

VAJIRAM & RAVI

SURE SHOT TEST SERIES FLT 2024

GENERAL STUDIES

Full Length Test

Test - 1 (GS1 CT)

Time allowed: Three Hours

Maximum Marks: 250

ADMIN. NO.: 16000329

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MOBILE NO.:

EMAIL.:

SUBMISSION DATE: 9/7/24 10:00 Am to 1:00 Pm

UPSC CSE 2024

AIR-260

QUESTION PAPER SPECIFIC INSTRUCTIONS

Please read each of the following instructions carefully before attempting questions:

There are **TWENTY** questions printed in **ENGLISH**. All the questions are compulsory.

The number of marks carried by a question/ part is indicated against it. Word limit in questions, wherever 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.

| Q No. | Marks | Q No. | Marks | Q No. | Marks |
|-------|-------|-------|-------|-------|-------|
| Q1 | /10 | Q8 | /10 | Q15 | /15 |
| Q2 | /10 | Q9 | /10 | Q16 | /15 |
| Q3 | /10 | Q10 | /10 | Q17 | /15 |
| Q4 | /10 | Q11 | /15 | Q18 | /15 |
| Q5 | /10 | Q12 | /15 | Q19 | /15 |
| Q6 | /10 | Q13 | /15 | Q20 | /15 |
| Q7 | /10 | Q14 | /15 | Total | /250 |

Follow these steps to avail the facility of mentoring –

1. Go through the soft copy of your evaluated answer sheet and analyse all the comments and suggestions given.
2. Call **9717565805** between 11:00 am to 5:00 pm to fix your mentoring slot.
3. Please follow the mentoring appointment timings properly.



| Parameters | Excellent | Very Good | Good | Average | Poor | Very Poor |
|--------------------------------|-----------|-----------|------|---------|------|-----------|
| Language and Articulation | | | | | | |
| Structure and Presentation | | | | | | |
| Conceptual clarity and Content | | | | | | |
| Number of Attempted questions | | | | | | |

Evaluator/Reviewer Suggestions

| Q.No | Q.No | Q.No | Q.No | Q.No | Q.No | Q.No |
|------|------|-------|------|------|------|------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| 08 | 09 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | 32 | 33 | 34 | 35 |
| 36 | 37 | 38 | 39 | 40 | 41 | 42 |
| 43 | 44 | 45 | 46 | 47 | 48 | 49 |
| 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| 57 | 58 | 59 | 60 | 61 | 62 | 63 |
| 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 |
| 78 | 79 | 80 | 81 | 82 | 83 | 84 |
| 85 | 86 | 87 | 88 | 89 | 90 | 91 |
| 92 | 93 | 94 | 95 | 96 | 97 | 98 |
| 99 | 100 | Total | | | | |

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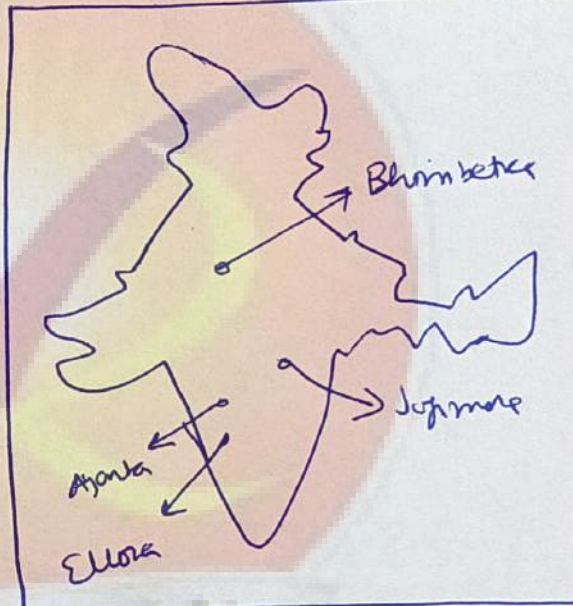
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(Answer questions in NOT MORE than the word limit specified for each in the parenthesis. Content of the answer is more important than its length.)

1. 'Cave paintings are the window into the aesthetic sensitivity and creativity of ancient humans.' Discuss the statement with reference to ancient Indian cave paintings. (10 marks, 150 words)

India has rich heritage spanning from pre-historic times to ancient Indian dynasties to Muslim rulers, having vibrant paintings.

Window into aesthetic sensitivity and creativity of ancient humans



1) depicted the life practices

↳ Pre-historic hunting & gathering at Bhimbetka caves

2) Religious outlook representation

↳ Ajanta → Buddhist paintings
↳ Ellora → Secular paintings

Fig: Core painting sites

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- 3) Peek into dynastic lifestyles
↳ Udayagiri caves give information about Gupta Empire
- 4) highlights great artistic significances
↳ Jogimara caves highlight dance practised as diverse as possible
- 5) Helps to trace the history as well as connects with modern times
↳ Bhubaneswar caves have shown painting across long time

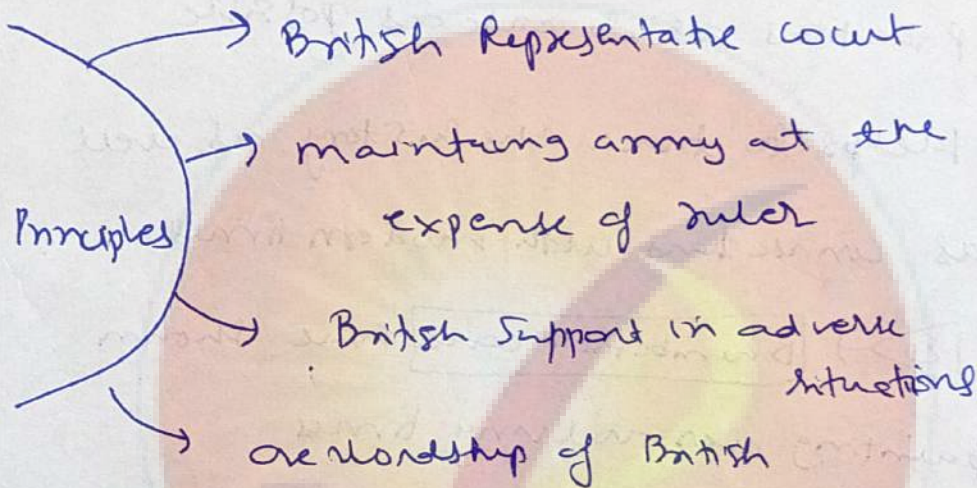
There is a need to preserve these heritages as well as initiatives such as "Bharat Shri" helps to propagate awareness about them.

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2. Evaluate the role of subsidiary alliance policy in turning 'the British Empire in India' into 'the British Empire of India'.
(10 marks, 150 words)

The Subsidiary alliance was introduced by Lord Wellesley (1798-1805) with the purpose to subjugate Indian Empires.



From "British empire in India" to "the British empire of India"

- 1) Influence local political → through the British representative in court
(Eg) → Awadh's involvement in multiple wars due to alliance.
- 2) Creating ground for gradual rise →

and saved expenditure due to expense by the rulers.

3) Went beyond trade → and entering into political dynamics

(Ex) → Hyderabad's subsidiarity.

4) Continuous economic gains in order to realize aim of monopoly.

5) Helped in British policy of "Divide & Rule" and buffer states

6) Proxy wars motivated by British interests, recognized as Indian wars.

Policies like "subsidiary alliance"

and "Barrack policy" become the steps

through which British climbed to its

most "prized colony"

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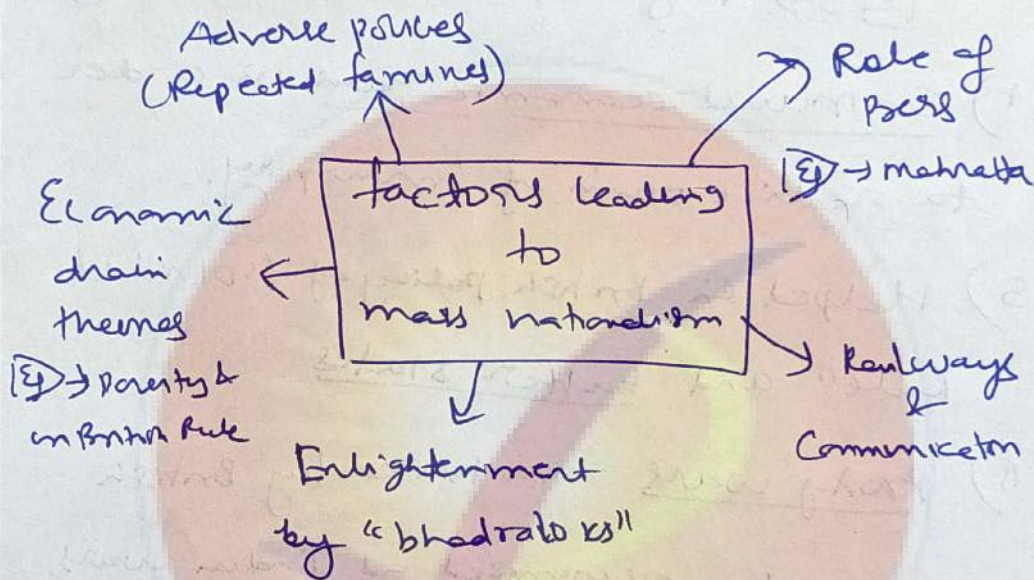
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3. Mass nationalism was a watershed in the Indian freedom struggle towards independence. How did the Indian Business community react to it? Discuss.

(10 marks, 150 words)

The freedom struggle saw transformation from "elites movement" to "mass nationalism" in early 19th century



Positive Reaction of Business Community

1) opportunity to enter new ventures

(E) -> VD chidambaram Pillai started

New Ship Builders company during Swadeshi.

2) Spirit of nationalism increased demand of Indian goods & Investment

(E) -> Setting up of khadi factories

3) Demand for reforms in Business
↳ Factory Act - 1891

Negative Reaction of Business community

1) Affected regular business → due to uncompetitive news by reforms

↳ Factory Act (1891) restricted work hours of males & females

2) Increased strikes and disruptions

3) Demand for wage hike
↳ Ahmedabad mill Association

4) Lost British patronage - mainly big

businessmen
↳ All India Trade Union Congress

The businesses like "Tata" and "Birla" found an important opportunity in the mass nationalism scenario and boosted Indian pride.

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4. Do you agree that non-alignment adopted after independence formed the bed-rock of Indian Foreign policy. Substantiate. (10 marks, 150 words)

Prime Minister Nehru adopted a policy of Non-alignment to avoid involvement in cold war and leading the newly independent colonies after 1947.

Bed rock of Indian foreign policy

- 1) Strategic distance → independent policies in cold war era

[Ex] → "Belgrade Conference" officially started Non-Alignment movement.

- 2) Multiple engagements in recent times

[Ex] → India is a member of US-led

QUAD as well as China-led SCO

- 3) Varied stance on global policies

[Ex] → India did not sign NPT, 1967

- 4) Upholding national interest

[Ex] → despite USA sanctions, India buying Russian oil

But in recent times foreign policy is not completely defined by non-alignment

1) Historical action → India signed treaty with USSR - showing a little top-sided.

2) Selective engagement → India aligned with USA in recent times

↳ NSA waiver, ICET, INDUS-X

3) Against war and rights violation

↳ India's vote against Israel at UN

4) Aggressive stance against hostiles

↳ chemical & corps commander talks

India has gradually moved from

non-alignment to multiple-engagements

and thus its foreign policy is continuously evolving.

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5. Colonial legacy is the primary source of political instability in the African Continent. Examine. (10 marks, 150 words)

African continent is the affected worst and epitome of colonial plunderer being target of multiple powers since last 300 years.

Colonial legacy - a primary source of Political Instability

1) Playground for major powers

(Eg) → Paper division of Borders

disregarding human rights

2) continuous economic drain

(Eg) → Africa's rich diamond reserves became its own grave.

3) Dare and unexplored continent → the adventures remained out of reach by major powers.

4) Lack of reforms by colony → still

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dominated by military coups

Ex → Recently in Sudan, Rwanda

Other factors leading to political instability

1) Lack of a revolutionary enlightenment
- unaware know-how for utilization of rich resources.

2) Present playground of major powers

Ex → China's BRI debt unsustainability

3) Geographic disadvantage → hostile climate and difficult terrain

4) Lack of technological innovation

5) Geopolitical tensions hampering growth

Africa is like "diamond" covered in "dust of coal", not able to realize potential despite ability.

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6. Sustainable urban development needs mindful reassessment of land use patterns.
Discuss. (10 marks, 150 words)

According to Global Land Outlook by UNCCD, almost 20-40% of global land is at threat impacting almost 50% of global population.

Sustainable urban development
needs reassessment of land use patterns

1) Preventing desertification → led by adverse cropping / monocropping

↳ Rice, sugarcane in arid areas

2) Needs of future generation → concretization of urban ground leads to Heat Island

↳ IPCC - climate temperature steadily rose by 1.1° impacting wetlands

3) Unplanned expansion → impacting biodiversity and flora

↳ man-Animal conflict

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4) Expansion of agricultural areas → leading to loss of carbon sinks & stores

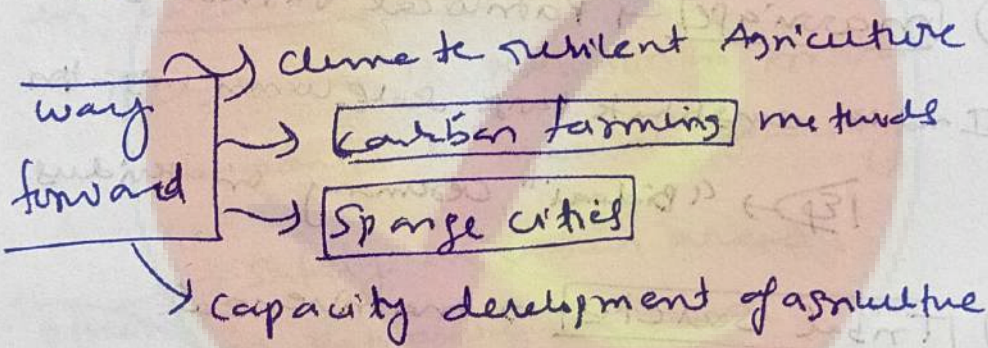
↳ Threat to Amazon rainforest

5) Rise in urban sub-agglomerations → increased pressure on air, water and noise

↳ Heavy traffic leading to acid rain

6) Lacking ability to trace land use changes

due to lack of coordination



Urban Areas are engines of high-ticket infrastructure and growth but this growth must not be at expense of sustainability (SDG 11)

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7. Socio-cultural factors more than economic factors influence women migration patterns in India. Discuss. (10 marks, 150 words)

The Socio-cultural and economic factors have determined the migratory patterns in agriculture, urban areas and industries in diverse Indian society.

Socio-cultural factors contributing to women migration patterns

1) Marriage → Patriocal families in India constitute large scale women migration
Ex → "Bidaai" ceremony in Hindu

2) Tribal societies → matrilineal migration and firewood vendors
Ex → slash & burn agriculture

3) Regional traditions → where women move with husbands to neolocal homes

But economic factors also influences to women migration patterns

1) Agricultural pressure → from home to fields due to feminization of agriculture

Ex → 63% of agri workforce = women

2) Changing career orientation → high enrollment

of girls in higher studies

Ex → 49% of female enrolled in higher educational institutions.

3) Rural-urban migration → due to rise

in income-levels & earnings

Ex → women's reservation in private companies to maintain diversity

→ Safety in urban areas

Other factors → Patriarchy in rural areas

→ political dynamics (33% reservation in local bodies)

Women are agents of change and are

not limited to any particular location.

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8. Discuss the significance of the IT industries in promoting regional development in India. (10 marks, 150 words)

India is the largest Services exporter in the world, also contributing to its current account balance.

Significance of IT Industries in Promoting regional development

- 1) Formal employment opportunities in metropolitan areas
Ex → >90% of India's labour informal
- 2) Attracting huge investments (FDI + FPI)
Ex → IT Sector in Maharashtra and Karnataka are top 2 recipients of FDI in 2023.
- 3) Raises Standard of living - increasing consumption demand
Ex → India's GDP - 50% consumption
- 4) Utilization of demographic dividend
Ex → only 5% of India's workforce formally skilled (IT sector provides immediate skilling)

5) Promotes urbanization → & infrastructure

development like skyscrapers

Ex → UN → more than 50% of India's population in urban areas by 2030.

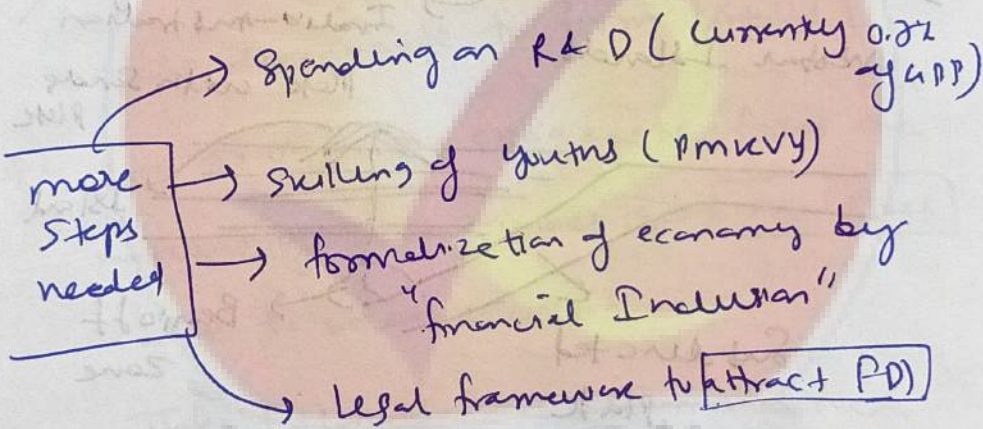
6) Ground for Innovation & R & D

Ex → Samsung Research Institute, Noida

7) Boosting auxiliary industries → like

Smartphone and computers

Ex → India 2nd largest Smartphone market



multiple states in India are boosting infrastructure and embracing "responsibility" in order to become IT hubs.

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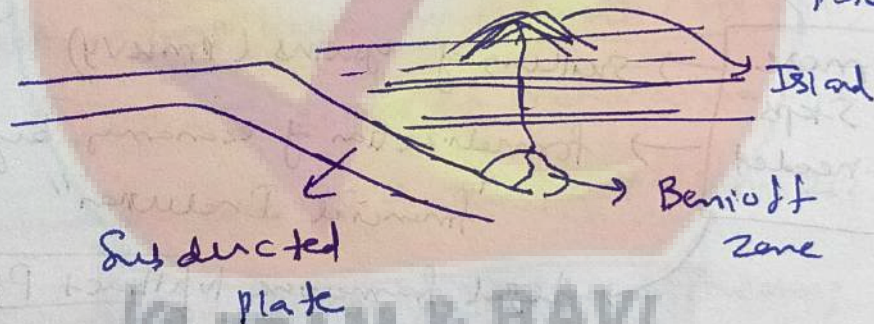
9. Explain the formation of islands in the Indian Ocean Region with suitable examples. (10 marks, 150 words)

The "Plate Tectonic theory" most accurately explains the formation of Islands in the Indian ocean region.

Formation of Islands

1) Convergent Plate Boundaries → mainly ocean ocean convergence

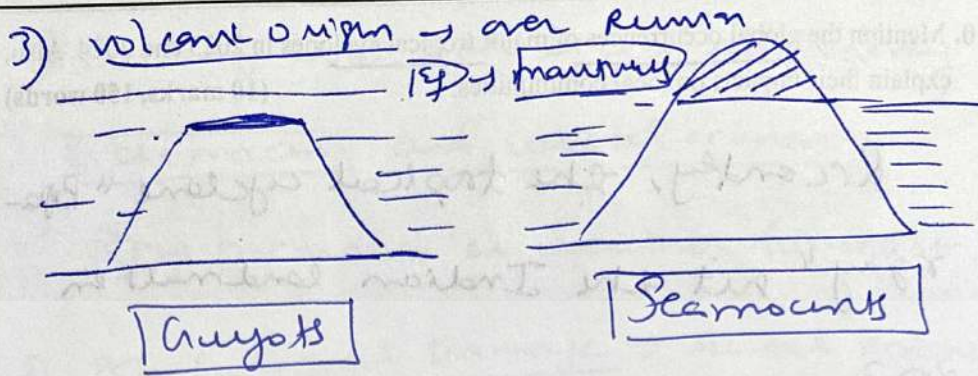
Ex) → Andaman and Nicobar Islands → convergence of Indian-Australian Plate with Sunda Plate



2) Coral origin → due to divergent/convergent plate boundaries - Atolls, Cays & Fringing

Ex) → Lakshadweep Islands (Suheli Reef and Muwoy Islands)

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Steps

- 1) Heavier plate subducts below
- 2) the magma flows in form of lava and then solidifies
- 3) solidifies below ocean - sometimes corals dominate to form Atolls
- 4) due to various exogenetic forces the nature of Island varies → atoll
due to volcanic origin

The Islands have become a rich source of Biodiversity, tourism hubs and ancient cultures.

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10. Mention the global occurrences of major tropical cyclones in 2023 and 2024. Also, explain their impacts on local communities. (10 marks, 150 words)

Recently, the tropical cyclone "Biparjay" hit the Indian landmass in 2023.

Factors leading to occurrence of tropical cyclones

- 1) high sea level temperature
- 2) presence of convergent force
- 3) low vertical wind shear

Characteristics

- 1) Spans across limited area
- 2) high wind speed
- 3) dissipates over the land

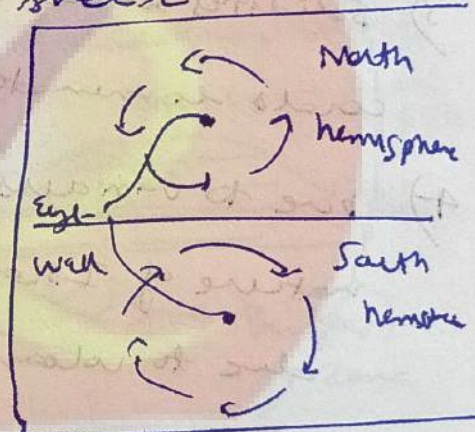


Fig: Tropical cyclones

Impacts on local communities

- 1) Infrastructure damage and continued economic loss

↳ Tropical cyclone of Odisha, 1999

2) Loss of life and livelihood, mainly

Fisherman and coastal economy

↳ Disruption in weather forecast

3) Psychological Damage → Social tensions

and loss of harmony

↳ Diversion of developmental

finances towards rescue

4) Environmental damage → agricultural

loss, release of methane due to

submergence.

→ Robust Early warning systems

Way Ahead → capacity development of locals

→ Strengthening WMO

Thought we cannot mitigate tropical

cyclones, we certainly can adapt to

its occurrence.

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11. Mahatma Gandhi described himself as a 'true disciple' of Bal Gangadhar Tilak despite having political differences. In this context, analyse the similarities and differences between Gandhian methods and extremism. (15 marks, 250 words)

Though having visible differences in methods of struggle Gandhi and Bal Gangadhar Tilak share commonalities in their aim for Swadeshi & Swaraj.

Similarities between Gandhian methods and extremism

- 1) Same goals → To uproot the British rule in India
- 2) Welfare of masses & reforms
Eg → Bhagat Singh Navjawan Sabha promoted socialism that corroborated Gandhi's idea of Stateless Economy
- 3) Political orientation → had wider impact on masses rather than narrow reforms
- 4) Sacrifice → Gandhian idea of "True Swarajist" demanded mental sacrifice

and extremism - physical sacrifice

5) Involvement of masses → as opposed to only congress 3P struggle

6) Acting against the norms.

Differences

| Parameter | Gandhian method | extremism |
|----------------------------|---|--|
| 1) <u>Laws</u> | may violate laws but surrendered to law | did not recognize sanctity of laws |
| 2) <u>mode of Struggle</u> | Ahimsa & mental sacrifice | not complete abstinence from physical violence |
| 3) <u>Beliefs</u> | British as positive enabler | British as enemy |
| 4) <u>Aims</u> | At changing hearts | At forcing to change actions |

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| 5) Religion | Secular approach | may utilize religious differences |
| 6) Time period | Long time period based on Struggle - Treachery - Struggle | Wanted immediate results |

Though they may have differed in their actions/opinions, their collective effort led to independence of India ultimately.

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12. 'Partition was a necessary evil to get rid of British rule and prevent a complete breakdown of law and order.' Analyse. (15 marks, 250 words)

The acceptance of partition by an ideologist Nehru as well as Sardar Patel highlights its inevitability, that led to country's partition in 1947.

Factors leading to partition

1) Rising communalism → Formation of Muslim League and Lahore Resolution sowed seeds of Pakistan during 1940s.

2) British policy of "divide and rule"

↳ Durand Khilafat movement - last unity was seen. Morley Minto Reforms separate electorate for Muslims

3) Constitutional Deadlock

⊙ Cripps Mission → differences between Muslim League & Congress

⊙ Cabinet Mission Plan → Varied opinion on separate country

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⊙ Plan Balkan by Lord Mountbatten → that sowed seeds of partition

⊙ Indian Independence Act → creating two dominions

4) Leader's cult → Jinnah's idea of separate Pakistan had charismatic influence on masses

Necessary evil

1) Lack of consensus was leading to delay in independence.

2) Large scale muslim demands may have led to "balkanisation of country".

3) Demand of separate electorates → would have violated country's sanctity.

4) Actions like 'Direct Action Day' led to necessary evil of violence.

Negative Impacts

- 1) Large Scale violence - and deaths.
- 2) Seeds of communalism into trees
 [E] → Babri Masjid Act, 1992 and Gujarat Act, 2002 have root in partition
- 3) Fostered regionalism → that later formed the basis of Khalistani movement.
- 4) Bitter relations with Pakistan till date
- 5) Led to rise of insurgent groups at borders.
- 6) Internationalization of border disputes.

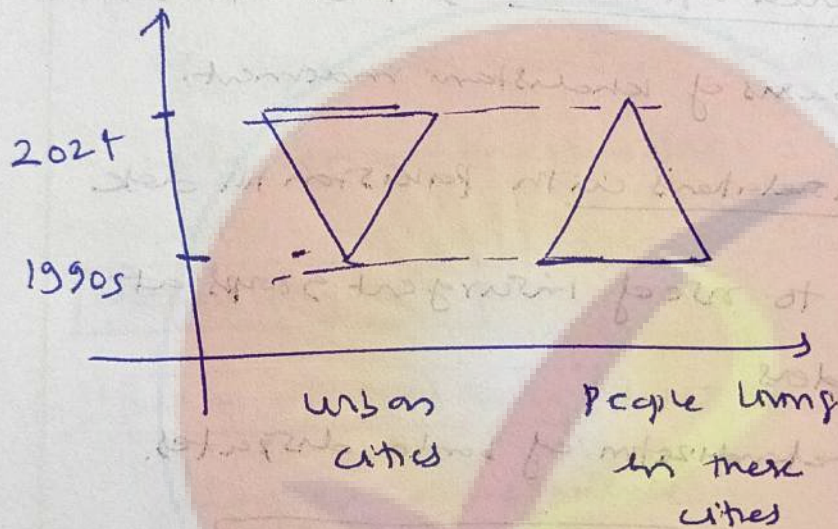
Though wounds of partition are still raw, India is gradually evolving to strengthen its vibrant democracy and unity through dialogue and discussions.

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13. To what extent urbanisation has influenced the social hierarchy in Indian society? Explain. (15 marks, 250 words)

It is often said India is gradually moving from "caste" to "class" based society, mainly led by globalisation and urbanisation.



Positive influence on social hierarchy

1) Reduced "Caste consciousness"

Ex) Assimilated culture in urban areas → mixed quarters for both dalits and upper-caste people.

2) Increased mobility → led by opportunities of entrepreneurship and employment

↳ Dalit capitalism and formation of DICCI with FICCI

3) Rise in status of women → due to wage parity and advancement

↳ 11/18 divisions of Department of S&T headed by women

4) Promoting social justice → equal voice to vulnerable sections in governance

↳ 7th CAA - Urban Local Bodies.

5) Rising independence of old age people

Negative impact on social hierarchies

1) class differential → divide b/w rich & poor

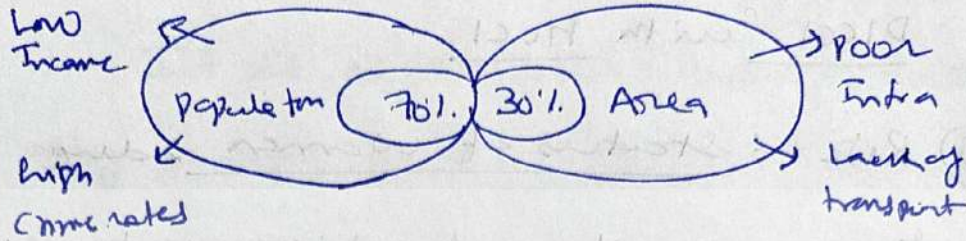
↳ 17% of urban population live in slums

2) urban ghettoisation → Realisation of caste consciousness in urban areas.

2) manual scavenging jobs lead to employment of SC/ST (modern untouchability)

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3) Urban growth led by few rich



4) Glass ceiling leading to women being stuck in mid-level positions

(Ex) only 15% high positions led by women

5) Fragile city due to urban disaster mostly

impacts communities of lower strata

(Ex) → Bengaluru floods

- Way ahead
- Capacity development of such areas
 - Infrastructure (Ex) → TOD
 - Efficient Governance.

Urban areas must become engine of growth rather than self-limiting agent to strengthen social hierarchies.

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14. Globalisation expanded the market opportunities for goods and services beyond domestic territories. Discuss the effects of globalisation on the Indian craft industry with examples. (15 marks, 250 words)

India is today one of the leading "toy producers" and exporters, mainly attributed to wider market access and technological innovation facilitated by globalisation.

Expansion of opportunities with globalisation

- 1) wider market access → that boosted the demand of Indian crafts globally
Ex → Patta chitta paintings of India
- 2) New or technological innovations led by people-to-people movement
- 3) Easy availability of raw materials
- 4) Boosting investments through FDI
Ex → India received almost \$ 80 bn FDI in 2022-23.

- 5) Skilling with new-age technology
- 6) Automation of crafts and toys
↳ mass production of "madhuban saree"
- 7) Geographical Indication Tags help foster uniqueness of crafts
↳ Kampegowda Shawl of Odisha
- 8) High tourist inflow leading to automatic brand promotion

Challenges created by globalisation

1) Stiff competition from foreign players

↳ Chinese crafts dominating international market

2) Protectionist regimes gradually evolving in the form of high tariff & custom duties

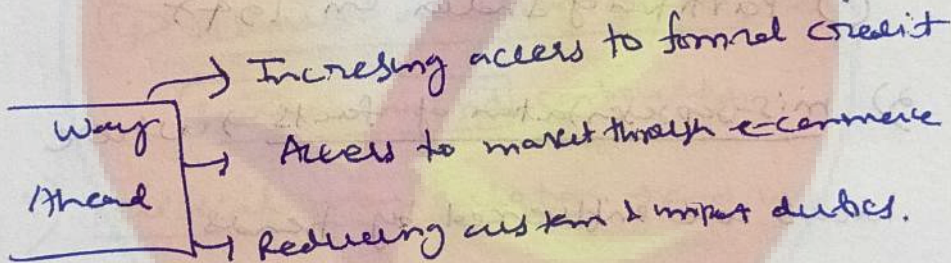
3) Limited economies of scale to Indian craft manufacturers due to high level of industrialisation in developed markets.

4) missing middle of manufacturing sector
↳ "dwarf midgets" due to lack of government focus

5) Skewed investment towards service sector - mainly IT industries

6) weak enforcement mechanism TRIPS
↳ take GI tags

7) Lack of Branding and Promotion by marginal communities



The concept "one world, one Earth one interest" must also interpret the concept of one market with focus on traditional crafts.

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15. Rise of communalism in secular India threatens the social fabric and public order. Discuss the measures to contain the spread of communalism. (15 marks, 250 words)

Communalism is defined as a political ideology of feeling of superiority of one religion over other, with their perceived interests as mutually exclusive.

Factors leading to rise of communalism

1) Historical factors & colonial legacy →

○ Policy of "Divide & Rule" by British

○ Partition of India in 1947

2) Misrepresentation of facts → where ideas are influenced by trends

Ex → Ancient India viewed as Hindu culture while medieval India is equated to muslim's rule.

3) Perceived feeling of deprivation → through unequal dividends of development

Ex → Sachar committee highlighted condition of muslim worse than SC/ST

4) Religious Fundamentalism and Rightwing

Politics (Eg) → concept of "Hindu Rashtra".

Threatens social fabric & public order

1) Leads to Inter-religious violence

(Eg) → riot violence in Haryana

2) Hampers harmony & social capital

3) diversion of public resources towards unnecessary debates

(Eg) → Hindu-Muslim debate over

Temple-masjid controversy

4) Political manipulation → and vote

bank politics based on religion

5) loss to economic growth & development

6) Rise in honor-killings & self-pride

visitarianism (Eg) → cow visitarianism

7) overall decline in societal ethics -

thus collective morality.

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Measures to curbing communalism

- 1) Inter-faith dialogues regularly
- 2) Balance development among various communities and places
- 3) Legal measures to curb "Hate-Speeches" and "Defamation"
- 4) Political Sensitization → refrain from leveraging religion for votes
- 5) Proactive role of Supreme Court to create right precedent along with neutral media
 "Communalism is a threat to democracy" → we must learn from

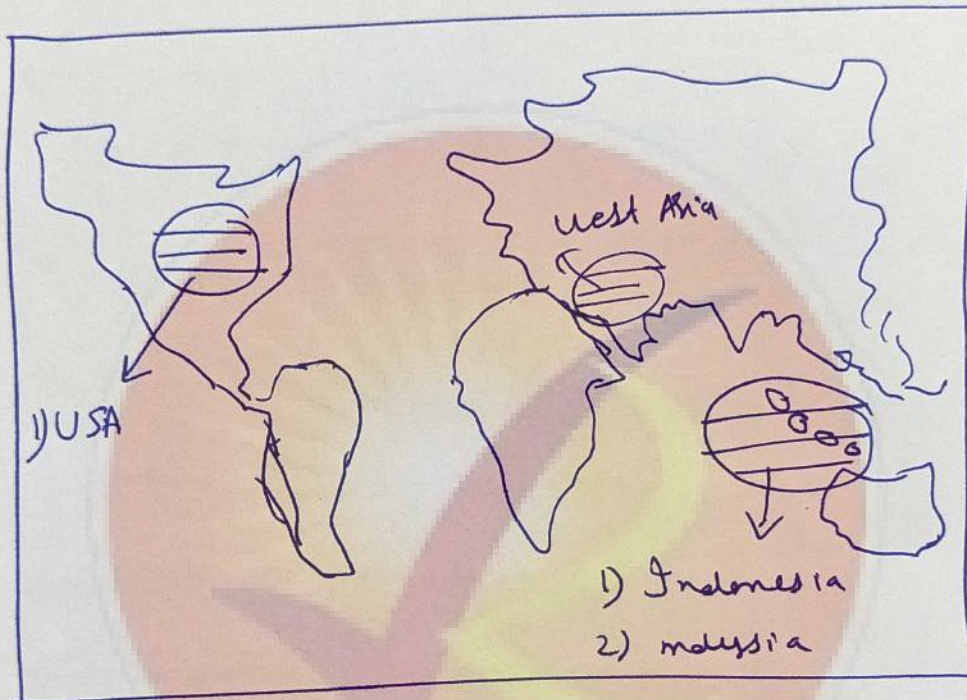
"Narayanpur in Chattisgarh" which uses regular meetings to curb communal tensions

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16. Describe the distribution of major palm oil producing countries. Also, indicate the major environmental issues faced by them. (15 marks, 250 words)

India is one of the largest importer of palm oil, and it has varied uses in multiple industries.



Major palm oil producing countries

1) South-east Asian countries

- ⊙ Indonesia } India major importer
- ⊙ Malaysia

2) North America - USA

3) West Africa

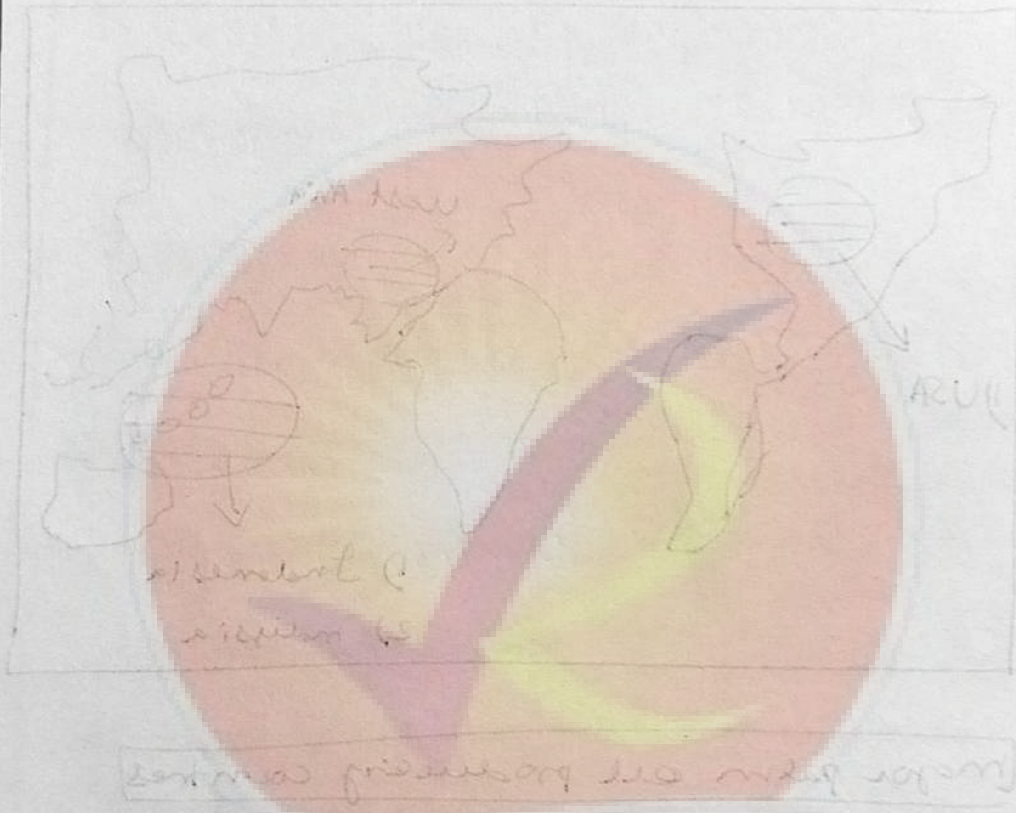
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1. Describe the structure of the human eye and its function. (10 marks)

The human eye is a complex organ that allows us to see. It consists of several parts, each with a specific function. The cornea is the outermost layer, which refracts light. The iris and pupil control the amount of light entering the eye. The lens focuses light on the retina, which converts light into electrical signals. These signals are then sent to the brain via the optic nerve.



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- 1) The structure of the human eye
- 2) The function of the human eye
- 3) The structure of the human eye
- 4) The function of the human eye

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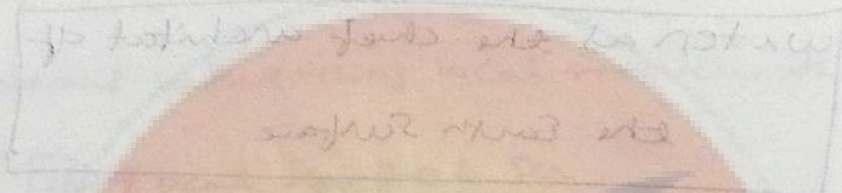
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17. Discuss the importance of water as the chief constituent of the earth's surface. (12 marks, 250 words)

The Earth's surface is covered by water and the atmosphere above it. Water is essential for life and is the most abundant substance on the Earth's surface.

Water is also the most abundant substance on the Earth's surface.

Water is essential for life and is the most abundant substance on the Earth's surface.



1) Water is essential for life and is the most abundant substance on the Earth's surface. It is also the most abundant substance on the Earth's surface.

2) Water is essential for life and is the most abundant substance on the Earth's surface. It is also the most abundant substance on the Earth's surface.

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| | |
|--------------|---|
| Introduction | Suggestions: Water is essential for life and is the most abundant substance on the Earth's surface. It is also the most abundant substance on the Earth's surface. |
| Body | |
| Conclusion | |
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17. Discuss the importance of water as the chief architect of the earth surface.

(15 marks, 250 words)

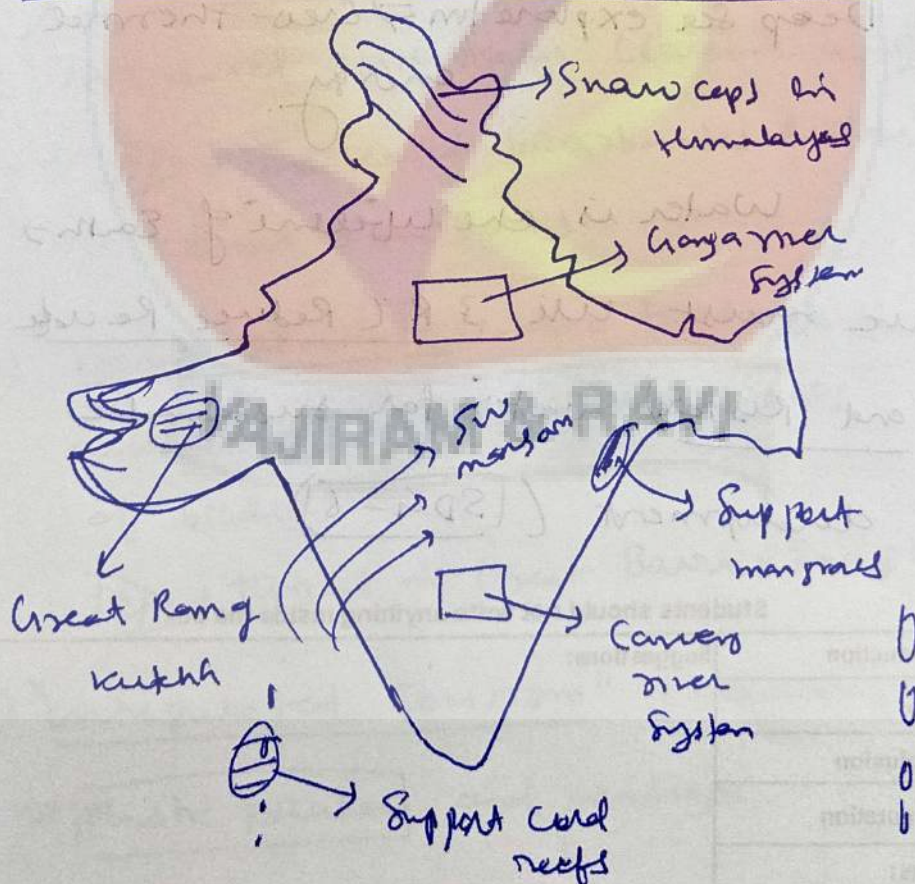
The Earth's 70% surface is covered by water and it influences the climate, oceans as well as mineral distribution of world.

Water as the chief architect of the Earth surface

- 1) Controlling global climate → through ocean currents & water temperature
[eg] → cold currents along South American coast led to formation of Patagonian desert
- 2) Atlantic ocean meridional circulation (AMOC) → regulating ocean temperatures
- 3) Hotbed of Biodiversity → Supports major ecosystems such as coral reefs, mangroves and Benthos
[eg] → Great Barrier Reef of Australia.

- 4) Largest store of fresh water trapped in glaciers and ground waters
- 5) high ocean productivity leading to carbon sequestration.
- 6) maintenance of salinity levels in oceans influences local micro-climate
 (Ex) → Dead Sea, Red Sea.

India's surface - constructed by water



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- a) causing mansions → supports "agriculture" and livelihood
- b) supports wastal economy → India is 2nd largest high producer globally
- c) Importance in maintaining "food security"
- d) mineral resources → poly metallic nodules
→ marine resources
→ Ecosystem services
- e) Deep sea exploration ⇒ Geo-thermal energy.

Water is the lifeline of Earth →
we must use 3 R (Reduce Reuse and Restore) water for sustainable development (SDG-6)

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18. 'Tropical rainforests of the ocean are under serious threat of existence.' Discuss. Also, suggest measures to rejuvenate these critical ecosystems.

(15 marks, 250 words)

Coral reefs are also called the tropical rainforests of the ocean, which is facing serious existential challenges due to ocean acidification & sea-level rise.

Under serious threat of existence

- 1) Loss of carbonate structures → due to increased acidification (Carbonic acid)
Ex → Increased bicarbonates dissolve coral structures
- 2) Coral Bleaching → due to change in alkalinity levels leading to loss of biodiversity
Ex → Threat to "Great Barrier Reef"
- 3) "Unregulated Tourism" → leading to plastic pollution and wastage.

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4) Global warming → Leading to "Sea level rise" → Submergence of corals

5) Dominio Effect on other species like Neustons & Benthos

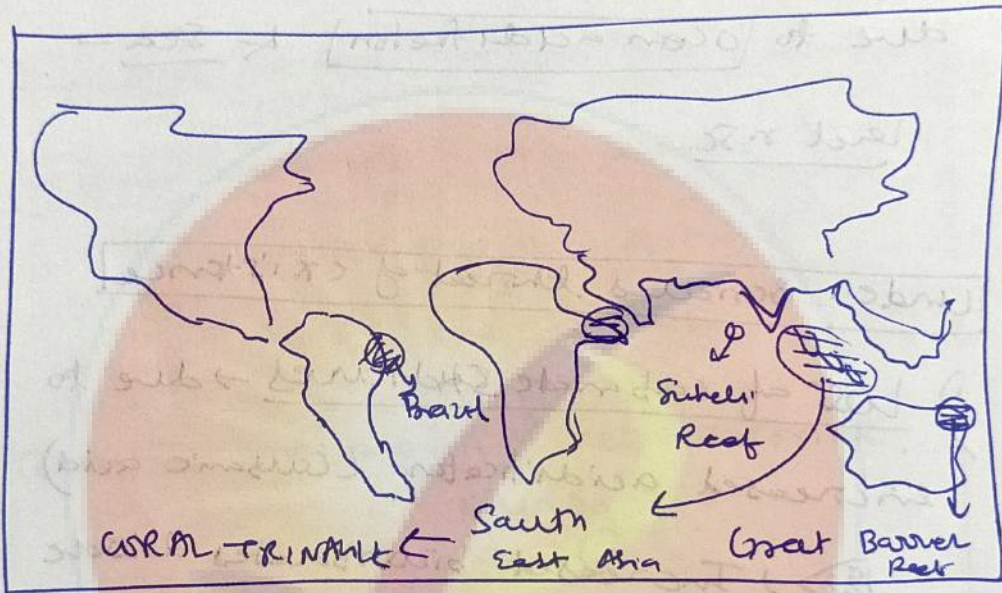


Fig: stressed coral reefs

measures to deal with threat

1) mitigation climate change

⊙ Reduce fossil usage and increase renewables Installed capacity.

⊙ focus on limiting lifes tye choices

↳ mission life

2) International cooperation → through

UNCCD, UNFCCC and UNCLD

⇒ Coral Reef Breakthrough

Initiative to save corals

3) Involvement of local communities such as in Joint Forest management in FRAs 2006.

4) Control of polluters

○ MARPOL

5) Learn from best

practices in South East Asia

Indonesia

⇒ Sources of coral

trouble by land

polluter

We must save corals to ensure the welfare of biodiversity and life below water (SDG-14).

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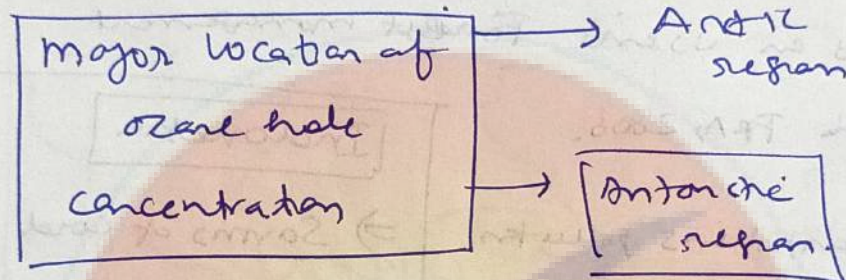
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19. Explain the reasons for geographical concentration of ozone holes. What are the remedial measures to ozone depletion? (15 marks, 250 words)

Recently, India showed improvement in realization of Montreal Protocol targets, completely eliminating HCFE-B.



Reasons for geographical concentration of ozone holes in Antarctica

- 1) Presence of Polar Stratospheric clouds
- 2) Stable airmass - leading to continuous depletion of ozone

↳ Antarctica highly disturbed

- 3) Lack of continuous sunlight → leading to low replacement rate.

Remedial measures to ozone depletion

① International Conventions

- ① Vienna Convention → phase out CFCs
 - ② Montreal Protocol → ↑
 - ③ Kyoto amendment to Montreal Protocol
- Montreal act of HF defines

② National measures

- ① controlling VOC emissions
- ① Restricting release of pollutants

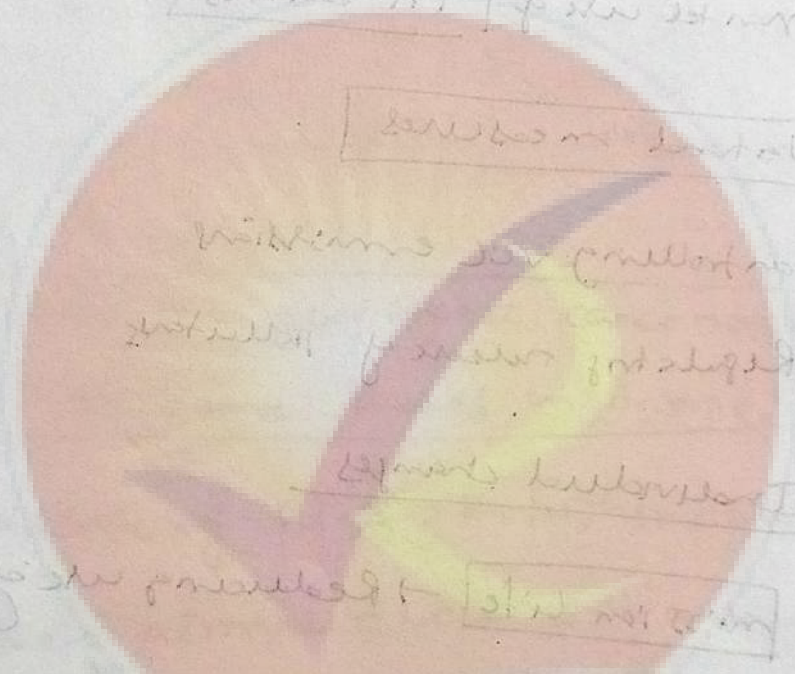
③ Individual changes

- ① mission life → Reducing use of ozone depleting substances.

Protection of ozone layer is essential to ensure we do not cross climate tipping points and ensure inter-generational equity.

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- 1. Introduction
- 2. Body
- 3. Conclusion
- 4. Presentation
- 5. Marks



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20. 'Global warming increasingly contributes to extreme weather events.' Examine the statement with special focus on recent events of natural hazards in the Indian subcontinent. (15 marks, 250 words)

Global warming has cascading impact on climate and biodiversity leading to extreme weather events. 80% of vulnerability of natural hazards lie with low-middle income countries

Global warming leading to extreme weather events

1) Influencing sea surface temperatures

- ⊙ Impacts Biodiversity ↳ mangroves
- ⊙ Frequent occurrences of Cyclones
- ⊙ Impacting coral reefs

2) Shifting course of rivers attributed to fast melting of glaciers

↳ Assam Floods was caused due to shifting in course of Brahmaputra (2022)

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3) Rising temperature leading to forest fires and loss of primary productivity

4) Impacting "Indian Agriculture" by

frequent occurrences of droughts

↳ High farmers suicides in Saurashtra, Rayalseema region.

5) water scarcity → leading to Inter-state water disputes

↳ Cauvery dispute (Kerala & TN)

6) Affecting livelihood → of coastal communities due to decline in fish production

7) Damage to infrastructure → and years of economic losses

↳ Recent Bengaluru floods

8) Disturbing seismic zones leading to landslides & earthquakes

↳ landslide in Himachal Pradesh

g) Cradmanic Issue and failure of

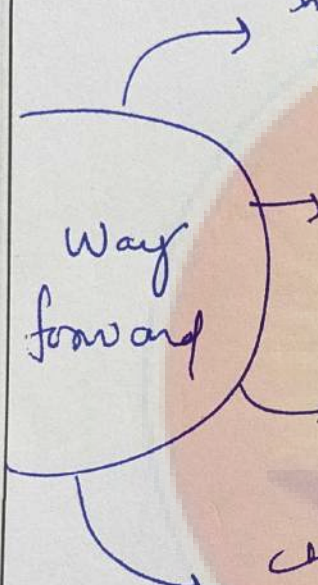
Social fabric

↳ Regionalism in Telangana

Party due to decline in agri productivity

Implementation of Legislators

↳ water Act, 1974



Time Based Action Plan

↳ meetings INDC +

monetization of Green Climate fund

Community based approach

change in lifestyle choices

Art 48A of our Constitution mandates

us to direct certain resources towards

environmental conservation. (SDG-12)

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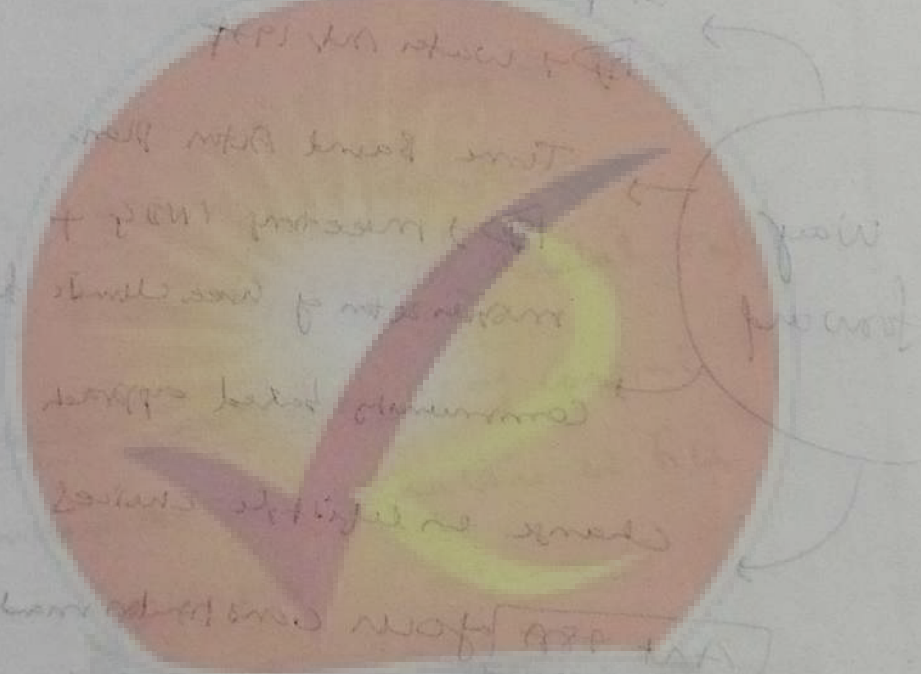
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Space for Rough Work



KAJIRAM & RAVI

Space for Rough Work



KAJIRAM & RAVI