



NITHIN
SIR

COMPREHENSIVE TEST

MAINS MAXIMA 2024

FORTUNE IAS ACADEMY

GS - PAPER I

Name Of Candidate	NANDANAA G.P.		
Email Id	[REDACTED]@gmail.com	Roll No	24142
Mobile No	[REDACTED]	Date	7/9/24

Time Allowed: Three Hours

Maximum Marks: 250

INDEX TABLE		INSTRUCTIONS			
Total marks	119½	<ol style="list-style-type: none">Please do furnish Name, Email, Roll No, Mobile No and Test Code in answer sheets.There are TWENTY questions printed in ENGLISH, all questions are compulsory.Answers must be written in the medium authorized in the Admission Certificate which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in a medium other than the authorized one.Answers to Question Nos. 1 to 10 should be in 150 words, whereas answers to Question Nos: 11 to 20 should be in 250 words.Word limit in questions should be adhered to. Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.			
Remarks:					
Start Time : 9				End Time : 12	
Mode Of Examination :				Online <input type="checkbox"/>	Offline <input checked="" type="checkbox"/>

VH 141, Upper Meridian Road, Kuravankonam Jn, Kowdiar PO, Trivandrum 695003 | PH 9495015888

FORTUNE IAS ACADEMY

TABLE OF MARKS			REMARKS
Q NO	MAXIMUM MARKS	MARKS OBTAINED	
1	10		Question Understanding: Presentation(Neatness): Content: Innovation: Other suggestions:
2	10		
3	10		
4	10		
5	10		
6	10		
7	10		
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9	10		
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11	15		
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SECTION: A

Candidates
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write on
this margin

1. Elaborate on the role of Sangam literature in portraying the Socio-Economic and Political conditions of its time (10 marks, 150 words)

Sangam literature was written between the period of 300BC - 300AD in ancient Tamil kingdom.

Role of Sangam literature

I. Social condition

① Mention the rituals, practices existed in period

eg) Mention about vattakirantal practice

② Mention the structure of society, role of castes etc

eg) Mention of horoscope prevalent

II Economic condition

① Temples as the centres of economic activity

eg) Role of Raja's in promoting temple economy

② Information about various jobs, occupations prevalent

eg) Blacksmiths, tuel donated a

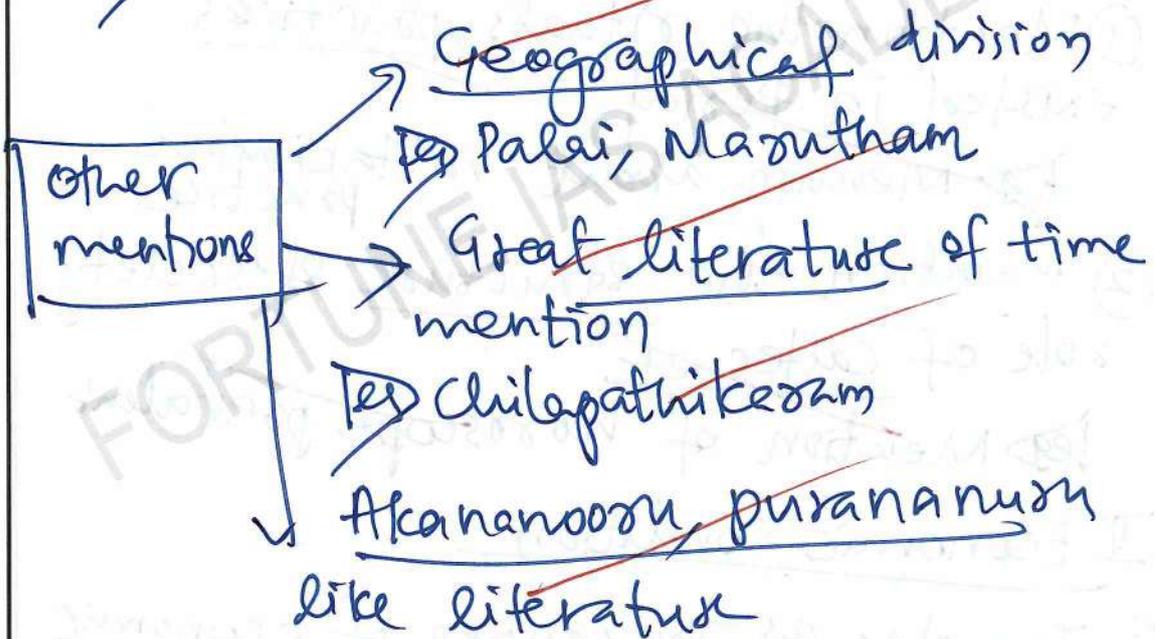
gate to chidambaram temple

III Political condition

① Contribution of kings in promotion of arts, literature

↳ Kaikala chola's contribution

② Document history of the time
↳ Chera-Chola wars mentioned



② Thus, Sangam literature represent India's rich culture & heritage - which should be promoted by CREATIVE ECONOMY - a priority of India in G20

2. Indian dance forms constitute a true representation of fusion between natural elements and human emotions. Elaborate (10 marks, 150 words)

Candidates must not write on this margin

Indian dance forms are based on Natyashastra by Bharata muni which represent fusion.

Indian dance fuse Natural element

① Focus on panchabhootas as an element of dance

eg Five as panchabhoota of Bharatanatyam

② Natural elements incorporated in dance

eg Tharangam in kuchupudi use water in small bowl

③ Use of natural ornaments, decorations

eg Thisravathi use shankh and cham flower buds in hair.

④ Mudras as representation of nature

eg Sarpamukham, Kothaseemuka

⑤ Folk dances which promote
naturalism

eg) Kalbelia snake dance

Fusion of human emotions

① Different way of representing
different emotion

eg) Kathi, Pachhe, Kasi in Kathakali

② A single expression may evoke
multitude of emotion

eg) Laughter in Bharatanatyam
may be hasyam or shringaram
(base (fun) (erotic))

③ Raw emotions of culture
transferred from generations

eg) Bhangra - emotion of
community organization

Indian dance forms
need to be popularised -
Nataraja sculpture at 920
mandapam is a right step

3. The non-cooperation movement proved to be a failure in the course of freedom struggle of India. Critically examine. (10 marks, 150 words)

Candidates must not write on this margin

Non cooperation movement of 1920 aimed at protesting Jalian walabagh and Khilafat wrongs

Failure of Non cooperation

- ① Communalisation of national movement eventually led to hindu - muslim disunity
- ② Low participation from common people, industrialists etc.
- ③ Not an all India struggle as North East, South India generally excluded.
- ④ Failed to achieve any significant outcome
- ⑤ Abrupt ending due to Chauri chaura movement.
- ⑥ women participation was very

low, limited to upper class
circles compared to later events

⑦ People wouldn't completely
absorb the ideal of satyagraha
& non violence.

⑧ Jalian Wallabagh never resolved
- General Dyer went without
punishment

Yet Success → first struggle involving
common people
→ Reduced violence as
mean
→ Aim of Swaraj enforced
→ Inspired later leaders
like Vallabhbhai Patel, SC Bose

⑤ Thus, Non cooperation acted
as a stepping stone to the
achievement of freedom in
1947

4. Mention the factors that led to the Vietnam War. Why do you think the war prolonged in duration? (10 marks, 150 words)

Candidates must not write on this margin

Vietnam war was a proxy war in midst of cold war politics

Factors led

I. International factors

- ① Domino theory by US to prevent spread of communism in rest Asia
- ② USSR efforts to keep east Asia under communist influence
- ③ Rise of a dual polar world leading to cold war crisis.

II Other reason

- ① Vietnamese middle class intelligentsia educated at Japan promoted freedom, equality values.
- ② Influence of Chinese communist policies.

③ Leadership charisma of
Hochiminh ~~promoted~~ war ethos

Prolonged war season

① Role of USSR & US in supporting
proxy governments

② Arm & Ammunition support
by both sides

③ Use of inhuman means
enraged population

↳ Napalm, Orange agent

④ Incapability of UN in
preventing the conflict through
negotiation & dialogue

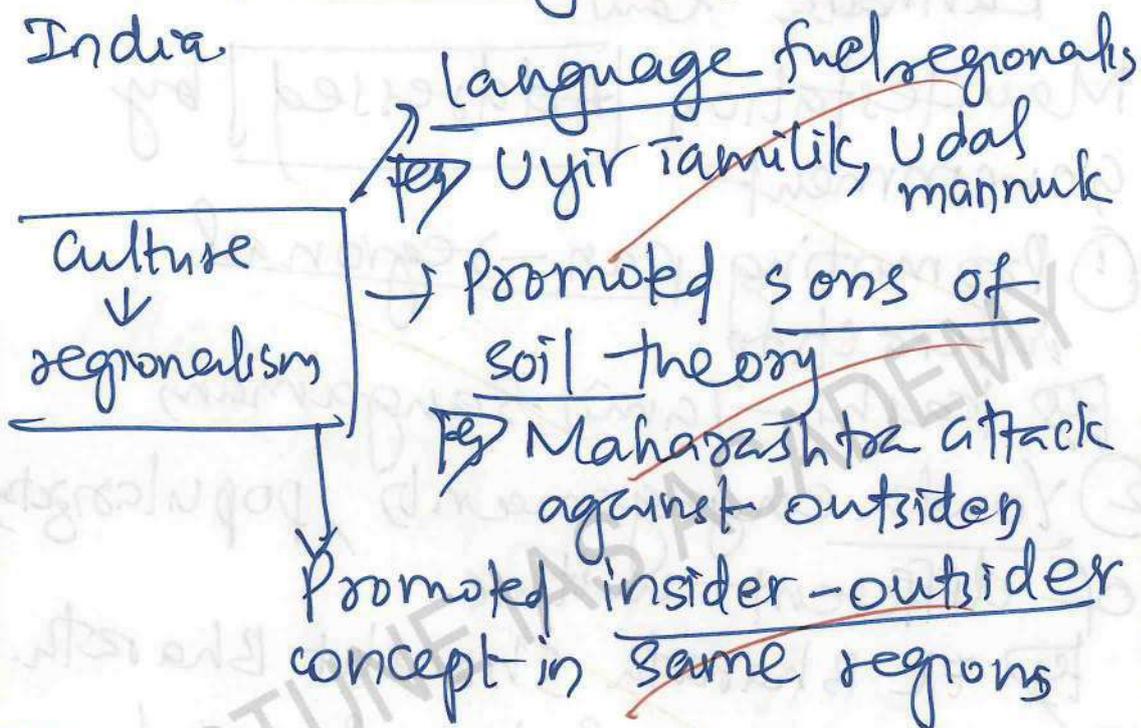
↳ Vietnam stands

⑤ as a testimony of cold war
politics caused destruction in
world order & need of a
multipolar world

5. Explain the role of cultural diversity in fostering regionalism in India. How are the manifestations of regionalism being addressed by the government? (10 marks, 150 words)

Candidates must not write on this margin

Culture has always acted as a mean of fostering regionalism in India.



Role of culture in Regionalism

- ① Promote a region as having distinctive culture from others
 - eg Tulunadu protest
- ② Promotion of cultural regionalism for vote bank politics
 - eg Dravidian politics in Tamilnadu

③ Homogenisation as a mean of promoting regionalism

↳ Karnataka - boy. bill board in Kannada language

Manifestation Addressed by government

① Promoting pan-regional interaction

↳ Kashi-Tamil Sangamam

② Youth engagement, popularity of different culture

↳ Ek Bharat Shreshth Bharat.

③ Cooperative federalism to ensure state engagement

↳ Inter state councils

④ Constitutional measures to reduce discrimination

↳ Article 16 - Can't discriminate based on region

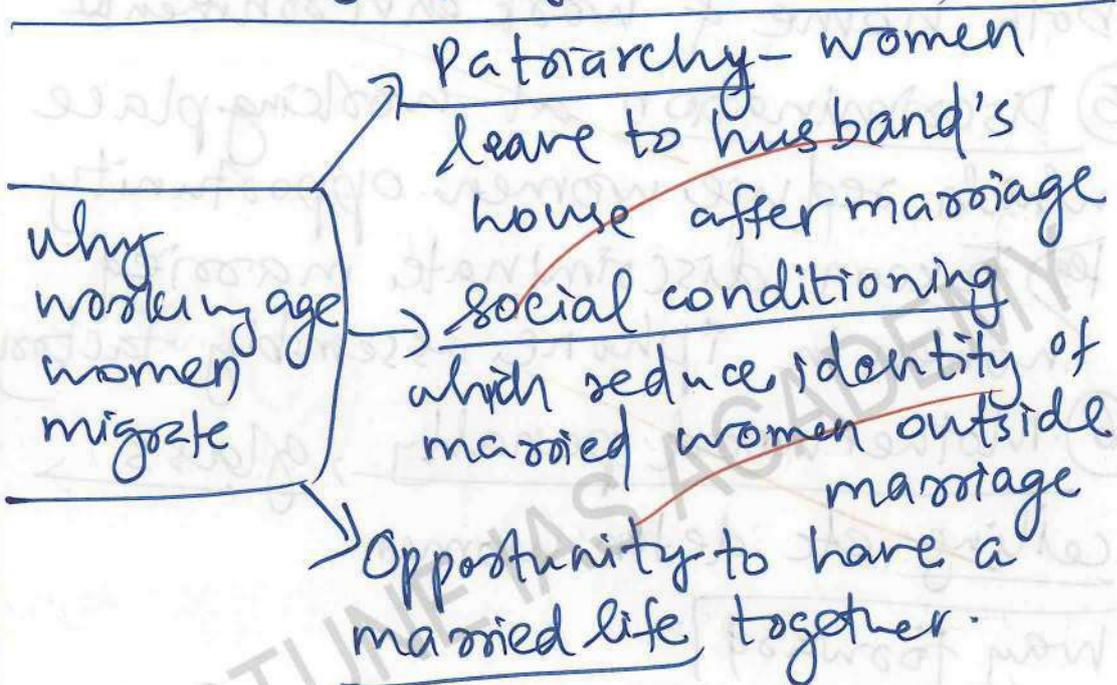
As PM said in Kashi Tamil Sangam, Linking Madhwa Miniature to Kashi Vishal Kashi, need to rise above regional interests

5

6. Women, especially of working age, comprise a greater share of the internal migrant pool. However they face employment barriers resulting from their social barriers augmented in the post-migration conditions. Examine (10 marks, 150 words)

Candidates must not write on this margin

87% of women migrate internally for marriage purposes (NFHS 5)



Social barriers → Employment barriers

- ① Not very easy to find a job in post migrated place
- ② Lack of availability of flexible working hours.
- ③ lack of safety which deter

women from going outside for job. \rightarrow 1 rape every 15 minute in India (NCRB)

④ Double burden of managing both home & work environment

⑤ Discrimination at working place which reduce women opportunity

eg) Foxcon discriminate married women in iPhone assembly factory

⑥ Motherhood penalty, glass ceiling etc deter women

Way forward

① women friendly working places
eg) ensuring safe travel, toilets.

② Address motherhood penalty
eg) Palna creche scheme

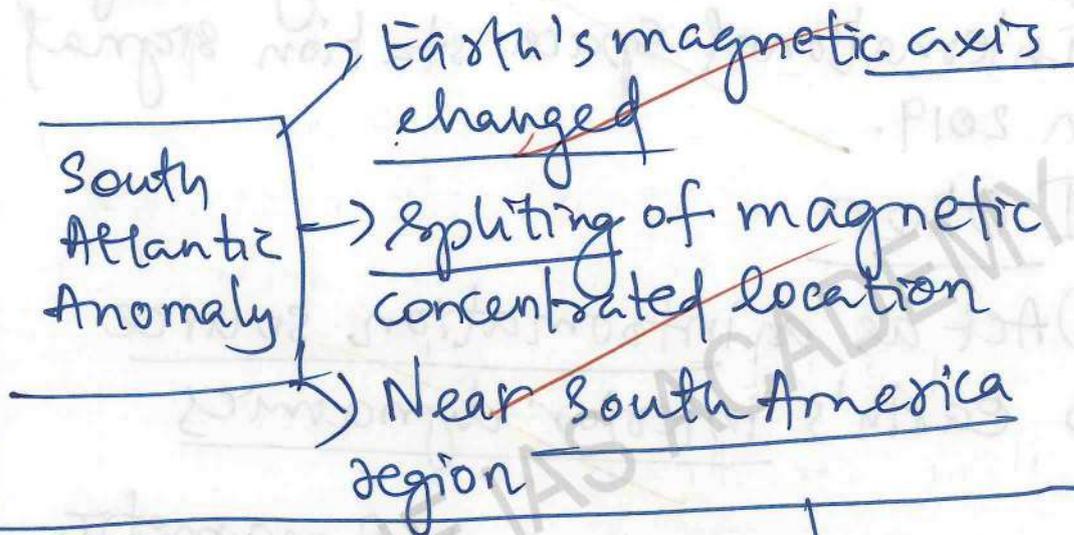
③ Can ensure work from home opportunities for women.

taking women LFPR from 37% \rightarrow 50% will lead to 27% increase in gdp which lead to Viksit Bharat

7. What do you mean by the South Atlantic Anomaly? Explain the significant consequences arising out of this phenomenon. (10 marks, 150 words)

Candidates must not write on this margin

South Atlantic Anomaly refers to changes and shift in earth's magnetic field in South Atlantic.



Significant Consequences

I. Communication

- ① Can affect proper transmission of radio waves which cause breakage in communication
- ② Interferer with aircraft, ship navigation due to signal breakage

II. Scientific Missions

- ① Affect the working of satellite

which pass through the region
② can cause delayed signal and issues to human exploration mission

eg South Atlantic Anomaly disrupted International space station signal in 2019.

III Other

① Act as an information source to earth's interior dynamics

Reason for Anomaly

→ differential magnetic activity in earth's interior

→ climate change of anthropogenic activities changing earth's interior dynamics

ESA's swarm constellation which gives info about interior earth & anomalies are a stepping stone to study & know more about such phenomena

8. Enumerate the factors influencing the Earth's energy budget. Comment on its significance. (10 marks, 150 words)

Candidates must not write on this margin

Earth's energy budget is depended on factors which affect energy receiving & reflection

Factors affect energy budget

I Meteorologic factors

① Tilt of earth's axis

② Inclination of sun's ray

II Atmospheric

① cloud cover affect solar insolation

② winds as a mean of energy distribution

III Oceanic

① water currents distribute heat

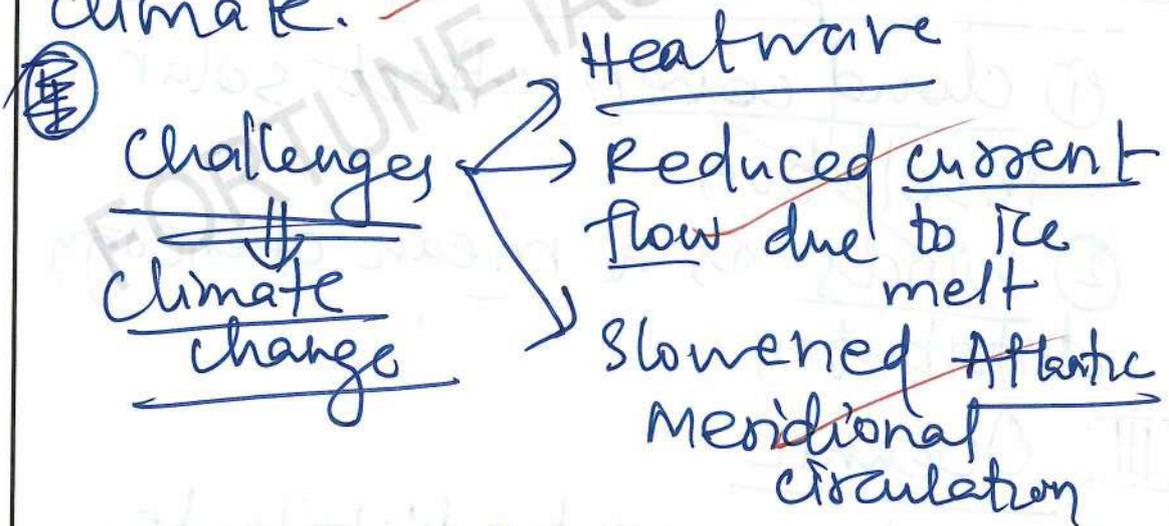
② Ocean currents moderate temperature

→ Gulf stream keep northern

ports ice free

Significance

- ① Ensure equitable distribution of heat in every area
- ② constitute a goldilock zone to ensure sustainable human habitat
- ③ Reduce the effect of climate change dynamics in earth's climate.



Paris aim of 1.5°C is necessary to ensure sustainable energy budget for India

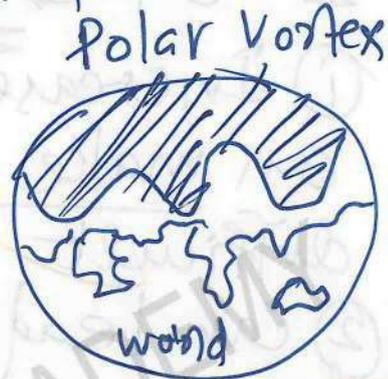
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9. Elaborate on the various factors responsible for the imminent collapse of the Polar Vortex. Highlight the implication of such a collapse. (10 marks, 150 words)

Candidates must not write on this margin

polar vortex are polar clouds that regulate meteorological conditions in the region

Factors for collapse



I. Anthropogenic factors

① Increasing threat of temperature rise contributed by global warming

② Green house gases increase leading to splitting of vortex current

③ tropospheric ozone presence due to increased CFC use.

II Natural season

① shift of jet streams which control the movement of polar vortex.

② shift in energy budget

dynamics of earth

Implications

I. On poles

① Increased cold wave which can make life in far north difficult

② Can lead to different climate dynamics — affect human settlement

II. On others & whole world

① Ozone depletion led issues

- UV ray
- skin cancer
- Ozone hole

② Destruction of stratospheric layer protection lead to climate change.

kyoto & Montreal
protocol ethos need to be followed to minimize the effect of polar vortex aggravated climate change

10. Development of Tier 2 and Tier 3 cities is essential to mitigate the issues concerning population explosion in urban centres and countering urban sprawl. Discuss (10 marks, 150 words)

Candidates must not write on this margin

32% of India's population lives in cities which led to growth of tier 2 & 3 cities

Ex) Gurugram near NCR Delhi

Essentiality of tier 2 & 3 cities in

I. Population explosion

① Give equitable place of living to marginalised people in cities

Ex) 17% urban population in slum.

② Emerging concept of 15 minutes cities which are 15 minutes away from main centre.

③ Helps in providing essential facilities & thus reduce traffic jam like issues

Ex) Bengaluru traffic jam - just 17 km/hr speed in main city

II. Counter urban sprawl

① Reduce ghettoization of

population affecting their socio-economic development

② Reduce environmental impact of city expansion

↳ Bengaluru water crisis

③ Ensure equitable regional development

↳ Aaral of Pune led to reduced sprawl in Mumbai

Issue → Concentration of infrastructure in tier 1 cities
→ Lack proper connectivity between tier 1 & tier 2 cities

Way forward

① Invest in infrastructure development in tier 2 & 3 cities

↳ smart city mission

② Incentivise shifting of service sector companies to tier 2

↳ Bengaluru → Hyderabad shift

Ensuring tier 2 & 3 city development help achieve SDG 11

SECTION: B

11. Enumerate the Different Styles of Hindustani and Carnatic Music. Highlight the Role of Classical Indian Music in Preserving Our Cultural Heritage (15 marks, 250 words)

Indian tradition of classical music has its foundation on vedic age - the Sama veda tradition.

Different Styles of Music

I. Hindustani music

- ① Qawali musical tradition
- ② Sikr - music as a mean of devotion used by Sufi saints.
- ③ Music as an intrinsic element in other art forms
 - ↳ Kathak Music
- ④ Bhakti tradition promoting hindustani
 - ↳ Mirabhai - Giridhar gopala cult
 - Mehe toh Giridhar gopala
Dukhiyalom ko dayal ;
- ⑤ Amir khusro, Tansen etc made

Candidates must not write on this margin

innumerable Hindustani Ragas

II Carnatic Music

① Kirtanas as a mean of music

eg Annamachary kirtanas

② Specific ragas, talas used for specific occasions & purpose

eg Meghamalhar for attracting rain.

③ Promotion of Bhakti through music

eg Poonthanam, Cherussery etc promoted Krishna cult.

④ Related to other art forms

eg Kathakali sangeetham.

Role of music in culture & heritage

I. Culture awareness

① Make new generation aware of our rich past.

eg Pawalis promote medieval historical telling.

② Align with contemporary

Candidates
must not
write on
this margin

trends, issues

eg Shumang leela song used in COVID awareness.

II Culture preservation

① Transferring culture from generation to generation

eg folk song tradition

② Make younger generation too part of rich culture

eg Chembai Sangeetha Saram in Chennai

III Preserve other cultural tradition

① Promotion of oneness & unity through music

eg Music as a uniting force

② used in kashi-Tamil Sangamam

music like tradition

need to be promoted & preserved to ensure the spirit of Ek Bharat Shreshth Bharat

Candidates must not write on this margin

12. Analyse the impact of colonialism on the economic, social and political structures of India during the 19th and early 20th century. Discuss the various forms of resistance emerged during the colonial rule in response to that. (15 marks, 250 words)

Candidates must not write on this margin

British colonialism transformed India from sona ki chidiya to an impoverished & drained country

Impact of colonialism on .

I. Economic structure

- ① Economic drain through funding of British administration
↳ drain theory by Naoroji
- ② collapse of age old economic structure ↳ Hundi, Barter system
- ③ collapse of handicrafts, agriculture

II Social structure

- ① Affected our communal fabric
unity ↳ divide & rule.
- ② communalism arose as a response to british policy
↳ British census segregated population on caste basis

III Political structure

① Established a beaurocracy to rule not serve people.

↳ Irony tower syndrome

② Collapse of ancient participative democracy followed by India.

↳ Uttaramerur inscription —
Kudavolai system election

Forms of resistance in response.

I. Peaceful resistance

① Based on Gandhian nonviolence

↳ Non cooperation movement.

② Protesting without taking anarchy as a mean

↳ Rakhi tied between hindu-muslims to protest Bengal partition

II Violent protests

① Quixotic heroism to get common people attention

↳ Bombing of central legislature.

Candidates must not write on this margin

- ② Planning armed rebellion, marches
- ↳ Indian National Army by Bose

III Intellectual protests

- ① Newspaper, writings as a mean of resistance

↳ Tilak through Marathans papers

- ② Arts, literature etc as mean

↳ Bharat Mata by Abinshanath Tagore

IV Extraterritorial resistance

- ① Role of Indian expatriates

↳ Ghadar movement

- ② Getting attention of foreign citizens

↳ Nasroji in British parliament

In this Amritkal, unsung heroes of Azadika Amrit Mahotsav need to be popularized.

13. In what ways did socio-religious reform movements in British India contribute to the nationalist movement? (15 marks, 250 words)

Candidates must not write on this margin

early 19th century saw socio-religious reform movements aimed at reforming Indian society & religion

Socio religious reform movements

I Reformist movement

① Brahma Samaj - against sati, child marriage

② Indian National Conference
as part of INC - child marriage pledge

II Revivalist movement

① Arya samaj - 'Go back to Vedas'

② Faraizi movement - go back to teachings of Quran.

Contribution of reform movements

in Nationalist movement-

I. Break white man's burden

① Revival of India's ancient past
as a mean to unite people

- ↳ Shivaji festival by Tilak
- ② Ensuring contribution of vulnerable population in national movement
- ↳ Vital Vidhansabha for Harijans.

II. Role of middle class intelligentsia

- ① Arisal of educated young people at the front of reforms.
- ↳ Derozio - Young Bengal movement
- ② Direct support to nationalist struggles in various parts.
- ↳ Bankim Chandra Chatterjee's Anandmath supported Sanyasi movement
- ③ Educating masses about reforms thereby making them ready for struggle
- ↳ Vallabhai Patel in Bardoli protest.
- ④ Promotion of Atmashakti and Nationalist, patriotic feeling through reform movement
- ↳ Ganga Snanam by Ayya Sanyal promoted equality of masses

Yet, | Issues |

- ① Communalised National movement
↳ Ganesha festival alienated masses
- ② Led to protests against leaders which reduced mass support of National movement.
↳ Protest against Monothemism promoted by RRM Roy
- ③ 1856 revolt and later Good governance act - British decided to keep itself away from socio-religious reforms.
↳ Revoked lexi loci act on religious conversion.
- ④ Eventually led to communalist tendencies & partition of India as a result.

The pioneer of socio-religious developments that we enjoy now was given a kick start by national movement struggle

14. Non-alignment is a unique policy of India to protect its national interest as well as world peace. Discuss the reasons for adoption of 'Non-Alignment' by independent India. Write a note on the historic evolution of the policy of 'Non-Alignment' as adopted by India. (15 marks, 250 words)

Candidate must not write on this margin

Non Alignment policy was adopted in post independence as a mean of protecting our sovereignty

Unique policy

National interest

+

World peace

→ Away from cold war politics

→ Alignment as per National needs

→ supporting independence movement in colonies.

→ Focus on humanism

→ Support to ~~Apartheid~~ struggle in South Africa

Reasons for adoption of Non Alignment.

Historical reason

① Colonial past which didn't allow us to have own foreign policy
→ British entered world war

without consent of Indian leaders

② Protecting our historic credential
of aligning with humanitarian cause

Political reason

① A newly born independent nation
need support of ~~the~~ both cold war
powers to survive

② Experience of collapse of nations
due to communist capitalist struggle
↳ Vietnam's experience.

Socio-economic

① Don't have resources & social
base to support & align with
world events.

↳ Didn't go as per cold war
power advice in Korean war.

Historic Evolution | of Non Alignment

① Joined UN with the promise
that it won't affect India's
sovereignty

② Bandung conference which

came up with policy of Non Alignment

③ Tilt to USSR while not explicitly taking anti west policy

↳ Treaty of Peace & Friendship with USSR in 1971.

④ Severe criticism & sanction threat faced from west for Pokhran Smiling Buddha experiment

⑤ Collapse of USSR, India took a balancing ^(1990s) stand, dehyphenation policies

⑥ Balancing west & East as per national needs
↳ civil nuclear agreement with USA in 2008

⑦ This decade, emergence as leader of South to ensure justice for all
↳ G20 presidency

India's policy transformed from Non Alignment to strategic autonomy to rise as viswaguru

15. Is rural India experiencing profound social issues affecting its well-being? Illustrate. (15 marks, 250 words)

Candidates must not write on this margin

Rural India ^(70% population) experience a diverse set of social issues & challenges which affect its well being.

Social issues affecting well being

I. Issues for individual

① Caste based hierarchy still prevalent in rural India
↳ Dalit grooms attacked for using horse in wedding.

② Institutions that enforce social morality affect rights
↳ khap panchayats - Roop Kanwar case of forced sati

II Issue for vulnerable population

① Patnarchy still prevalent with force in rural India.

↳ Water wives of Rajasthan.

② Lack of rights to sexual minorities
↳ Trans people forced to prostitution

III Issues affecting Social fabric

① Insider- Outsider dichotomy
still prevalent

eg) Muzafarpur riot.

② Introsion of culture & traditions
due to modernization leading
to commodification

eg) Madhubani paintings being
printed on plastic → loss village
livelihood

Reasons for Social issues prevalence

① Lack of access to education
which deter stereotypes.

② Lack of efforts from administration
to solve social issues

eg) Lsg officials not reporting
husbands taking role of women
panchayat presidents - Pradhan
- pati culture

③ Beaurocratic apathy & exploitation

eg) Vachathi case of brutal
exploitation

Yet, Rural India has its own
advantages too

① Feeling of community and cooperative ethos

↳ Celebrating Divali, Pongal together

② Promotion of environment and sustainability as a social ethos

↳ Bishnoi community in eco conservation

③ Rural economy promoted to give social harmony

↳ Hundi system by North west tribes.

Way forward

① Promote education & awareness to deter stereotypes

↳ Beti Padhao Beti Bachao

② Integrating rural-urban economy for social development
↳ Unity malls.

Social development of rural areas ensure Virasit & Vikasit Bharat
(heritage) ³⁷ (economy)

16. India's history and culture have long been tolerant of other religions and cultures. However rising intolerance is attacking its secular fabric essential for creating an inclusive and respectful society. Comment. (15 marks, 250 words)

Candidate must not write on this margin

India has emphasized on the ideal of sarva dharma samabhava based on tolerance to all
India's tolerance of

1) Other religion → Buddhism
→ Jainism - Anekantavada
→ Jews never persecuted

2) Other culture → Adopting new culture
→ horoscope from greeks
→ Intermix of cultures
→ chutney music = Indian + apocrypho.

Rising intolerance | attack secular fabric

I. Between religion

① Increased cases of communal violence → Nuh violence in 2023

② Insider-outsider dichotomy
making clear cut discrimination

emphasized by economic inequality

↳ Bulldozer raj

II Within religion

① Intra tribal conflicts increasing

↳ kuki-meitei sot

② suppression of lower caste by upper caste

↳ Una floggings.

③ State actors fuelling the intolerance

↳ Bhagalpur blinding of dalit culprits by police using acid.

III Between cultures

① strict cultural segregation to prevent intermixing

↳ ghettoization.

② New age communication devices

as a mean of safeguarding & preventing intermixing.

↳ twitter handles that do

hate speech on other culture

Candidates
must not
write on
this margin

Way forward to ensure a tolerant
social fabric

① Promote intermixing of cultures
and traditions

↳ Interfaith ritual bath in
Madhyapozhaders

② Programs to celebrate rich
culture of all sections

↳ Kashi - Madhurai Sangamam

③ Promoting inter religious marriage
cultural intermix

↳ Kerala govt - ₹30000 financial
support for intercaste marriage

④ National integration measures
to ensure identity as Indian
rather than different castes

↳ Harghar Tiranga.

Through all these,
we should promote the value
of Vasudhaiva Kutumbakam
or One family one earth

17. The family as a social institution in India has been undergoing change. The Nuclear family system replacing the joint family system comes with its pros and cons. Examine. (15 marks, 250 words)

Candidates must not write on this margin

From Sati pratha to inter-faith families family system has undergone massive change (Supreme court remark)

Changes in family system

→ Double income no kid family

→ Shell family - no inter connection between family

→ live in relation

→ single parent family

→ same sex parent families

Nuclear family replace traditional

Pros

① Focus on individuality of members lead to liberty

→ No need for all elders permission to go for a course

② Women independence due to reduced

Influence of patriarchy

→ women Labour force participation

③ Increased access to resources
& equitable distribution for all
members.

→ prevent 'extended foeticide' - UN
girl child denied nutrition.

④ Promote migration of couple
to urban centres which promote
economic development

Cons

① Affect mental health of elderly
population due to loneliness

→ empty nest syndrome when
children move to far away

② children in nuclear family denied
grand parental affection & morals

→ video games instead of
panchatantra stories

③ Affect community cohesion
& feeling of oneness, sharing

mentality that exist in traditional families.

eg Celebrating victory & sorrow together.

Yet, Nuclear family has reinforced traditional values

① Video calls as a mean of keeping relation alive

② People go back to ancestral traditional villages & families post retirement

③ Digital revolution & facilities which replace need for maximum members for child care

eg Palna creches for working women.

Values of Indian family system like collectivism, sharing mentality etc need to be nurtured from generation to generation

Candidates must not write on this margin

18. The frequency of landslides in the Western Ghats have increased owing to various factors. Explain its devastating impact and critically analyse the mitigating measures adopted. (15 marks, 250 words)

Candidate must not write on this margin

12% of Indian landmass is vulnerable to landslide
 eg Wayanad landslide in 2024.

Factors leading to frequency increase

I. Natural factors

① cloud burst

eg Kavalpara landslide

② Unpredictable rain, cyclone oriented



II. Anthropogenic

① Unsustainable development

eg Vishnugad thermal plant → Joshimath landslide

② Geography not taken into account while development

eg sprawling of resorts in Wayanad area.

Devastating impact of landslide

Candidates
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write on
this margin

I. Ecological

- ① lead to soil erosion, loss of vegetation
- ② Destruction of natural Biodiversity of region.

II Anthropogenic impact

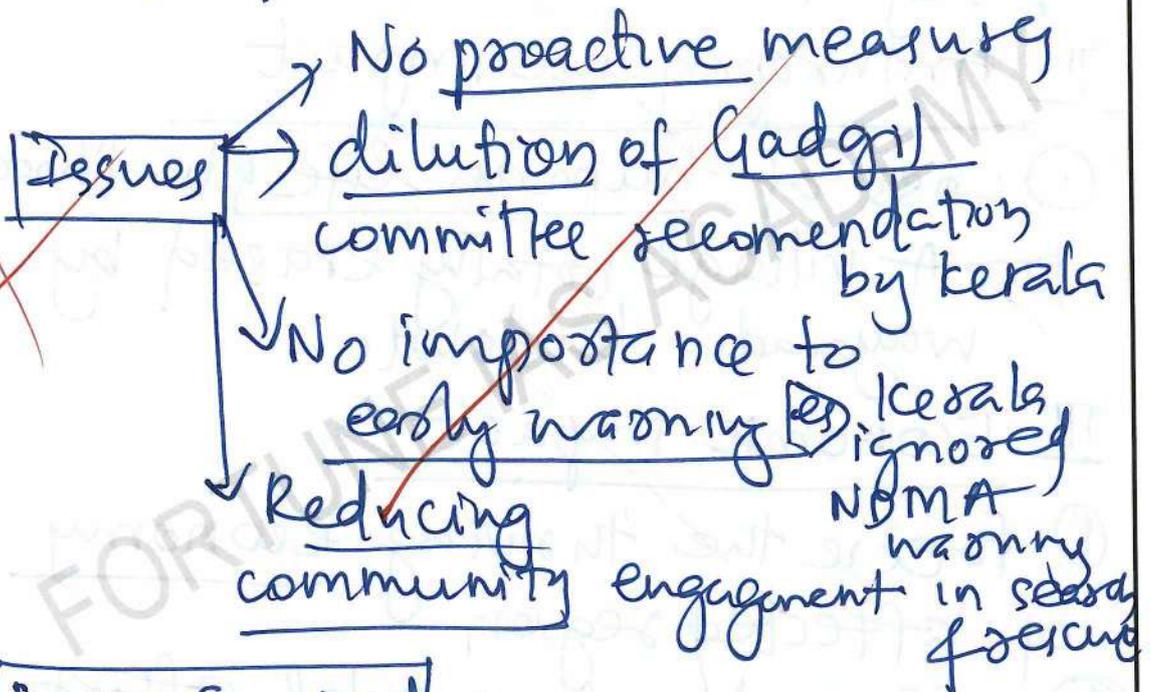
- ① Loss of human life & livelihood
eg → A village totally erased by wayanadu landslide.

III Economic impact

- ① Freeze the thriving economy of affected region
- ② Affect developmental efforts in region
eg → karalapara landslide affected tea industry in Idukki
- ③ Huge resources needed for search & mitigation
eg → shivpur landslide - 10 day search.

Mitigating measures

- ① ISRO landslide atlas
- ② Gadgil & Kasturji zangam committees
- ③ Stringent rules for construction in landslide area



Way forward

- ① Gadgil committee recommendation for prevention
 - ② Sustainable development
↳ Bamboo huts instead of roof
- Need to ensure no development zone (Gadgil committee) to prevent further disasters.

19. Examine the geographical distribution of critical minerals in India as well as the world and their importance for India's economic security in the context of the global push for clean energy. (15 marks, 250 words)

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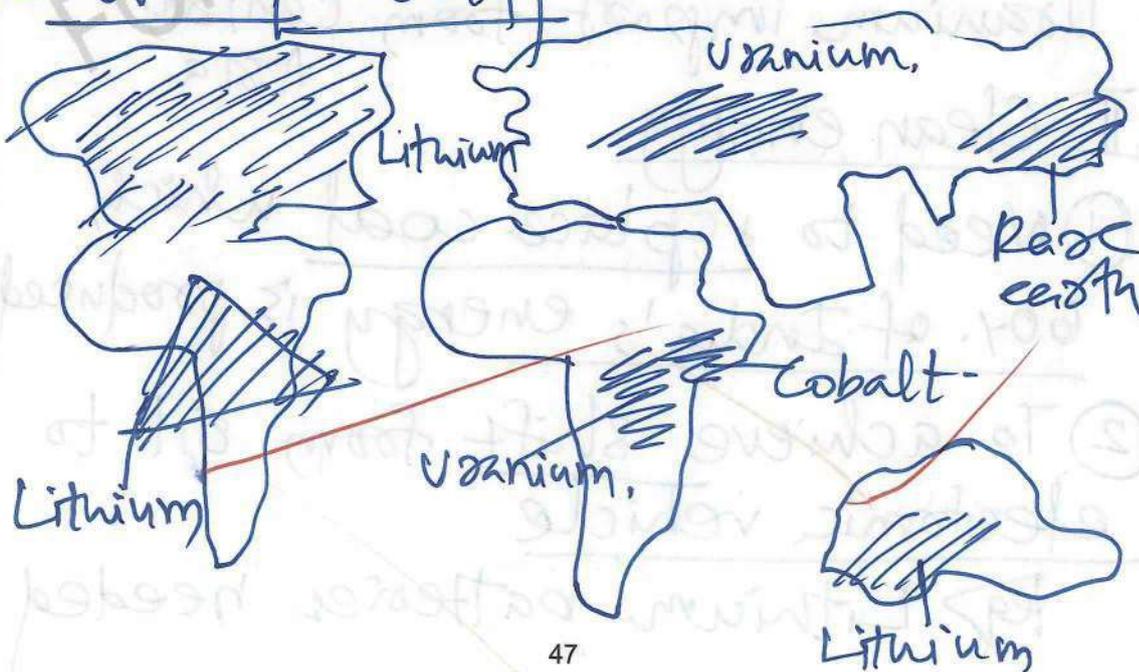
In the era of Industry 4.0, need for push of critical minerals has become a crucial factor for development.

Distribution of critical minerals

I India

- ① Thorium - Kerala Sand
- ② Uranium - Thummalapalle, Andhra
- ③ Titanium - in Kerala, west coast
- ④ Lithium - Keasi in Jammu, Karnataka

II India World



Importance of critical minerals

I. Economic security

① India Import dependence affect strategic autonomy

eg) 60% Rare earth from china

② Need of more critical minerals for new age technologies

eg) Germanium for semiconductor industry

③ Geopolitical crisis affecting India's economy

eg) Afghan-Taliban crisis affect Uranium import from central Asia

II Clean energy

① Need to replace coal which 60% of India's energy is produced

② To achieve shift from oil to electric vehicle

eg) Lithium batteries needed

- ③ Need to achieve panchamrit goals & net neutrality by 2070.
- ④ Achieve Atmanirbhar in clean energy
↳ Cobalt needed for critical parts of clean energy tech.

India's efforts

- ① India - Australia MoU for Lithium supply
- ② ICABIL - investment in Bolivia for Lithium
- ③ Pushing to stage 3 of nuclear energy to use Thorium in Kerala sand
- ④ MoU with Congo for Cobalt
- ⑤ Diversify import market

India need to push more to ensure clean energy to achieve 3 times renewable energy production pledge at COP 28

20. Indiscriminate levels of anthropogenic activity along with climate change have paved the way for India being an acutely water stressed nation. In this context, analyze the causes as well as mitigation measures to be adopted with special focus on Atal Bhujal Yojana. (15 marks, 250 words)

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India has 17% of population but only 4% of water resources of the world.

India being water stressed

I Anthropogenic activity - Causes

① Indiscriminate use of water resources.

eg → electricity subsidy
→ water pump 24x7

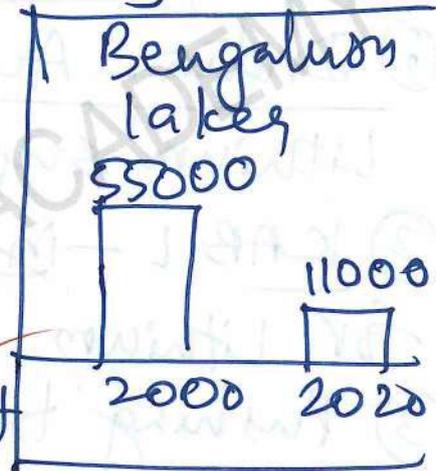
② Non climate resilient

cultivation eg Rice in semi arid punjab.

③ Increasing urbanization leading to destruction of water resource

eg Masadu flat case Kerala — above wetland

④ Destruction of wetland for development — 60% of wetlands



already destroyed

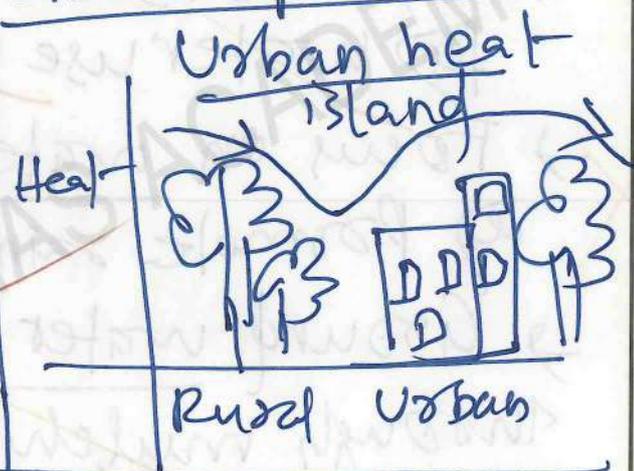
II Climate change

① Heatwave leading to faster evaporation & water stress

② Monsoon pattern disruption affect water availability

55% Tehsils in India experienced reduced monsoon

③ cloud burst, high rain induced cyclone affect water percolation



Mitigation Measures

① Focus on sustainable water practices

↳ Bamboo drip irrigation Meghalaya

② Promote schemes to ensure discriminate use of water

↳ Jal jeevan mission

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③ Revival of wetlands

↳ Mission Sahbhagata - 75 wetland per districts

④ Govt schemes

Atal Bhujal Yojana

→ Community engagement for water conservation

↳ water use committee

→ Focus on water conservation

↳ Promote rainwater harvest

→ Ground water replenishing through mulching

→ Ensuring safe drinking water for all

Ensuring water sufficiency is essential to achieve SDG 6 - Clean water for all