

TEST CODE 8 1 1 5 2 8

MGP 2025

Time Allowed : Three Hours
समय : तीन घंटे

Forum IAS

Maximum Marks : 250
अधिकतम अंक : 250

GENERAL STUDIES / सामान्य अध्ययन

Name Of Candidate परीक्षार्थी का नाम	ARHISHTEK KUMAR JHA		
Roll No./अनुक्रमांक	Medium/माध्यम	English <input checked="" type="checkbox"/>	हिंदी <input type="checkbox"/>
Center Code/परीक्षा केंद्र	1900	Date/दिनांक	02/08/2025

*Center Code : For Online - 1900 / Delhi : Karol bagh - 1901, ORN - 1902, Mukharji Nagar - 1903 / Patna : Boring Rd. - 2001 / Hyderabad : Jawahar Nagar - 2101

INDEX TABLE / अनुक्रमणिका

INSTRUCTION / अनुदेश

Q. No. प्र.सं.	Max. Marks अधिकतम अंक	Marks Obtained प्राप्तांक
1		
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Total/कुल अंक	250	

- Please do furnish Name, Email, Roll No and Mobile in the answer sheet.
कृपया उत्तर-पुस्तिका में नाम, ईमेल, रोल नंबर और मोबाइल नंबर भरें।
- There are TWENTY questions printed in ENGLISH & HINDI, all questions are compulsory.
उत्तर पुस्तिका में अंग्रेजी/हिंदी में बीस प्रश्न दिए गए हैं, सभी प्रश्न अनिवार्य हैं।
- The number of marks carried by a question/part is indicated against it.
प्रत्येक प्रश्न/भाग के लिए निर्धारित अंक उसके सामने अंकित किए गए हैं।
- 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.
उत्तर प्रवेश पत्र में अधिकृत माध्यम में लिखे जाने चाहिए, जो कि दिए गए स्थान में इस प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के कवर पर स्पष्ट रूप से लिखा जाना चाहिए।
- Word limit in questions, if specified, should be adhered to. Any page or portion of the page left blank in the Question-Cum Answer Booklet must be clearly Struck off.
प्रश्नों में शब्द सीमा, यदि निर्दिष्ट हो, का पालन किया जाए। प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गये किसी भी पृष्ठ या पृष्ठ के भाग को स्पष्ट रूप से काट दें।

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Examiner's Discretion/मूल्यांकन कर्ता का विवेक :	Start Time/प्रारंभ करने का समय : 1953	End Time/समाप्त करने का समय : 2305
Total Marks/कुल अंक :	Mode Of Examination/ परीक्षा की विधि : <i>Online</i>	Online/ऑनलाइन <input checked="" type="checkbox"/> Offline/ऑफलाइन <input type="checkbox"/>

*Examiner's Discretion is the marks awarded at the discretion of the examiner based on your overall impression, on the basis of (but not limited to) your handwriting, presentation, use of diagrams, flowcharts, facts and figures or absolutely anything that he/she liked in your copy.

मूल्यांकन कर्ता का विवेक अंक, आपकी लिखावट, प्रस्तुति, आरेखों के उपयोग, फ्लोचार्ट, तथ्यों और आंकड़ों या समग्र रूप किसी अन्य विषय पर, जो मूल्यांकन कर्ता को आपकी कॉपी में पसंद आयी के आधार पर (लेकिन इन्हीं तक सीमित नहीं) पर दिए गए अंक हैं।

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ECN CODE/ ईसीएन कोड :	EG/ईजी : ① ② ③ ④ ⑤	Evaluation Date/ मूल्यांकन तिथि :
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: Students are expected to incorporate suggestions from the feedback provided in the answers. Discussion classes for tests are also available online in your portal to aid in your preparation. Further, students are requested to see the good examples of the tests and learn from them. You can also discuss your copy with a Mentor and discover ways and means to improve your answers, or if you have any issues with this test / copy. Ask specific questions, to get specific answers.

EXAMINER'S REMARKS



CRITERIA FOR THE FEEDBACK SECTION AT THE END OF EACH QUESTION

1. **AWIS = Answered What is Asked.** This means whether you have addressed the core demand of the question or not. Addressing the core demand of the question gets you an objectively fair score. It is examiner's perception if you have understood the question and if you know the answer in the first place. Creative answer writing, sometimes missing the core demand, may fetch very high or very low scores, and exposes your answer to the subjectivity of the examiner.
2. **CD & VA = Content Density & Value Addition.** Examiner will evaluate the quality and quantity of your content in the answer. In the same word limit and space limit have you (a) written what is asked (b) gone beyond what is asked (c) enriched answers through combination of (but not all!) suggestions, ideas, quotes, flowcharts, diagrams, facts and figures, data etc. This affects objective components of assessment.
3. **S & F = Structure & Flow =** Whether you have structured your answer properly or not. Whether the answer has been broken into parts and sub-parts and each part has been addressed appropriately or not. Whether the flow of the answer is maintained. Affects both subjective and objective components of assessment.
4. **P & R =** How your answer performs on the criteria of presentation, ease of read, clarity and apparent effort in writing the answer. This affects the subjective components of assessment.

Instructions: All questions are compulsory. The number of marks carried by a question/part is indicated against it. Quality of the answer is more important than the length of the answer.

निर्देश : सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न द्वारा धारित अंकों को उसके सामने इंगित किया गया है। उत्तर की गुणवत्ता उत्तर की लंबाई की तुलना में अधिक महत्वपूर्ण है।

Q.1) Why do the Middle Gangetic plains remain relatively underdeveloped despite having abundant water resources, fertile soil, and favorable demography? (10 Marks, 150 Words)

प्रचुर जल संसाधन, उपजाऊ मृदा और अनुकूल जनान्किकी होने के बावजूद मध्य गंगा के मैदान अपेक्षाकृत अविकसित क्यों हैं? (10 अंक, 150 शब्द)

Q.2) Despite belonging to the same mountain range, the Eastern and Western Himalayas exhibit significant differences. Elaborate. (10 marks, 150 words)

एक ही पर्वत श्रृंखला से संबंधित होने के बावजूद, पूर्वी और पश्चिमी हिमालय में महत्वपूर्ण अंतर हैं। सविस्तार वर्णन कीजिए। (10 अंक, 150 शब्द)

Q.3) What are local winds? Discuss their impact on associated regions, citing examples from different parts of the world. (10 Marks, 150 Words)

स्थानीय पवनें क्या हैं? विश्व के विभिन्न क्षेत्रों से उदाहरण लेते हुए संबंधित क्षेत्रों पर उनके प्रभाव पर चर्चा कीजिए। (10 अंक, 150 शब्द)

Q.4) The Indian monsoon is being increasingly characterized by extreme weather events ranging from prolonged dry spells to torrential precipitation. In this context, discuss the factors contributing to the variability of the Indian monsoon. (10 Marks, 150 Words)

भारतीय मानसून में लंबे समय तक शुष्क दौर से लेकर मूसलाधार बारिश तक की चरम मौसमी घटनाएं देखी जा रही हैं। इस संदर्भ में, भारतीय मानसून की परिवर्तनशीलता में योगदान देने वाले कारकों पर चर्चा कीजिये। (10 अंक, 150 शब्द)

Q.5) Explain the relevance of green tourism for sustainable development of mountain ecosystem in the country. (10 Marks, 150 Words)

देश में पर्वतीय पारिस्थितिकी तंत्र के धारणीय विकास के लिए हरित पर्यटन की प्रासंगिकता का वर्णन कीजिए। (10 अंक, 150 शब्द)

Q.6) Rare Earth Elements (REE) are rightly referred to as the 'Vitamins of Modern Industry,' but their uneven distribution across the world has wide-ranging implications. Elaborate. (10 Marks, 150 Words)

दुर्लभ मृदा तत्वों (REE) को सही मायने में 'आधुनिक उद्योग के विटामिन' के रूप में संदर्भित किया जाता है, लेकिन विश्व भर में उनके असमान वितरण के व्यापक निहितार्थ हैं। सविस्तार वर्णन कीजिए। (10 अंक, 150 शब्द)

Q.7) Discuss the continental drift theory with special emphasis on the forces and evidence on which the theory is based. Also, state its limitations. (10 marks, 150 words)

महाद्वीपीय विस्थापन सिद्धांत की व्याख्या कीजिए, विशेष रूप से उन बलों और साक्ष्यों पर जोर देते हुए जिन पर यह सिद्धांत आधारित है। साथ ही, इसकी सीमाओं का भी वर्णन कीजिए। (10 अंक, 150 शब्द)

Q.8) Intercaste marriages between castes which have socio-economic parity have increased, to some extent, but this is less true of interreligious marriages. Discuss. (10 Marks, 150 Words)

सामाजिक-आर्थिक समानता वाली जातियों के बीच अंतर्जातीय विवाहों में कुछ हद तक वृद्धि हुई है, लेकिन अंतर्धार्मिक विवाहों के मामले में यह कम सच है। चर्चा करें। (10 अंक, 150 शब्द)

Q.9) Explain the concept of temperature inversion, including the conditions under which it occurs. How does it affect the weather and the inhabitants of the place? (10 Marks, 150 Words)

तापमान व्युत्क्रमण की अवधारणा को उन परिस्थितियों सहित समझाइये जिनके अंतर्गत यह घटित होता है। इसका उस स्थान के मौसम और निवासियों पर क्या प्रभाव पड़ता है? (10 अंक, 150 शब्द)

Q.10) Globalization has facilitated the influx of global brands and multinational corporations into the Indian market, significantly altering the consumer behaviour. Do you agree? Justify your answer. (10 Marks, 150 Words)

वैश्वीकरण ने वैश्विक ब्रांडों और बहुराष्ट्रीय निगमों को भारतीय बाजार में आने में मदद की है, जिससे उपभोक्ता व्यवहार में काफी बदलाव आया है। क्या आप सहमत हैं? अपने उत्तर का औचित्य स्पष्ट कीजिए। (10 अंक, 150 शब्द)

Q.11) Elaborating on the Plate Tectonics Theory, illustrate the different types of plate boundaries. (15 Marks, 250 Words)

प्लेट विवर्तनिकी सिद्धांत का विस्तार से वर्णन करते हुए, विभिन्न प्रकार की प्लेट सीमाओं का वर्णन कीजिए। (15 अंक, 250 शब्द)

Q.12) Different geomorphic agents leave their distinct imprints on the landforms they create. In this context, give an account of different landforms created by glacial action. (15 Marks, 250 Words)

विभिन्न भू-आकृतिक कारक अपने द्वारा निर्मित भू-आकृतियों पर अपनी विशिष्ट छाप छोड़ते हैं। इस संदर्भ में, हिमानी क्रिया द्वारा निर्मित विभिन्न भू-आकृतियों का विवरण दीजिए। (15 अंक, 250 शब्द)

Q.13) How can the demographic transition in the southern states, marked by low fertility rates and an aging population, impact the region's economic growth and social welfare policies? (15 Marks, 250 Words)

दक्षिणी राज्यों में जनांकिकीय परिवर्तन, जो निम्न प्रजनन दर और वृद्ध होती जनसंख्या से चिह्नित है, क्षेत्र की आर्थिक वृद्धि और सामाजिक कल्याण नीतियों को किस प्रकार प्रभावित कर सकता है? (15 अंक, 250 शब्द)

Q.14) Describing the factors responsible for variations in ocean salinity, throw light on its multi-dimensional impacts. (15 Marks, 250 Words)

महासागरीय लवणता में भिन्नता के लिए उत्तरदायी कारकों का वर्णन करते हुए इसके बहुआयामी प्रभावों पर प्रकाश डालिए। (15 अंक, 250 शब्द)

Q.15) Why is jute known as the 'golden fiber'? Identifying the major jute-producing states, discuss the causes of the decline of the jute mill industry in the country. (15 Marks, 250 Words)

जूट को 'गोल्डन फाइबर' क्यों कहा जाता है? प्रमुख जूट उत्पादक राज्यों की पहचान करते हुए, देश में जूट मिल उद्योग के पतन के कारणों पर चर्चा करें। (15 अंक, 250 शब्द)

Q.16) Briefly describe the process of tide formation and differentiate between tides and waves.

(15 Marks, 250 Words)

ज्वार निर्माण की प्रक्रिया का संक्षेप में वर्णन कीजिए और ज्वार तथा तरंगों के बीच अंतर स्पष्ट कीजिए। (15 अंक, 250 शब्द)

Q.17) What are the factors behind the escalating water crisis across the country? Highlighting its socio-economic impact, suggest remedial measures. (15 marks, 250 words)

देश भर में बढ़ते जल संकट के पीछे क्या कारण हैं? इसके सामाजिक-आर्थिक प्रभाव पर प्रकाश डालते हुए, उपचारात्मक उपाय सुझाएँ। (15 अंक, 250 शब्द)

Q.18) The El Nino Southern Oscillation (ENSO) is one of the most prominent interannual climate variations on Earth, with large climatic and societal impacts. Analyze. (15 Marks, 250 Words)

अल नीनो दक्षिणी दोलन (ENSO) व्यापक जलवायु और सामाजिक प्रभावों के साथ पृथ्वी पर सबसे प्रमुख अंतर-वार्षिक जलवायु विविधताओं में से एक है। विश्लेषण कीजिए। (15 अंक, 250 शब्द)

Q.19) Discuss the various factors that influence ocean currents. Analyze their impact on the fishing industry of the world. (15 marks, 250 words)

महासागरीय धाराओं को प्रभावित करने वाले विभिन्न कारकों की चर्चा कीजिए। विश्व के मत्स्य उद्योग पर उनके प्रभाव का विश्लेषण कीजिए। (15 अंक, 250 शब्द)

Q.20) Regionalism in India is a "double-edged sword", while it can lead to greater regional empowerment and representation, it also poses challenges to national unity and coherence. Elaborate. (15 Marks, 250 Words)

भारत में क्षेत्रवाद एक "दोधारी तलवार" है, जबकि यह अधिक क्षेत्रीय सशक्तीकरण और प्रतिनिधित्व की ओर ले जा सकता है, यह राष्ट्रीय एकता और अखंडता के लिए चुनौतियाँ भी पैदा करता है। सविस्तार वर्णन कीजिए। (15 अंक, 250 शब्द)

U.P.S.C.

Qⁿ 1

The middle gangetic plain comprise the plains of Awadh, Eastern UP and Bihar.

It is relatively underdeveloped due to:

① Population issues and challenges with demography:

Ⓐ The most densely populated region in India - thus, resource scarcity per capita.

Ⓑ Poor human development. -

Ex Lag in social indicators, skilling

Ⓒ Historical reasons - most oppressive British policies in this region.

② Challenges in agriculture & economy

Ⓐ very fragmented landholdings - thus, agriculture is non profitable

Ⓑ Lack of ~~an~~ large scale industries - away from ports and raw materials.

③ Issues with water resources:

① Non-judicious use of water in agri-
reduction in groundwater potential

② Region of floods - almost annually.
↳ Disrupts lives and economy

↳ Kosi in Bihar.

④ Lack of major urban centres and hubs

↳ The continuation of orthodox
social norms.

↳ Lack of focus on economic growth.

Post liberalization too, the middle
ganga plains missed the bus compared to
other states. Their ~~the~~ development is
crucial to make 'Viksit Bharat'.

Q. 2. The Himalayas range from Nanga Parbat in the west to Nancha Barua in the East as a continuous range.

The western and Eastern Himalayas show similarities —

- Geological structure similar
- Evolution is similar.

But they exhibit significant differences.

Western

(1) Consist of 3 parallel ranges - Himadri, Himachal & Shivalik

(2) More continuous

(3) Rise in height gradually.

(4) Snowline is lower

Eastern

(1) Shivalik and Himachal merge. There are only 2 ranges.

(2) Discontinuous

(3) Steep rise in altitude.

(4) Snowline is higher

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(5) Coniferous vegetation

✓ Ex. Chir, Pine

(6) Lesser rainfall

(7) Replete with
glaciers

(8) Valleys in between
ranges

✓ Ex. Drons

(9) Terrace farming

Ther distinct geography in these

2 parts have shaped the unique
lifestyles, cultures, and societies of
people

(10) Evergreen vegetation

✓ Ex. Rosewood

(11) Higher rainfall

(12) Less # of
glaciers.

(13) Drons at the
foothills for tea
cultivation

(14) Thumming fro.

Q³

Local winds are the winds caused due to pressure difference over a small region locally.

↳ Land Breeze, Sea breeze etc.

Their impact on associated regions :

(1) Supports agriculture by melting the snow.

↳ Chinook of USA over Rockies

(2) Bring rain and relief.

↳ Föhn of Europe

(3) Cure ailments and shape culture

↳ Harmattan winds of Morocco.

(4) Cause heat-like conditions and affect health

↳ Loo in western India

(5) Navigation and directional understanding
of Khamsin of Egypt.

Other impacts :

(1) They bring cold winds during night to land in coastal regions.

(2) Shape local weather condition by interacting with planetary winds.

(3) Thus, local winds play a crucial role in shaping local customs, & culture. Climate change is affecting their manifestation adversely.

Q⁴

The Indian monsoon has become increasingly erratic, with North East seeing deficit, while the North West seeing excess rainfall.

Factors Contributing to the variability:

(1) El Niño → The differential heating of Western and Eastern Pacific shapes the origin of monsoon.

By 2022 was an El Niño year.
this reduced precipitation

(2) Indian Ocean Dipole → The difference in temperature of sea surface between Arabian sea and Eastern Indian Ocean.

(3) Madden Julian Oscillation → The perturbation

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of this global climate circulation system.

- (4) Differential heating of Tibetan plateau and the mainland of India.
- (5) Planetary winds transporting the monsoon.

All these factors are being affected increasingly by:

- (1) Global warming → 2024 the hottest year yet globally.
- (2) High emissions of greenhouse gases.

The variability of monsoon adversely affects our food security, & increases hazard risk.

U.P.S.C.

प्रश्न संख्या
(Question No.)

इस भाग में
कुछ ना लिखें
(Don't write anything
in this part)

Qⁿ 5

Mountains of India, especially the Indian Himalayan Region and western ghats are facing challenges of sustainability.

This is due to —

- Unchecked Tourism
- Infrastructure development
- Carrying capacity exceeded

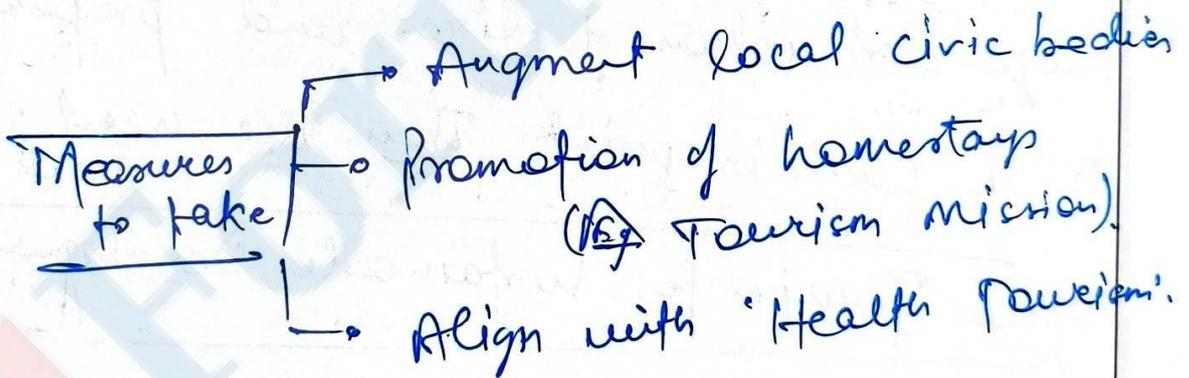
The landslide in Wayanad causing huge destruction of lives and property is a case in point. Thus, we need:

Green Tourism for Sustainable Development:

- (1) No plastic pollution — thus maintaining the purity of the environment
- (2) Mindful infra development — only as per need & not mass tourism.
- (3) Local style homestays.

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- (3) Lesser vehicles and greater people on foot → reduced noise and air degradation.
- (4) Promotion of 'Nature for Tourism' - development aligned with Ecology
↳ Mission Life.
- (5) Adherence to carrying capacity - aids conservation and prevents hazards.



Thus, green tourism has potential to align tourism with sustainability & maintain ecosystems.

U.P.S.C.

प्रश्न संख्या
(Question No.)

इस भाग में
कुछ ना लिखें
(Don't write anything
in this part)

Qⁿ 6

Rare Earth Elements are those which are in minute proportions in Earth's crust, and are difficult to extract.

↳ Currently, China has near monopoly in their extraction in the world.

Uneven distribution's implication:

- (1) Economic → Modern growth cannot happen without Rare Earths. Thus it can hamper development of nation.
- (2) Geostrategic → Monopoly & Cartelization may lead to use of Rare Earth as tool of geosecurity - rearmament.
- (3) Technology → Countries with RE may sprint ahead in technological development.

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- (4) Energy & Climate → Since REs are critical for renewable energy needs, concern over target achievement.
- (5) Political → Uneven distribution may ensue political tensions among nations for trade and gains.

As the world moves towards critical & emerging technologies, the Rare Earth Elements' distribution will affect its development.

Q.7

Continental Drift Theory was proposed by Wegener, to explain how paleo-climate varied between disparate continents.

Ex/Basic Principle

→ Earth consists of upper SiAl layer, which floats over lower SiMa layer. This is because SiAl is less dense than SiMa.

Force Responsible :

- (1) Gravitational force - causing North and Southward movement due to differential action
- (2) Earth's rotation caused East West movement

Evidence

- ① Stratigraphic → Same layers of rocks in South America's East & Western Africa
- ② Jigsaw fit of continents
- ③ Same kind of dinosaur species found on 2 distant continents
↳ Mesosaurs.

Limitations

- ① Could not explain the movement of continents in ancient paleo times
- ② SiAl - Sima layers not found true by further scientific exploration.

It was replaced by Plate Tectonics as the acceptable theory. It laid 1st basic foundation of Continents Drift

Q18

As per NFHS-5, the inter caste marriage rate in India is $\sim 13\%$, while inter-religious marriage is $< 5\%$.

Inter caste marriage among castes with socio-economic parity increase due to:

- ① Dilution of traditional norms of caste endogamy due to - Urbanization, individualism, & independence.
- ② Common social-economic circles due to parity in status.
- ③ Religious ideological match - belong to same religion.
- ④ Occupation based groups prevalent over caste bond.
- ⑤ Educational penetration in middle class - rational & anti-casteist outlook.

Less prevalent interreligious marriage :

- ① Low social sanction - due to disparate religious ideologies.
- ② Increase in segregation based on religion - society has become more intolerant religiously.
- ③ Establishment of strict procedures for such marriages.
↳ Uttarakhand ucc.
- ④ Allegations of forcible conversions → stereotyping and social distance.
- ⑤ Socio-economic disparities among diff't groups. ↳ Sachar committee - Muslims more deprived than SC/ST.
To promote a cosmopolitan culture, we need to encourage individual decision w.r.t marriage.

Q¹⁹.

Temperature inversion refers to the phenomenon when rather than decreasing, temperature starts increasing with altitude.

Conditions for occurrence:

- (1) Happen when a warm air mass overlies a cold air mass.
- (2) Other conditions vary with types of inversion.

Types of Temperature Inversion:

- (1) Radiation Inversion → long winter nights with no clouds and winds. Heat radiated by surface overlies the cold air near the surface. → It leads to foggy conditions.
↳ It could lead to smog formation which is polluting and harmful to health.

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② Mountain-valley inversion → At night, cold air pocket from top of mountains descend to the valley, whose hot air rises above, leading to inversion.

↳ Then temperature gets very cold in valleys. No cropping and habitation done.

③ Frontal Inversion → when a cold & warm air fronts meet, the warm front is lifted above the cold mass due to undercutting.

↳ Results in temperate cyclones.

↳ Rains over a large area.

④ Advection Inversion → when a warm air mass passes over a cold water body or surface

↳ leads to mist formation.

Inversion of temperature is an important phenomenon affecting local weather. Its predictability can improve adaptation.

Qⁿ 10

Globalization refers to the worldwide flow of people, ideas, and technology across international borders. India saw the wave after 1991 LPA reforms.

Brands and MNCs altering behaviour:

(1) Affinity for fast food in urban centres
↳ McDonalds.

(2) Branded clothing, phones - became status symbols

↳ Zara, iPhone

(3) Materialistic thinking - purchase of goods on EMI and loans.

↳ Cars, Flats

(4) Supermarket - & supermart culture, as well as shopping from home.

↳ Quick commerce, Amazon.

(5) Demand of globally competitive goods increased
↳ Tesla car etc.

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(6) Advertisement and marketing engagement by consumers through social media.

However, effect of Indian society and culture is also seen on these brands:

(1) No beef in fast food; promotion of vegetarian meals.

↳ Maharaja Mac

(2) Fashion brands closely align with Indian Ethnic wear.

↳ Fab India

(3) Advertisements, marketing done keeps in mind cultural sensitivities

(4) Food items for breakfast etc - made of Indian dishes.

↳ Kellogg's Upma vs cereals earlier

Thus, consumer behaviour as well as expectations have been affected by globalization.

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Qⁿ 11

Plate Tectonics is a theory explaining the movement of continents of the globe.

Basic Principles:

(1) The upper layer of earth's called lithosphere - consisting of continental crust, oceanic crust, and upper part of upper mantle is 100 km thick and less dense.

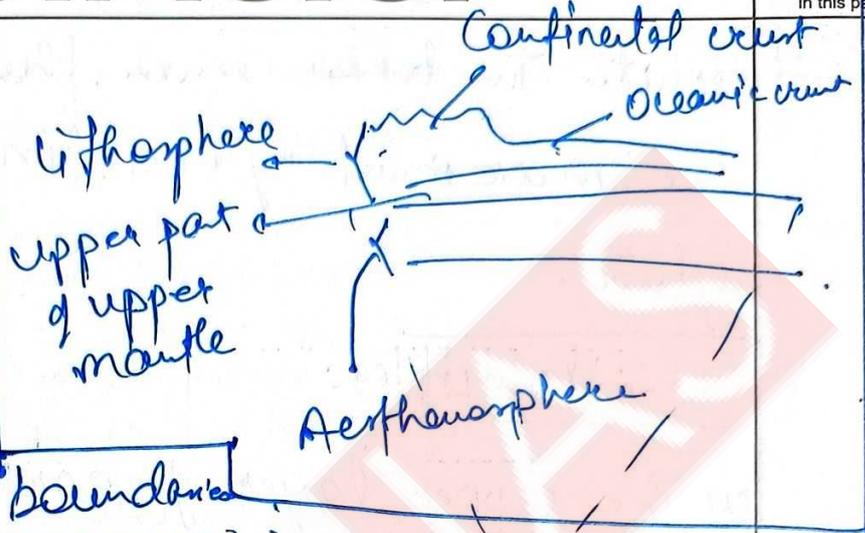
(2) It floats over the underlying Asthenosphere which is more mobile & plastic.

(3) This movement of lithosphere causes plate boundary interactions, as well as realignment of continents over time.

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Types of
plate
boundaries:

(1) Convergent
plate
boundaries



When two plates are moving towards each other, form convergent boundary.

↳ Ocean - Ocean → form volcanic chains, and island archipelago

Indo-Australia
&
Pacific
plate

↳ Eg Japan, Indonesia, etc

↳ Ocean - continent → form volcanic mountains.

↳ Eg Andes [Pacific Plate & South American plate]

↳ Continent - continent → zone of earthquakes, and high fold mountains

↳ Eg Himalayas [Indo-Aus Plate & Eurasian plate]

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(2) Divergent → when plates move away from each other, form divergent boundary

(a) Ocean - Ocean → Ridge vulcanism, and mid oceanic rise

Ex) Mid Atlantic Ridge b/w African & South-American Plate

(b) Continent - Continent → forms deep rift valleys, & intermittent vulcanism.

Ex) Great Africa Rift valley

(3) Transform → when plates move parallel to each other, not creating any new thing. Causes Earthquakes.

Ex) Great California Transform fault

Plate tectonics, through boundary interactions cause disasters as well as shape geology.

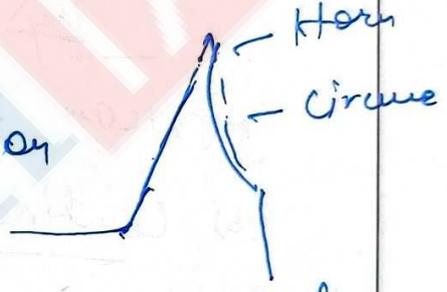
dⁿ 10

Glaciers are huge masses of consolidated ice, which slowly flow as big rivers of ice.

Landforms created by Glacial Action:

(1) Errational:

(a) Horn → After erosion

of all sides of a mountain top, the peak that remains.  ~~is~~ an Emergent.

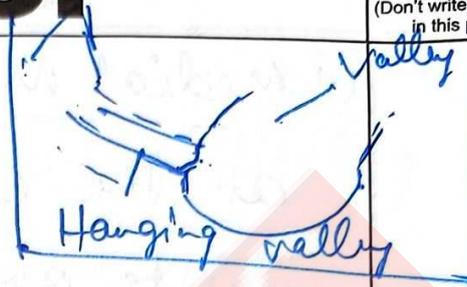
(b) Cirque → The hollow on one side of a mountain due to glacial erosion.

(c) Arête → When two cirques meet, a ridge like overlying line is formed called arête.

(d) Fjords → Valleys filled with infusing sea water esp in Baltic region

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(a) glacial valley → The main valley in which the glacier moves.



(c) Hanging valleys → valleys formed by feeding channels to the main glacial body are hanging valleys.

Depositional features:

(1) Moraines → While receding, a glacier may leave unconsolidated rocky deposits. These are called moraines. They are of various types:

(a) Lateral moraines → On the both of lateral sides of the glacier -

(b) Terminal moraine → At the end of the glacier earlier mouth.

(1) Medial moraine → The rocks settled at the centre of the glacial valley due to gap in glacier.

(2) glacial plains → The vast plains left after receding is called glacial plain.

Due to rapid melting of glaciers, caused by global warming, the natural state of landform formation is disturbed. This might affect people's lives.

Qⁿ 13

Southern ~~part~~ states show remarkably low TFR of around 1-1.5, indicating the undergoing demographic transition - low fertility rates and ageing population.

Impact on Regional Economic Growth:

- (1) Increase in Capital and Technology intensive industries due to low human labour. \Rightarrow R & D
- (2) Development of Grey economy - to involve the ageing population in economy
- (3) Increased migration from other areas to provide for services and labour. \Rightarrow from Northern states.

(4) Greater mechanisation of agriculture -
due to low labour availability.

(5) Increase in businesses providing ser-
vices to elderly.

△ Old-age care homes etc.

Impact on social welfare policies;

(1) Greater spending on elderly welfare
through pensions.

(2) Provision of health care, palliative
care for the morbid ageing people.

△ PM Vay Vandana Yojana

(3) Protecting the elderly from mental
health issues & isolation by govt.

△ Through clubs and hobbies.

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- (4) Increase in quality of educational expenditure - with low children population.
- (5) Provisions required for direct service delivery, as per population ages.  WhatsApp Governance
- (6) High quality skilling, reskilling & social infrastructure as supporting the aged.

This phenomenon has also caused certain calls for increasing fertility through incentives. It might slow down the transition.

Qⁿ 14

Ocean Salinity refers to the proportion of salt in the ocean water. On an average, it is 35 parts per thousand.

Factor Affecting Salinity :

- (1) Evaporation → Greater the evaporation, higher the salinity.
- (2) ~~Evaporation~~ Precipitation → Greater the precipitation, lower the salinity.
- (3) Ice formation → High degree of ice formation increases salinity. And high melting of ice decreases salinity. ~~is~~ low salinity in Baltic Sea, North Sea etc.

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- (4) Ocean Currents → They are responsible for balancing salinity across the oceans.
- (5) Surrounding land → Influx of fresh rivers causes decrease in salinity of oceans.
- (6) Other Cosmic Factors → Meteorite impact, or underwater volcanism might increase salinity of oceans.

Salinity has multidimensional impact:

- (1) Ocean Temperature regulation by affecting the flow of ocean currents
- (2) Fisheries → Highly saline water does not allow fishes to survive
⇒ Dead Sea.

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- (3) Corals also cannot survive in high salinity conditions.
- (4) Salinity determines density - which affects the ease of navigation for ships, as per Archimedes' principle.
- (5) High saline water is much expensive to desalinate for drinking purposes.
- (6) Increased salinity destroys coastal biodiversity ecosystems such as mangroves & deltas etc.

Thus, salinity is a salient feature of oceans which affect both marine and human lives.

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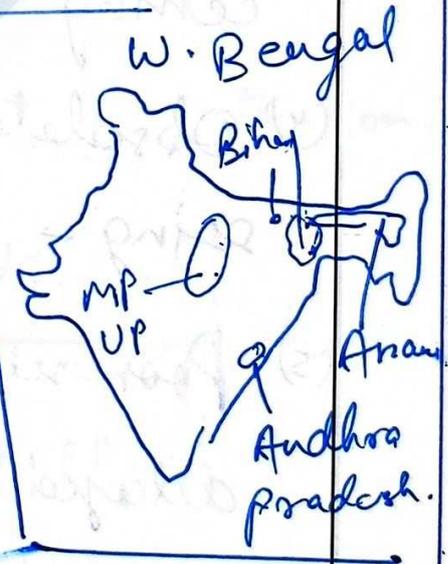
Qⁿ 15. Jute is a water intensive crop used for making packaging material.

It is called 'Golden fibre' as:

- ↳ Sustainable ecologically
- ↳ Can replace plastic in packaging
- ↳ Is labour intensive.

Major jute producing states are

West Bengal - > 30%
Assam, Bihar, Andhra Pradesh.



→ Jute requires high amounts of water for its processing.

→ climatic conditions (> 150 cm rain)

are also very specific limiting its production to these areas.

→ Need of sacks for wheat etc caused presence in MP, UP.

Causes of Decline of Jute Mill Industry

- (1) Low Quality of raw material production due to poor inputs.
- (2) Lack of properly skilled and timely labour. \Rightarrow West Bengal labour issues
- (3) Irregularity of power supply for processing units; and expensive power.
- (4) Obsolete technology used for processing - affects efficiency & final cost
- (5) Poor support by the government - delayed financial incentives etc.
- (6) Competition from other countries - \Rightarrow Bangladesh is largest producer.
- (7) Cheaper alternatives available - plastic and new synthetic polymers.

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Steps have been taken to address the decline:

(1) Procurement of jute sacks for grain storage by Govt bodies.

✓ Odisha.

(2) Promotion of jute as the future of packaging - replacing plastic as a sustainable source.

(3) Government programmes and Jute Bond to regulate the industry.

More Needs to be done

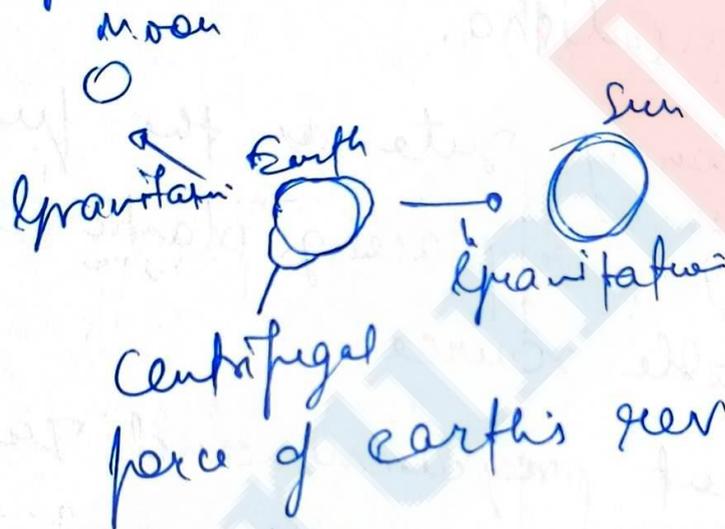
- Infrastructure quality
- Labour skilling
- Capital access
- Marketing at par

Jute can serve as way forward to sustainable packaging, if its decline is averted and managed.

16

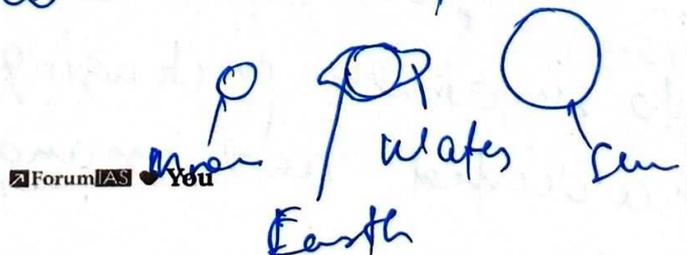
Tides are periodic movement of ocean water on earth due to gravitational force of moon and sun.

The force affecting are

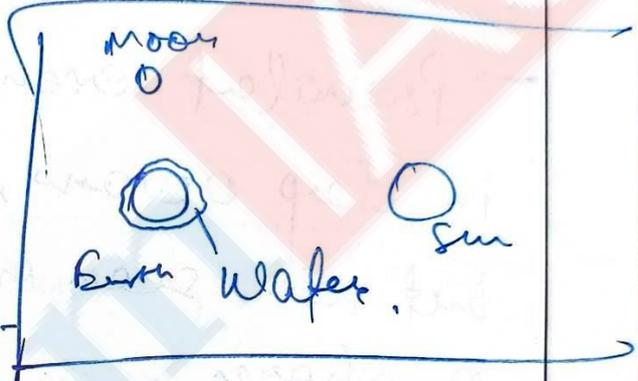


Types of tides

(1) Spring tide → when all three Sun, Earth and moon are in a single line, the intertidal range is highest and called spring tide.



(2) Neap tide → When Sun and moon are perpendicular to each other with respect to earth, the intertidal range is minimum. It is called Neap tide.



Tides could be both diurnal - occurring twice a day, and semidiurnal - occurring 4 times a day depending on the location of the place.

Difference between Tides and Waves

Tides
Cause → Gravitational force, and centrifugal force

Waves
Cause → Earth's rotation, and surface winds + coastal nature.

→ Happens as a common water body for the Earth.

→ Differs based on nature of the body, and its underlying surface

→ Prevalent even in deep oceans, but rise seen only on shores

→ Waves occur throughout the water surface, crashing on coast

→ Help in harbour movement of ships, boats etc.

→ Help in navigation of boats through winds

→ Periodic as affected by posⁿ of sun & moon

→ Largely constant due to affect of winds

← Tides and waves are both water body movements differentiated by their scale & cause

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Qⁿ 17

India is home to ~18% of human population, but has only ~4% of global freshwater resources. This is a structural reason for water crisis. due to:

Availability:

- (1) Southern plateau, especially rain-shadow regions have less amount of water.
- (2) Seasonal nature of peninsular rivers
- (3) Regions of desert and dryness also have naturally low availability.

Management issues:

- (1) Over-extraction of ~~water~~ groundwater
- ~~80%~~ of ground as population increases.
- (2) 80% of groundwater used for agriculture - highly inefficient irrigation.

- (3) Increased urbanization — high extraction from local aquifers; and reduced recharge capacity.
- (4) Pollution by industry, sewage waste, and agricultural runoff.
- (5) Poor watershed management.

Impact on Society & Economy:

- (1) Reduced agricultural productivity — causing income and job losses.
- (2) Urban drinking water & sanitation crisis
eg. Delhi, Chennai
- (3) Industrial efficiency reduced — due to increased cost of water.
- (4) Disparaging effect on women — responsible for water extraction from long distances.

(5)

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Remedial measures needed

- (1) Agriculture → Efficient irrigation
{ Per drop more crop }
↓
→ Agri-ecological zoning for
producing local varieties (ICAR)
- (2) Pollution → strict enforcement of
EPA, 1986 limits.
→ mandatory sewage management
by local bodies
- (3) Availability → At household level
through Jal Jeevan mission
→ Inter-river basin transfer through
River interlinkage (KL Rao scheme)
- (4) Recycle & Reuse of water.
Water is essential for life
itself. The crisis needs to be managed
for "Salika Vithan" ♡ You

Qⁿ 18

El Niño Southern Oscillation (ENSO) refers to the shift in temperature & pressure difference between Eastern & Western Pacific once every 7-8 years.

Climatic Impacts

- (1) Heavy rains in dry Peruvian coast
- (2) Nutrient starvation for fishes of the cold Peru Bank. - causes black sea and stench of H_2S .
- (3) ~~High~~ ^{Low} rainfall and even drought in Indian subcontinent, Australia etc
- (4) Reduces cyclone frequency in both Bay of Bengal and gulf of

Mexico.

(5) Weakens the Easterly Tropical
Jet stream.

Social Impact :

- (1) Fisher persons livelihood impacted
in Peru & South American Coast
- (2) Drought - affects farmers in India
and Australia
- (3) Low cyclone frequency - reduce
destruction and loss of property
- (4) Hamper food security - due to
low productivity in India.
- (5) Alternative occupation for fishermen
of Peru - due to cyclic nature of
ENSO occurrence

(6) Exacerbates adverse impacts of climate change by disruption of Walker circulation.

(7) Fluctuations in global food prices - due to productivity shifts.

Thus, ENSO affects the globe in several ways. We have not yet been able to understand its exact causes.

Qⁿ 19

Ocean currents are large surface-level movements of water in particular directions due to effect of planetary winds etc.

Factors Influencing Ocean Currents

- (1) Winds → Planetary wind decide the origin and direction, as well as speed of their movement
- (2) Temperature - density → Difference in temperature and salinity causes density differentials
- (3) Coriolis force → Causes currents to turn to right in Northern Hemisphere & left in Southern Hemisphere.

Impact on Fishing Industry :

- warm & cold
- (1) Merging Ocean currents form the best fishing banks in the world.
- ↳ Grand Bank of USA - merging of Gulf stream (warm) & Labrador current (cold).

↳ This is because cold current is rich in nutrients while warm current provides condition ideal for growth of fishes.

- (2) Productive fishing banks in zones of upwelling - associated with cold ocean currents.

↳ Humboldt - current in Peruvian Bank.

(3) Currents help in navigation of fishers - when they voyage to catch fish.

(4) Lack of good currents leads to underdeveloped fisheries.

→ India & Tropical Regions.

(5) Warm currents keep coasts ice-free - opening the fishing industry for year round activity.

Thus, fishing as a major industry & food source across the world is greatly affected by ocean currents.

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Q^{no} 20

Regionalism refers to a great affinity towards one's region, and political identity formation based on that region. It is indeed a double-edged sword:

Empowerment & Representation:

- (1) Fulfilment of Regional aspirations & Cultural identity
↳ separate board for Vidarbha's development ↳ Tamil Nadu
- (2) Economic potential tapped for benefit of local population.
↳ Jharkhand formation
- (3) Greater voice to regional needs & demands. ↳ NC in Kashmir
- (4) Increased people's participation in governance

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Ex) Local language use.

(5) Safeguards enabled for local customs and traditions.

Ex) 6th schedule regions

(6) Allocations to meet local demands & needs due to regional advocacy.

Ex) Ladakh.

However, there are challenges to National Unity and Coherence:

(1) Excessive regionalism leads to chauvinism → hate.

Ex) Violate Art 19(1)(d) by targeting people from other states.

(2) Son-of-soil policy → creates a separate domicile for states residents.

Ex) Haryana.

(3) Ethnic-Nationalism → Attacking the fabric of National unity.

↳ Greater Nationalism.

(4) Tendency of separatism → To show oneself separate from rest of India

↳ Dravida Nadu ideology

(5) Secessionist tendencies → harming coherence of Oneness

↳ Kashmir.

(6) Linguistic suprematism → hunt for 'poor people from other states.'

↳ Maharashtra.

Regional advocacy, thus should not result into hate. This is imperative for 'Ek Bharat, Sreeth Bharat'