (iii) Non Inclusive growth, local knowledge is not taken into account
- (iv) Emulation of technology of plain region in mountains

Need for sustainability

The recent glacial lake outburst in uttarakhand and devastating 2013 Kedarnath flood provide stark reminders to the need for change in developmental approach.

Decent points covered

mention Govt. initiatives as way forward

4

पठक में
आवश्यक
प्रश्नों के
उत्तर देने के
लिए
प्रश्नों के
अर्थों को
सही ढंग से
समझें।

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उत्तरों में
प्रश्नों के
अर्थों को
सही ढंग से
समझें।
Candidates
must not
write on this
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10) Satellite towns are new and
upcoming urban areas developing
around cities & urban agglomerations

mention
some
examples

Satellite towns & Urban development

- (i) scope for planned development
with focus on residential complexes.
- (ii) Development of transport
infrastructure to reach urban
centres.
- (iii) Development methods to decrease
vulnerability to heat island
effects, flash floods etc.
- (iv) Access to clean sanitation
and potable water.

Diverse
arguments
covered

Planned development of satellite
towns could help in moving

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सूचना
उम्मीदवारों को
अधिकतम शब्द
सीमा में
उत्तर देना
है।
उम्मीदवारों को
यहाँ पर
लिखना नहीं
है।

the residential areas from
urban centres.

Thus people could live in
satellite towns and travel to
Urban centres.

Advantages - Urban centres as
specialized economic

↓ Areas
Increase in living standards
↓ Reduction in slums
↓ Reduction in unplanned development

→ The cities of Pune in Maharashtra
is an ideal example of planned
satellite town.

The recent initiative of Smart
cities mission involves a
component of green field projects
to focus on satellite towns.

→ Also add
limitations
of
Satellite
towns.

→ Add other
essential
measures
for growth
of cities
sustainably

3.5

Please do not
write anything
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UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
Content of the Question is more important than length
(Specimen Answer Booklet - For Practice Purpose Only)

संदर्भ में
लिखें
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से
अधिक
शब्द
न
लिखें।
उम्मीदवार
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लिए
अधिक
से
अधिक
शब्द
न
लिखें।

Section B

11)

Jute has traditionally been an important fibre crop in India.

Its relevance has earned it the moniker name 'golden fibre'.

Issues responsible for poor performance of the industry

① Historical Aspect :

Most of the jute producing areas and mills went to east pakistan during partition.

② Localized production : only in eastern parts of India - West Bengal, Bihar.



Nice use of map

Mention some facts related to Jute industry

उत्तर को
लेखनीय रूप
में देना है
कृपया जो
संख्या में
प्रश्नों का
उत्तर देना
है उसे
सही संख्या
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UPSC

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लेखनीय रूप
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Various
Issues
Covered

- (iii) Water intensive :
Excessive dependance on ground water has caused water stress and Arsenic poisoning in West Bengal
- (iv) Low gross cropped area
→ Increasing population pressure in West Bengal & Bihar caused reduction in area under Jute cultivation.
- (v) Lower MSP compared to food crops ⇒ Lower Incentive.
- (vi) Fragmentation of lands and poor scope of mechanization
- (vii) Competition from Bangladesh in global markets.
- (viii) Lack of modernization of Jute mills.

पत्रिका क्र. 10
उत्तर लिखने की
संख्या 100 है
प्रश्नों की संख्या
10 है।
(संकेतित अक्षरों
में लिखें।)

UPSC

संकेतित अक्षरों में
लिखें।
उत्तर लिखने की
संख्या 100 है
प्रश्नों की संख्या
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में लिखें।)

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parentheses.
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- (1x) Dominated by household industries due to low investments.
- (7) Decrease in demand due to growth in synthetic fibres.

Potential of jute against climate change

- (i) Alternative to synthetic fibres in packaging - Biodegradable and relatively eco friendly production
- (ii) Production of synthetic fibres from polluting petroleum industries
- (iii) Increase use in porous textiles with increasing mean temperature

Inclusion of jute production under technology mission of union government and mandatory use in sugar packaging has given the industry a boost in recent times

Need to expand this dimension in one page

Add Govt. initiatives & way forward

6

UPSC

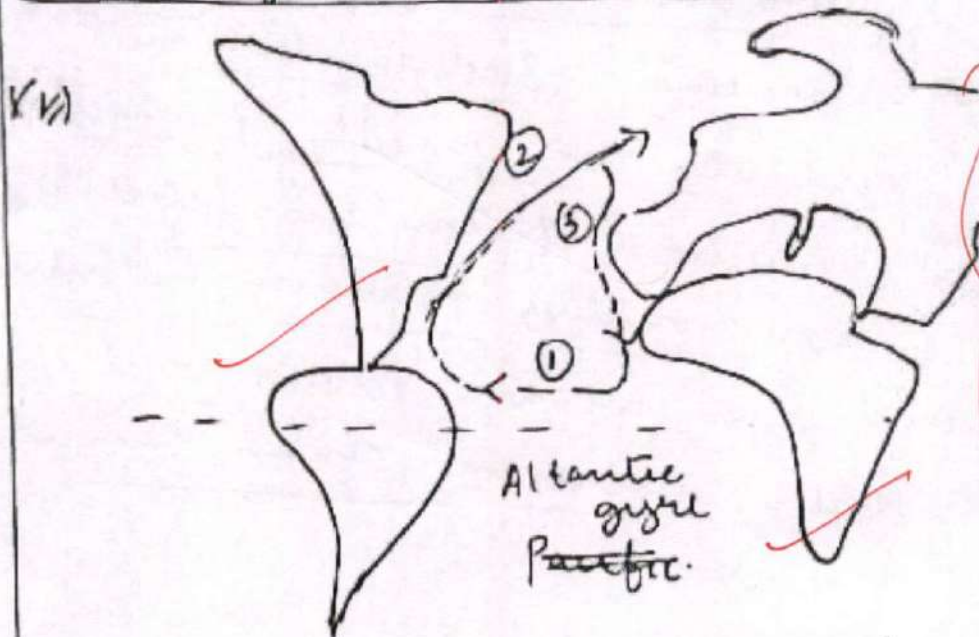
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Content of the Question is more important than length.
(Specimen Answer Booklet - For Practice Purpose Only)

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the margin.
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- 12) Ocean currents play a major role in maintaining heat transfer and balance over earth surface. It is impacted by various forces.

Define ocean currents in geographical context.

Forces influencing ocean current



Mention more ocean currents in diagram

- ① Equatorial current is caused by the effect of trade winds (Easterlies)

Please do not write anything except the question number in the space.
 कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

UPSC

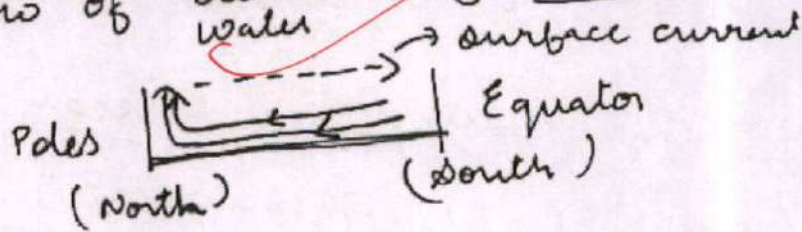
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② Gulf stream is caused due to the physiography of continent (North america) along with Westerlies

③ The cold current from North to South ~~(causes)~~ is caused due to thermal gradient between poles and the equator along with

flow of ocean water along ocean floor



④ Equatorial counter current is caused due to the force exerted by continents.

⑤ ~~Coriolis~~ Coriolis forces affect the direction of current - Ekman transfer

Mention forces influencing separately eg. Density Heat Wind Orography etc.

Please do not write anything inside the question answer in this space.
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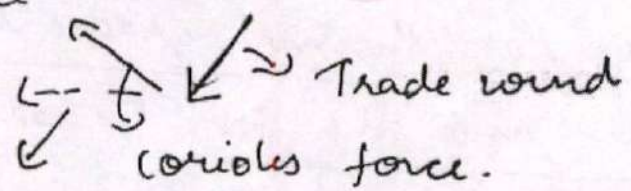
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The question doesn't ask role of surface winds but overall effect of surface atmospheric circulation. Modify heading.

Role of surface winds on ocean currents

→ The surface winds exert shearing force over ocean surface persistently.

This causes ocean currents. The direction is decided by surface winds and Coriolis force.



Direction of current (Equatorial).

Eg: The reversal of ocean current direction in Indian ocean during North east monsoon & South west monsoon.

5.5

Conclude with adverse effects by climate change.

Thus there exists close relation between surface winds & ocean currents.



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में प्रश्न संख्या के
अतिरिक्त कुछ
न लिखें।

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
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(Specimen Answer Booklet - For Practice Purpose Only)

प्रश्नों की संख्या
और शब्दों की
सीमा ध्यान
रखिए।
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must not
write on this
margin

13) Land degradation is one of
the major consequences reason
for food shortages and fall in
standards of living

mention
some
facts
related to
land
degradation

Land degradation Neutrality is
the stage when desertification
or degradation rate is matched
by land reclamation through
afforestation.

i.e. $\left\{ \begin{array}{l} \text{rate of} \\ \text{degradation} \end{array} \right. = \text{rate of} \\ \left. \begin{array}{l} \text{land reclamation} \end{array} \right\}$

Cause of Increasing desertification in
N.E

(i) Deforestation due to slash
and burn agriculture.

Please do not write anything except the question number in this space!
कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।

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Diverse dimensions covered

(ii) High incidence of forest fires which are caused by humans.
According to forest survey report 2019, All N.E states except Assam & Tripura are extremely prone to forest fires

(iii) High rainfall ($> 200\text{cm}$) due to South west monsoons.
Resultant soil erosion & degradation

(iv) Method of Intensive agriculture over slope causing erosion

(v) Most prone to earthquakes in India - regular landslides and poor soil stability

(vi) Rich in mineral resources
Eg: Oil and Natural gas in Digboi - assam & Mining & degradation.

UPSC

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प्रश्नों के अंदर
लिखना है।
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write on this
margin

(VII) Relatively lower investment
and govt. regulation compared
to the mainland

Remedial Measures :

(i) Introduction of tribes to settled
terrace cultivation.

Eg: Mizos & Apalani tribes

(ii) Regulated mining

(iii) Balancing rights of tribal popula-
-tion with ecological conservation

→ Use of tribal communities in
conservation (Forest rights act 2006)

(iv) strict crackdown on incendiarism
causing forest fires.

(v) Use of soil conservation techniques
like contour bunding

The achievement of delhi declaration
under Conf. on Combating desertification
requires significant effort

Address
this
part in
full page
by
condensing
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part.

mention
govt.
schemes
as
way
forward.

6.5

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
Content of the Question is more important than length.
(Specimen Answer Booklet - For Practice Purpose Only)

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14)

Recent drastic weather events due to climate change has led to drst reduction in profitability in agriculture

Also according to global carbon project report, Agriculture is one of the main causes for climate change.

Sensitivity to climate change

→ Low predictability in climate and weather events.

Eg: Delay in onset of monsoon,

Irregular monsoon breaks.

* This problem is relevant in rain fed agriculture (65%)

Mention some facts Reports related to climate change

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कृपया इस स्थान
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अतिरिक्त कुछ
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कोई निम्नलिखित
लिखना
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- frequency of extreme weather events like floods, draughts, cyclones has increased.
causing crop failure -
- Increasing average temperatures affects crop productivity
- Reduction in cross pollination due to effect on insects

Good point covered

Agriculture as a driver for climate change

- (i) Water stagnation on paddy fields causes methane emissions.
- (ii) Increasing use of fertilizers with poor absorption has caused emission of NO_x
- (iii) Decomposition of crop residues, Excess grains - emission of CO₂

Nicely explained

UPSC

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दिए गए
शब्दों
के अंदर
लिखें।
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(iv) Burning of Residues in Meas
like punjab, ~~UP~~ causes CO₂ emission

(v) Use of farm animals, herds
causes gastroenteritic methane
emissions,

Thus Agriculture causes climate
change and is impacted by it.

Recent govt initiative to boost
climate resilient agriculture
and is a step in the right
direction.

New technology like direct
sowing of paddy has reduced
flooding of fields and subsequent
CH₄, emission
NO_x

Add
data/
facts
to
substantiate

Give
govt.
schemes
as
way
forward

6

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पर प्रश्न संख्या के
अतिरिक्त कुछ
न लिखें।

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किसी
किसी
स्थान पर
लिखना नहीं
है।
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15

Over the years, the water stress
is constantly rising in India

Nature of drinking water problem

→ Poor Quality of water :

Recent survey of potable water
by BIS across various cities
found high concentrations of
heavy metals in water
(Uranium, Arsenic etc).

⇒ No adherence to BIS 10500

Accessibility : Lack of functional

household taps in in many
rural areas.

→ Increasing cost : Exploitation
of ground water resources
has led to decline in water
levels increasing the pumping
cost

Introduced
with
NITI Aayog
Composite
Water
Management
Index

Diverse
points
covered

(Please do not
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कृपया इस स्थान
में प्रश्न संख्या के
अधिकारिक अंक
न लिखें

UPSC

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इस स्थिति में
कोई लिखना
नाहीं
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- Poverty and late lack of access to filtration systems.
- High sensitivity to weather events i.e. delay in monsoon causes decline in surface water and subsequent potable water shortage, → Regional variation

Magnitude :

Increased population with decline in water table has caused severe water stress as measured by falkenmark index

- According to central ground water board 72% of states cities would face water crisis by 2022.

↓
Good use of
Data.

Multiple
issues
nicely
discussed

Please do not
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कृपया इस स्थान
में प्रश्न संख्या के
अतिरिक्त कुछ
न लिखें।

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इन स्थानों में
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Impact of El Niño

El Niño is the increase in surface temperature of ocean current on the peruvian coast.

→ El Niño effect decreases the formation of high pressure over Madagascar, decreasing intensity of south west monsoon winds and subsequent lower rainfall.

Thus El Niño causes decrease in south west monsoon.

Recent programs like Atal Jhujal yojana by Jal shakti ministry focusses on this issue

Also
add
La-Niña
&
other
extreme
events
related

mention
as
separate
Heading
in
way
forward

7

(Please do not write anything except the question number in this space. कृपया इस स्थान में प्रश्न संख्या के अतिरिक्त कुछ न लिखें।)

UPSC

उम्मीदवारों को इस हार्जिन में नहीं लिखना चाहिए। Candidates must not write on this margin.

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis. Content of the Question is more important than length. (Specimen Answer Booklet - For Practice Purpose Only)

1b) Coral reefs are residues of carbonate shells left by coral polyps.

Introduce about explaining concept of coral reefs

Role in coastal protection

- (i) Role as wave breakers decreasing coastal erosion. Eg: Great barrier reef, Australia
- (ii) Stable water profile to support plant growth on the coasts

Add more points

Climate change & corals

- (i) Bleaching of corals due to death of thermally sensitive algae on corals
- (ii) Breakdown of symbiotic relation, access to nutrients



UPSC

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iii) Breakdown of Calcium Carbonate
in reefs due to ocean
acidification

iv) Decline in reef growth due
to low O₂ availability in
water

Threat of Coral Bleaching

- Decline in tourism potential
in Andaman & Nicobar islands
- Corals are known as rainforests
of ocean due to support of
various species. Mass loss
of diversity in Marine National
parks in Gujarat & Odisha
- Decline in fish productivity.
Loss to fishing industry in
Andhra Pradesh & Tamil Nadu.
- Risk in Impact of cyclones

mention
more
effects.

Decent
points
covered

Please start
with writing the
question number
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कृपया प्रश्न नम्बर
के शुरू में प्रश्न के
संकेतिक नम्बर
लिखें।

UPSC

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प्रश्न संकेतों में
कहीं लिखने
नाहिए।
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on odisha, Andhra coast.

→ Affecting port facility due to
loss of action as wave breakers.

Thus Coral reefs have multiple
socio-economic and ecological
functions.

Recent use of bio-rock technolo-
-gy along gujarat coast is
a ~~favor~~ favourable step toward
coral conservation.

Also add
measures
taken by
Govt. &
way
forward
for coral
protection

6

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write anything extra
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कृपया प्रश्नपत्र
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17) Indian monsoons are one of the most unique climate systems in the world.

Monsoons are directed by multiple factors.

Factor behind Monsoon Onset

(i) Upper Air circulation :

→ As the sun moves over tropic of cancer, Westerly jet streams move further north. This aids formation of low pressure over northern plains

→ ~~Over~~ Easterly jetstream helps in sustaining low pressure over northern plains

Define monsoon in geographical context.

Nearly explained

उपरोक्त प्रश्न को
अधिकतम शब्दों में
संक्षेप में उत्तर दें।
कृपया इस स्तंभ में
संशोधन या सुधार
के लिए सुझाव
प्रदान करने से
वर्जित रहें।

UPSC

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(ii) Relief: The undulating nature of northern plains & Tibetan plateaus causes uniform heating of surface and formation of low pressure zones.

iii) Orography: Affects the intensity of rainfall.
Eg: High intensity in the windward side of western ghats

iv) Sea surface temperature
Positive Indian ocean dipole causes stronger south west monsoons.

Thus Apart from Thermal gradients, multiple other factors are responsible for onset of monsoons.

Add more factors such as ITCZ, Jet streams etc.

5.5

Conclude with climate change effect.

Please do not write anything except the question number in this space. कृपया इस स्थान पर केवल प्रश्न संख्या ही लिखें।

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(19) Thermal power from coal accounts for about 70% of electricity generation in India.

The potential for hydroelectricity and renewable resources are not fully realized.

Hydropower potential

{ Mainly in the N-E due to high volume of Brahmaputra }



Use of map

Low Utilization of Hydroelectric potential

- (i) Large investment costs in dam building
- (ii) Large scale displacement, resistance by civil society eg: Narmada Bachao Andolan.

Good data in introduction

mention dates

उत्तर लिखते समय प्रश्न में दिये शब्दों का ध्यान रखें।
कुल 100 शब्दों में उत्तर लिखें।
अतिरिक्त कुछ न लिखें।

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Various issues discussed with examples

(iii) Ecological cost - Loss of ecological flow, hinder biodiversity, flooding of forest & protected areas.

(iv) Higher risk compared to coal mining. Eg: Recent dam breakage in Uttarakhand → massive floods.

(v) Consensus between states
Eg: Conflict between BT Jammu & Kashmir & Karnataka over dam building on Kaveri.

(vi) Better renewable energy alternatives like solar, biogas etc.

Due to the above reasons,
The potential for hydroenergy is not realized.

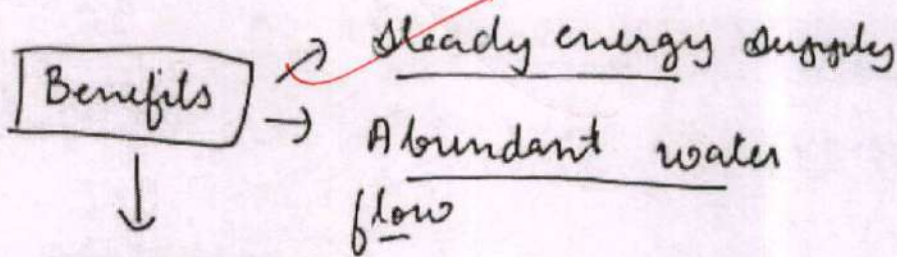
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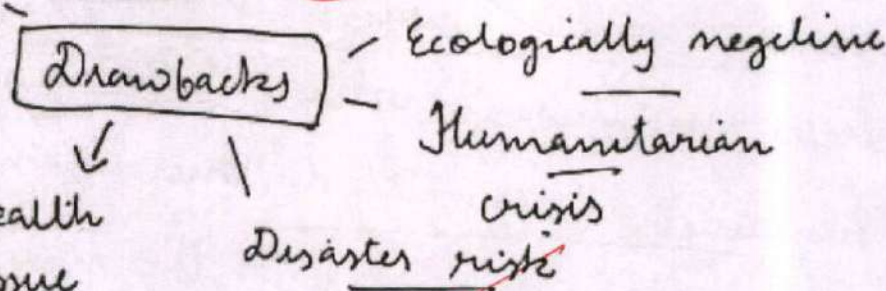
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Hydropower & Energy Security



Multipurpose - Irrigation, tourism, electricity etc

Large cost



Comparing the cost to the Benefits in the light of decreasing cost of solar energy, It is sensible to promote solar & wind energy over hydropower.

Recent International solar alliance exhibits this view of India.

Good points

→ Add way forward

→ mention Govt. initiatives.

605

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
Content of the Question is more important than length.
(Specimen Answer Booklet - For Practice Purpose Only)

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परिधि
में
उत्तर
लिखें
उत्तर
पत्रिका
के
परिधि
में
लिखें

19) Inland water ways were major source of mobility in ancient times in India.

Hidden backbone of Transport;

The immense potential of Inland water ways in logistics sector within India has remained unutilized over many decades - making it the hidden backbone of transport.

Prospects of Inland waterways

→ Energy efficient transportation compared to road or rail

→ Decrease in pressure over road, etc

mention
facts
about
inland
waterways

Good
points

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
Content of the Question is more important than length
(Specimen Answer Booklet - For Practice Purpose Only)

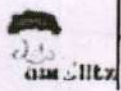
उम्मीदवारों को
प्रश्नों के उत्तरों में
शब्दों की संख्या
नहीं देनी चाहिए।
Candidates
must not
write on this
margin

- Increase in Volume of goods that can be transported.
- Possibility of tourist attraction
- Ability to reach remote locations

Problems

- Access to upstream, high altitude locations.
- Limited no. of large rivers compared to small rivers
- High degree of pollution, siltation in rivers along cities eg: Ganga along Kanpur.
- New investments in ports, river front development.
- Possible negative effect on aquatic animals eg Gangetic river dolphins in Ganga

Diverse
issue
listed
with
examples



Please read
carefully the
question paper
in the room
before you start
writing. Do not
write anything
on this paper
before the
start of the
exam.

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→ Potential
way
forward.
→ Add
Govt.
initiatives
to
support

Recent developments in
multimodal networks under
Bharatmala scheme and
development of 6 major National
Inland waterways shows the
increasing shift towards inland
waterway transport

6

परीक्षार्थी को
किसी भी प्रश्न का
संख्या नोट करनी
होगी। प्रश्न संख्या के
अनुसार उत्तर
लिखें।

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प्रश्नों की संख्या में
सही संख्या
लिखनी
होगी।
Candidates
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20)

The age of average Indian is 28 years which is much lower than developed nations like Japan and Germany (Average age over 60)

Emigration and through skilling is seen as an important route to attain demographic dividend

Increase d ~~possibility~~ for Emigration

(i) Stagnation in population growth and increase in dependent population (ages <15, >60) in developed countries.

(ii) ~~As~~ Rising global cooperation in the face of common challenges like climate change.

(iii) Standardised technical education in developing & developed countries

Give data supporting aging global population

Nicely explained

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उम्मीदवारों को
प्रश्नों के अंदर
लिखना है
कैंडिडेट्स
must not
write on this
margin

- (iv) View of immigrant workforce
as being hardworking.
Eg: Asians in USA.
- (v) Relatively lower cost of labour
- (vi) Skilling programs in young nations for employability abroad. Eg: Kaushalya vikas yojana.

Diverse
dimensions
covered
with
examples

Challenges to Emigration

- (i) Inadequate skill levels to match global demands.
Eg: Recent NGO survey shows the employability of Indian graduates to be under 50%.
- (ii) Lack of formalized training
Eg: IT.

(Please do not write anything except the question number in this space)
कृपया प्रश्न संख्या में कुछ भी लिखें न।

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उम्मीदवारों को इस स्थिति में नहीं लिखना चाहिए।
Candidates must not write on this margin.

- (iii) Opposition within developed nation to frame the jobs to themselves. Eg: Recent labour laws in Middle East decreases the opportunity for emigration.
- (iv) Increased use of technology and Mechanization - causing Capital intensiveness and low human capital demand.
- (v) Opportunities for working from home.
- (vi) limited no. of Bilateral / multi-lateral agreements between nations to train & share human capital.

Thus there are both opportunities and challenges in emigration of workforce.

India needs intensive, formal skill development to be the hub of global human capital.

Also add steps to be taken to stop brain draining mention Govt. initiatives

7

