NEXT IAS (Head Office) : 27-B, Pusa Road, Metro Pillar no. 118, Near Karol Bagh Metro, New Delhi-110060
Bhopal Centre: Plot No. 46, ZONE-2, M.P. Nagar, Bhopal-462011
Ph: 8081300200, 8827664612 | E-mail : mts@nextias.com | Web: www.nextias.com

(To be filled by candidate)

Code : TC035

Name of Candidate : Jigyasu Agrawal

Roll No. : MT23FLTRA004

Registration Number : ..... Date of Examination : 18/06/2023

Exam Centre : Old Rajinder Nagar ☑ Bhopal ☐ Online ☐

MTS - Full Length Test (Plus)-1 : 2023

GENERAL INSTRUCTIONS

This Question-cum Answer (QCA) Booklet contains 56 pages. Immediately on receipt of the booklet, please check that this QCA booklet does not have any misprint or torn or missing pages or items, etc. If so, get it replaced by a fresh QCA booklet.

Candidates must read the instructions on this page and the following pages carefully before attempting the paper.

Candidates should attempt the questions strictly in accordance with the instructions specified in the question paper and in the space prescribed under each question in the booklet. Any answer written outside the space allotted may not be given credit.

Question paper will be provided separately and can be taken by the candidates after conclusion of the exam.

.....

SUBJECT/PAPER
GENERAL STUDIES

Invigilator's Sign. : .....

(For filling by Examiners only)

Evaluator Code :

Q.No	Pg No.	Maximum Marks	Marks	Total
1	1			
2	3			
3	5			
4	7			
5	9			
6	11			
7	13			
8	15			
9	17			
10	19			
11	21			
12	24			
13	27			
14	30			
15	33			
16	36			
17	39			
18	42			
19	45			
20	48			
Grand Total				

Signature

MACRO COMMENTS

IMPORTANT INSTRUCTIONS

CANDIDATES SHOULD READ THE UNDERMENTIONED INSTRUCTIONS CAREFULLY. VIOLATION OF ANY OF THE INSTRUCTIONS MAY LEAD TO PENALTY.

DONT'S

1. Do not write your name or registration no. anywhere inside this Question-cum-Answer Booklet.
2. Do not write anything other than the actual answers to the questions anywhere inside your QCA Booklet.
3. Do not tear off any leaves from your QCA Booklet, if you find any page missing do not fail to notify the supervisor/invigilator.
4. Do not leave behind your QCA Booklet on your table unattended, it should be handed over to the invigilator after conclusion of the exam.

DO'S

1. Read the Instructions on the cover page and strictly follow them.
2. Write your registration number and other particulars, in the space provided on the cover of QCA Booklet.
3. Write legibly and neatly. Do not write in bad/illegible handwritings.
4. For rough notes or calculation, the last two blank pages of this booklet should be used. The rough notes should be crossed through afterwards.
5. If you wish to cancel any work, draw your pen through it or write "Cancelled" across it, otherwise it may be evaluated.
6. Handover your QCA Booklet personally to the invigilator before leaving the examination hall.

Candidates must not write on this margin

Q.1 भारतीय दार्शनिक चिंतन का ताना–बाना उत्तरी भारत का उतना ही ऋणी है जितना दक्षिण भारत का। स्पष्ट कीजिए।
(150 शब्दों में उत्तर दीजिए) 10 अंक

The fabric of Indian philosophical thought owes as much to Northern India as to Southern India. Elucidate.
(Answer in 150 words) 10 Marks

Indian philosophical thought has develop-ed over centuries, with contributions from various regions of the country.

Contribution of North India

① Vedic philosophy, rituals, upnishads & Aryanaks etc were formulated by sages in the North.

② Rishi Kanada philosophy of Vaisheshika, which explained materialism and physicality of thing with the idea of anu {atom}.

③ Samkhya philosophy elaborated on the relationship between Paurush {self} and Prakriti {nature}

Candidates must not write on this margin

④ Buddha & Mahavira brought in the philosophies to bring change in society in the north.

⑤ In medeival period Kabirdas, Guru Nanak, Tulsidas provided new ideas to increase cohesion in society.

Contribution of south India

① Adi Shankracharya travelled from the South and propagated Advaitvada.

② Ramanujacharya gave the philosophy of Vishisht-advaitvada and Madhvacharya gave philosophy of Dwaitvada.

③ In medieval times, Basava came up with Lingayat philosophy.

④ Alwars and Nayanars propagated Bhakti philosophy.

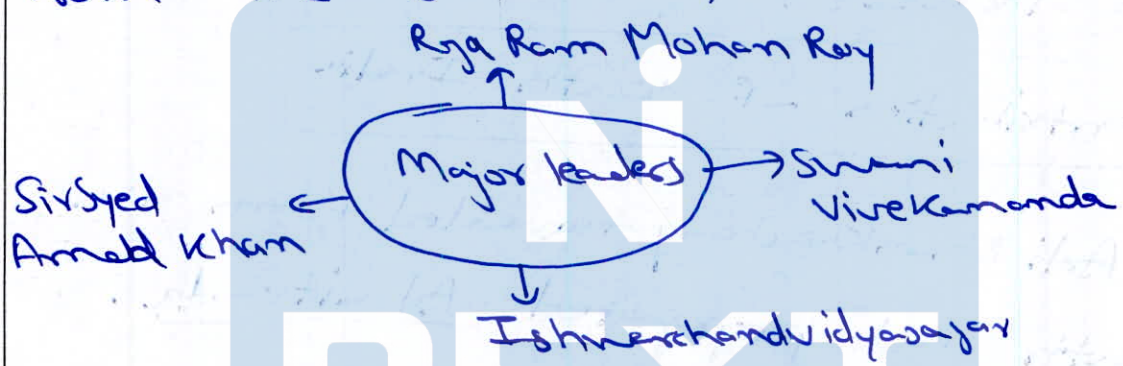
India has been a land of confluence of thoughts where diversity has always been respected.

Candidates must not write on this margin

Q.2 सामाजिक परिवर्तन और सुधार के लिए भारतीय समाज का आवेग औपनिवेशिक शासन के प्रति इसके विरोध की एक प्रतिक्रिया थी। परीक्षण कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

The Indian society's impulse for social change and reform was a response to its opposition to colonial rule. Examine. (Answer in 150 words) 10 Marks

Indian society went through its own phase of 'Renaissance' starting from the 19th century.



Seen as Response to its opposition to Colonial Rule

① Against 'White Man's Burden theory'

→ To showcase that we were capable of bringing change.

② To join pride in our ancient culture

→ (a) Revivalist movements like Arya Samaj.

Candidates must not write on this margin

③ To invoke sense of nationalism in Indian people

⇒ Ancient civilization with a much older and sophisticated history than the colonialists.

④ To counter divisive politics played by the British

(ex) Promotion of Ganga Jamuni Tehzeeb to counter communalism.

But, this impulse was result of other factors too:

① Realisation of weakness of our own society (ex) practise of sati, child marriage.

② Impact of modern education.

③ Impact of western political and philosophical ideas

(ex) Liberty, equality fraternity.

Thus, the zeal for reforms was a result of confluence of factors which resulted into larger changes in our society.

Candidates must not write on this margin

Q.3 रूसी क्रांति को प्रभावित करने वाले कारक कौन–कौन से हैं तथा इस क्रांति के क्या–क्या परिणाम हैं ? भारतीय राष्ट्रीय आंदोलन पर इसके प्रभाव की विवेचना कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

What are the factors that led to the Russian revolution and what are the consequences of this revolution? Discuss its influence on the Indian national movement. (Answer in 150 words) 10 Marks

Russian revolution (spanning from 1905-1917) was a political revolution to overthrow the Czarist rejime and establish a People's government.

Factors leading to the revolution

Long term factors

① Poor governance by the rejime.

② Oppression of peasants & workers

③ Failure to live upto expectations of 1905- promises

④ Expansionist zeal → economic poverty.

Short term factors

① Czarist decision to participate in the First World War.

② Socio-economic devast-ating effects of the war.

③ Coordination b/w Bolsheviks & Mensheviks

Candidates must not write on this margin

Consequences
① Withdrawal of Russia from the war
② Freedom to colonies
③ Immediate civil war b/w Bolsheviks & Mensheviks
④ Establishment of first communist regime in world
⑤ Further led to domino effect of spread of communism in Europe.

Influence on the Indian national Movement

① Establishment of communist Party of India. [CPI-1920]
② Trade union & peasant unions popularized in India. [AITUC-1920]
③ Influenced revolutionary thoughts
ex HSRA became communist oriented.

But the influence was limited

In scope due to: → Suppression by the British
→ Trade dispute bills
→ Fear in Indian capitalists.

Candidates must not write on this margin

Q.4 पृथ्वी की सतह पर तापमान के असमान वितरण के लिए उत्तरदायी विभिन्न कारकों की चर्चा कीजिए।

(150 शब्दों में उत्तर दीजिए) 10 अंक

Discuss the various factors responsible for the uneven temperature distribution on Earth's surface.

(Answer in 150 words) 10 Marks

There is significant variation of temperature on the surface of the earth, due to a combination of multiple factors:

① Earth's tilt on its axis: , Results in vertical and slanted rays, differential insolation, leading to variation

② Pressure belts : Result in differential precipitation impacting temperature

(Ex) Major deserts in mid latitude pressure belts.

③ Winds: Offshore winds bring maritime influence, reducing temperature in coastal areas.

Candidates must not write on this margin

④ Monsoon: Bring precipitation resulting in lowering of temperature on the surface of earth in India post June.

⑤ Latitude: As we move further away from equator, in general temperature tends to reduce.

⑥ Altitude: Higher altitudes have lower pressure and thus lower air temperatures

Anthropogenic factors have modified temperatures too

- GHGs emissions → modified weather patterns
- Urban heat island effect
- Deforestation → rise in temperature.

To counter extreme variations in temperature, we need to take mitigation & adaptation measures.

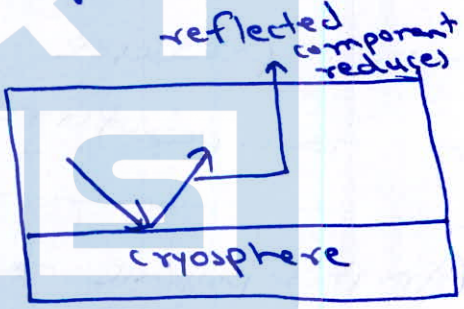
Candidates must not write on this margin

Q.5 जलवायु परिवर्तन के कारण हिमनदों के पिघलने का पारिस्थितिकी तंत्र और मानव समाज पर गंभीर प्रभाव पड़ता है। हिमनदों के पिघलने के कारण पर्यावरण पर पड़ने वाले प्रभावों और इस मुद्दे के समाधान के लिए किए जा सकने वाले उपायों पर चर्चा कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

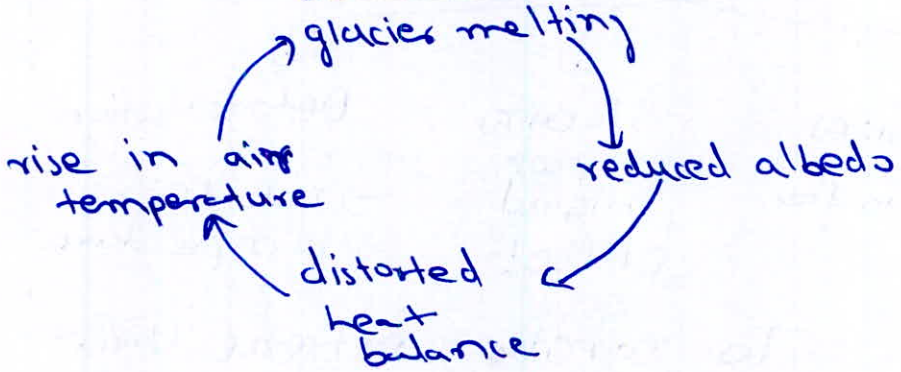
The melting of glaciers due to climate change has serious implications for the ecosystem and human society. Discuss the effects of melting glaciers on the environment and the measures that can be taken to address this issue. (Answer in 150 words) 10 Marks

IPCC's Sixth assessment report says that the acceleration in melting of glaciers due to global warming can cause significant disasterous impacts for ecosystem & human societies.

① Reduced albedo leading to distorted heat balance.



② Creates positive feed back loop (vicious cycle)



③ Hydrological impacts : Enhances runoff in rivers in short term, but

Candidates must not write on this margin

projected to decrease in medium to long term

(ex) Northern perennial rivers of India fed by glaciers.

(4) Natural disasters: Increased rate of extreme events like avalanche landslide, floods.

(5) Habitat loss & reduction in biodiversity

(ex) Snowleopards, Himalayan bear etc.

Measures that need to be taken

Mitigation	Adaptation
⊙ Carbon neutrality → reduce GHG emission	⊙ Ground water recharge structures
⊙ Reduce black carbon deposition on glacier	⊙ Artificial dams on glacial lakes
⊙ Localized solutions like geotextiles, ice stupa concept by Dr. Sonam Wangchuk	⊙ Creation of protected areas.
	⊙ Capacity building of local community

The 'Panchamrit goals' envisioned by PM Modi can help us address the issue of melting of glaciers.

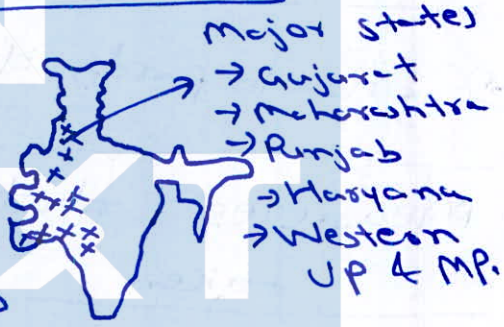
Candidates must not write on this margin

Q.6 श्वेत क्रांति भारत के पश्चिमी भाग में सर्वाधिक सफल रही। श्वेत क्रांति की इस क्षेत्रीय सफलता के कारकों की विवेचना कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

The White Revolution was most successful in the Western part of India. Discuss the factors for this regional success of the White Revolution. (Answer in 150 words) 10 Marks

White revolution also known as 'Operation flood' was a dairy development programm launched in 1970s. Though largely a success, it was more

Prominent in Western India:



① Financial capacity of farmers:

→ Medium to large farmers could afford additional inputs like naptha feed.

② Cooperative Movement: Like Amul, Sanchi were more successful and thus played a major role, in western states.

③ Presence of research institutes and extension centres

(ex) Central istitute of Goat research

(ex) Central institute of cattle research.

Candidates must not write on this margin

④ Built up on success of Green revolution in Western India.

⑤ Social factors like more literacy, better women empowerment, less poverty etc played major role.

⑥ Protection & development of local breeds like Red Sindhi, was more prominent here.

But certain challenges are being seen presently

① Health of cattle: Lumpy virus disease outbreak.

② Rising temperatures, lowering productivity of cattles.

③ Deteriorating financial health of cooperatives.

Way forward to replicate this success

① Focus on ruminants

② Mission Kamadhenu → Holistic development

③ Promote cooperatives, FPCs, awareness

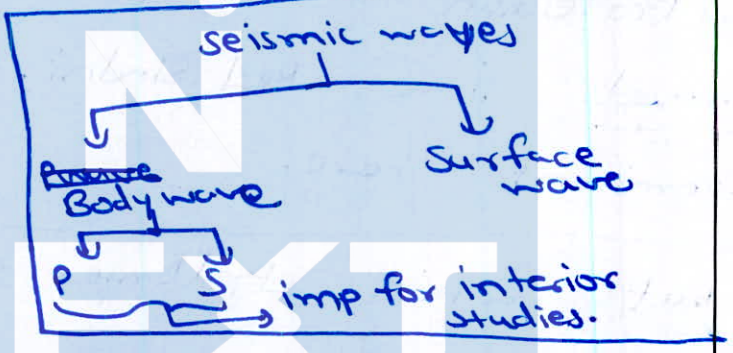
④ Capacity building including women empowerment.

Candidates must not write on this margin

Q.7 पृथ्वी की आंतरिक संरचना की हमारी समझ में भूकंपीय अनुसंधान किस हद तक योगदान करता है? इसके महत्त्व का विस्तार से विश्लेषण कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

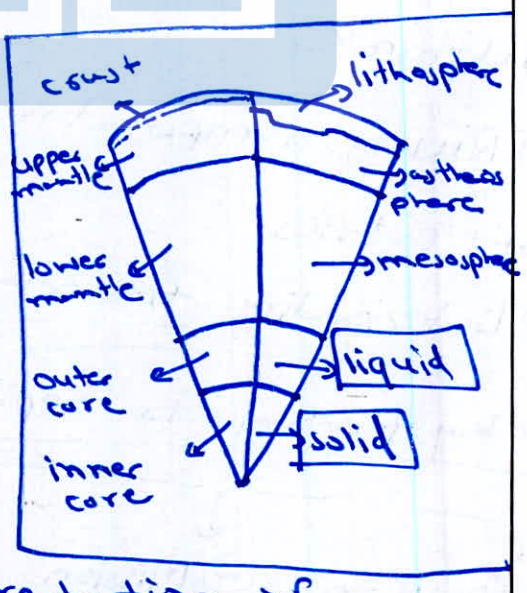
To what extent does seismic investigation contribute to our understanding of the Earth's interior structure? Analyze its significance in detail. (Answer in 150 words) 10 Marks

Seismic waves are mechanical waves that are generated by events inside the surface of the earth, travel outside and provide information about earth's interior.



Significance in Knowing interior of earth

① The velocity of P & S waves depend upon the rheology & composition of materials.



② The change in velocity helps in interpretation of discontinuous structure

ex Mohorovic discontinuity at core-mantle boundary.

Candidates must not write on this margin

③ S wave velocity becomes <u>zero</u> in liquid phase

→ Helps us know <u>outer core is liquid</u>.

④ P wave and S wave velocity decreases with fluidity in medium

→ Upper asthenosphere is fluid & hence lithosphere floats on it.

⑤ Composition & mineralogical polymorphs can be studied.

But there are certain limitations

① Shadow zones
→ certain areas do not recieve body waves {depending on angle

② Requires calculations & assumptions to simplify multiples

③ Chances of error are high due to anthropogenic reasons

They other sources are also used for interior studies → meteorites, asteroids, Coretogging, Xenoliths

Candidates must not write on this margin

Q.8 जनसांख्यिकीय संक्रमण की गति भारत के विभिन्न राज्यों में भिन्न–भिन्न है, जिससे जनसंख्या वृद्धि दोधारी तलवार बन जाती है। टिप्पणी कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

The pace of demographic transition varies across different states of India making population growth a double-edged sword. Comment. (Answer in 150 words) 10 Marks

According to UN, India recently became the most populous country. Also, we are going through a 'golden phase' of demography with a majorly young population.

But, the variation in demographic indicators across states is being seen as a double edged sword.

Positives of population growth

→ Young population in northern & central states → potential productive workforce

→ Decreasing TFR across states with southern states leading the trend.

→ Improving sex ratio in northern states.

Candidates must not write on this margin

But, the variation in these indicators, show some negative implications as well:

① Ageing southern states especially Kerala and Tamil Nadu.

② Declining child sex ratio in many states {NFHS-5 : 929}, indicates preference for male child.

③ TFR still high for states like Bihar & UP.

In view of these trends, we need a holistic population strategy

① Skill development of young population

② Internal migration policy to support ageing states.

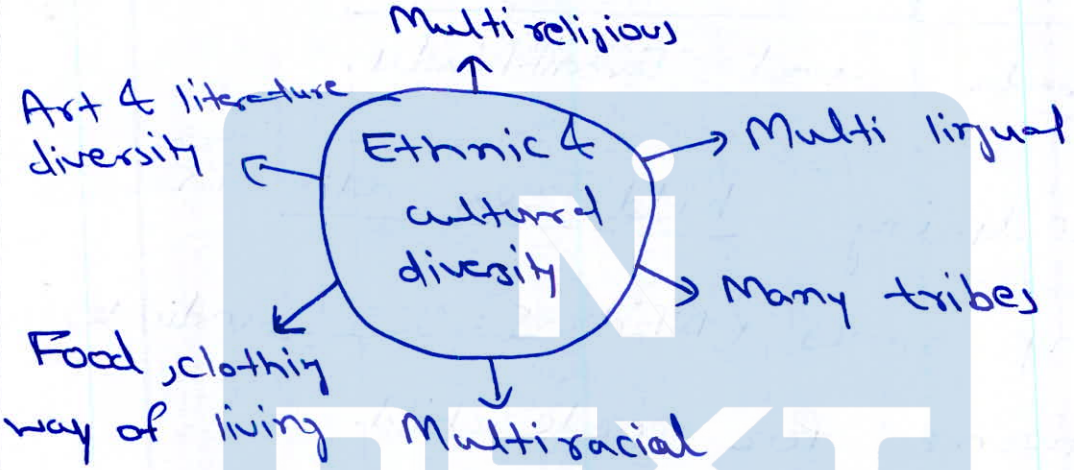
③ Beti Bachao, Beti Padhao and other such initiatives to improve child sex ratio. Through these we can achieve the objective of 'Viksit Bharat @2047'.

Candidates must not write on this margin

Q.9 भारत में नृजातीय और सांस्कृतिक विविधता हमेशा से एकता के सूत्र में बँधी रही है। भारत की सांस्कृतिक एकता में योगदान करने वाले प्रमुख कारकों की चर्चा कीजिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

The ethnic and cultural diversity in India has always been bound by the thread of unity. Discuss the major factors that have contributed to the cultural unity of India. (Answer in 150 words) 10 Marks

Indian society has often been described as having 'Unity with diversity'.



Despite this diversity, the

major factors contributing to unity:

① Shared History : through ancient, medeival and history of our freedom struggle.

② Constitution : A uniform yet an accomodating constitution throughout the country.

(ex) Article 1: 'Union of States', yet federal in character.

Candidates must not write on this margin

③ Monsoon : A major weather phenomenon which affects agriculture and way of life throughout the country.

④ Festivals and sports : Independence day, Republic day, Diwali, Holi etc are celebrated throughout the country along with harvest festivals

⑤ Economic unification after GST (one nation one tax).

Yet, there are challenges that are prevalent against our cultural unity:

Threats
- communalism
- casteism
- hate & divisive politics
- regionalism tendencies
- Terrorism & insurgency
- externally motivated threats

Way forward
- Respect for constitutional ideals
- Programmes like 'EK Bharat Shreshtha Bharat'
- Accomodating just demands through federalism.

Candidates must not write on this margin

Q.10 भारतीय समाज में विद्यमान सार्वजनिक और निजी जीवन में द्विभाजन जाति के उन्मूलन के लिए एक प्रमुख बाधा के रूप में कार्य करता है। औचित्यपूर्ण उत्तर लिखिए। (150 शब्दों में उत्तर दीजिए) 10 अंक

The dichotomy in public and private life in Indian society acts as a major barrier to the annihilation of caste. Justify. (Answer in 150 words) 10 Marks

Caste in Indian society is a hierarchial phen-omenon based on traditional occupational structures, and is often the cause of discrimination.

Various steps have been taken to annhilate caste from public sphere

① Constitution: provides for right to equality {Article 14, 15, 16, 17} to prohibit discrimination

② Representation of people's Act: Disqualification provision for practising untouchability.

③ Various laws like prevention of attrocities acts, IPC, CrPC to prohibit discrimination.

④ Eliminating segregation & promoting common & uniform behaviour in public spaces

ex common eating in Mid-daymeal scheme

Candidates must not write on this margin

Yet, there is a dichotomy with different standards being followed in private life by individuals:

① Refrain from eating and drinking together in private spaces.

② Casteist slurs are often used as abuses by many.

③ Violence, subjugation & even sexual violence more prevalent against schedule castes.

④ Refrain from sharing accomodation, renting houses, employing in private businesses.

In this regard following needs to be done to eliminate & annihilate discrimination

① Strict implementation of laws in private sphere as well.

② Sensitization of people towards discriminatory behaviour

③ Promoting 'Ek Bharat shreshtha Bharat'.

Candidates must not write on this margin

Q.11 स्वतंत्रता के बाद भारत को कई युद्ध लड़ने के लिए विवश किया गया था। हमारे द्विपक्षीय संबंधों पर भारत–पाक और भारत–चीन युद्धों के कारणों और प्रभावों पर प्रकाश डालिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

India was forced into numerous wars post Independence. Highlight the causes and impact of the Indo-Pak and Indo-China wars on our bilateral relationships. (Answer in 250 words) 15 Marks

Post Independent India, had to face numerous extend challenges in the form of wars:

Timeline

1948 — 1962 — 1965 — 1971 — 1999 —

Indo-Pak war	Indo china war	Indo Pak war	Indo Pak war	Kargil conflict

Indo-Pak wars: Causes & Impacts

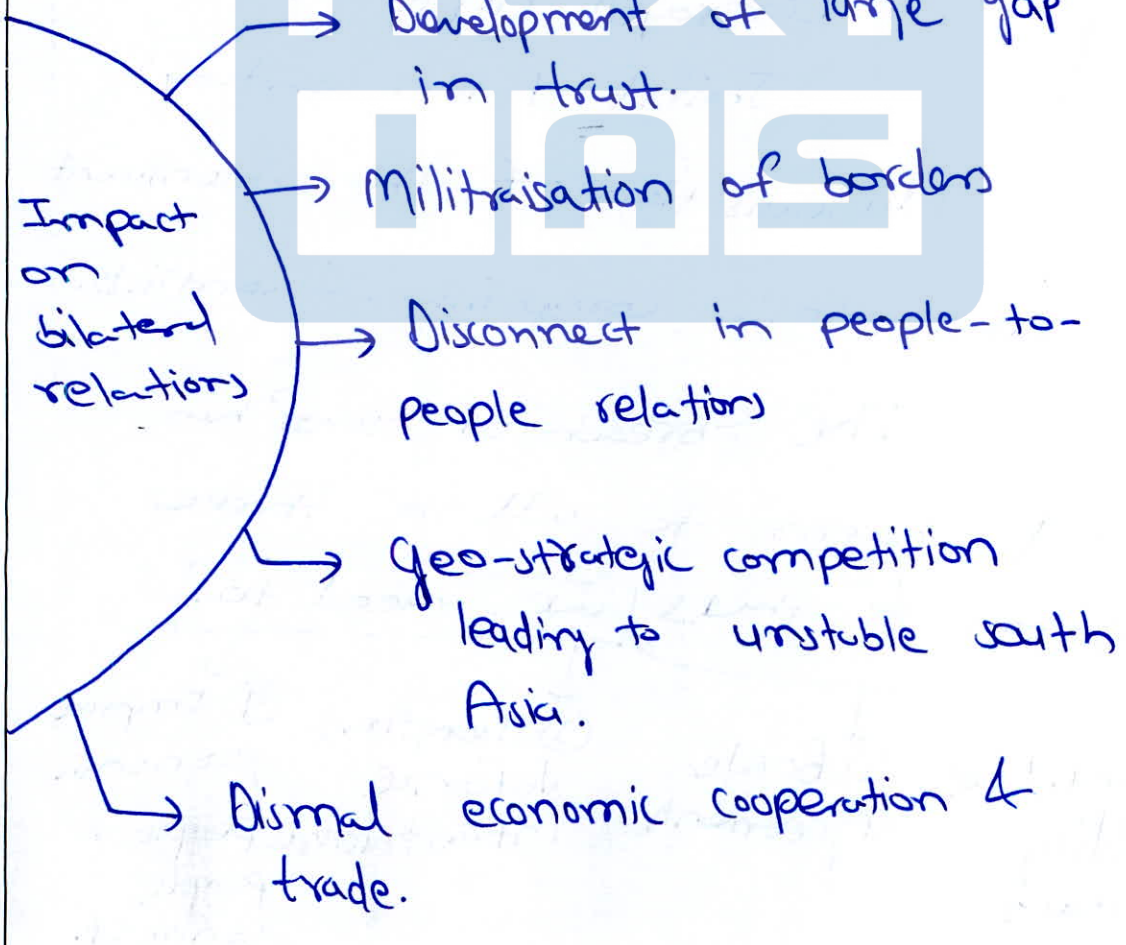
1948 war: Invasion of tribals from Khair-Pakhtunwa supported by PaK Army to overtake Kashmir.

1965 war: Pakistan's desire to occupy major portions in Kashmir & Rajasthan & Haryana.

Candidates must not write on this margin

1971 war : Ethnic cleansing in ~~Bang~~ East Pakistan leading to a migrant crisis, due to which India had to intervene ~~militarily~~ militarily.

1999 conflict : Unilateral agression by Pakistan to occupy commandi -ng heights on Kashmir



Candidates must not write on this margin

Indo-China war : 1962

Cause: Different perceptions about the International Border, leading to false Chinese claim on Arunachal Pradesh, Laddakh & Sikkim.

→ Unilateral agression across Mac-Mahon line.

Impact:
- Deep mistrust b/w the two neighbors
- Destroyed hope of a 'Joint Asian century'
- Nuclearisation of the subcontinent
- Geo-strategic competition & conflicts.

The 'breach of trust' has caused harm to all the three neighbors & thus **we need to:**

1. Confidence building measures
2. Border agreements
3. Strengthen defence infrastructure
4. Improve economic & people to people connect.

Candidates must not write on this margin

Q.12 बंगाल के समेकन की प्रक्रिया, जो प्लासी के युद्ध के बाद शुरू हुई तथा बक्सर के युद्ध में समाप्त हुई। क्या आपको लगता है कि अंग्रेज़ों के लिए प्लासी की तुलना में बक्सर का युद्ध अधिक महत्त्वपूर्ण था?

(250 शब्दों में उत्तर दीजिए) 15 अंक

The process of consolidation of Bengal, which started after the Battle of Plassey culminated in the Battle of Buxar. Do you think the Battle of Buxar was more important for the British than Plassey?

(Answer in 250 words) 15 Marks

Bengal was one of the first and most prosperous provinces captured by the British, through the Battles of Plassey and Buxar.

Battle of Plassey – 1757	Battle of Buxar – 1763
⊙ Fought between British and Nawab of Bengal Sirajuddaullah	⊙ Between the British and combined forces of → Nawab of Bengal → Nawab of Awadh → Mughal emperor Shah Alam

Battle of Buxar has often been deemed to be more important than Plassey because:

Candidates must not write on this margin

① While in Plassey, there was ~~virtually~~ virtually no major warfare, at Buxar, British military might got established.

② Dual government was established after Plassey in Bengal, but after Buxar, British got significant control over not just Bengal but also trading rights at many other places.

③ While Plassey victory resulted in economic gains, Buxar victory established British as political power in India.

④ The resources that British could muster after Buxar, helped them win other wars like Mysore, Carnatic, Maratha etc.

Candidates must not write on this margin

⑤ The deposition & transfer of 'Mughal emperor' from Delhi was a major symbolic victory for the British.

Yet, the Battle at Plassey had its own significance:

① First major victory for the British
② Got rights to issue Dastaks
③ Got Diwani rights in Bengal, Bihar & Orrisa.
④ Got Nizamat functions indirectly by nominating Deputy Subedar.

In summary, both the battles were important stepping stones for the East India company culminating into comple subjugation of many parts of India into the British empire.

Candidates must not write on this margin

Q.13 संस्कृत साहित्य सामान्य रूप से और विशेषतः गुप्त काल में प्राचीन भारत के साहित्यिक इतिहास के लिए एक उच्च मानक स्थापित करता है। विवेचना कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

Sanskrit literature in general and particularly in the Guptan age set a high watermark for the literary history of ancient India. Discuss. (Answer in 250 words) 15 Marks

Sanskrit is one of the most ancient languages of the world and many important texts ranging from religious texts, epics, stories, plays, poems and songs have been written in the ancient period.

High watermark for literature of ancient India

① Vedic literature: Involved one of the most ancient religious and philosophical texts of the world.

- Vedas
- Brahmanas
- Upnishads
- Aranyaks

② Epics: Ramayana & Mahabharata, the two most important literary and religious epics were written in Sanskrit.

Candidates must not write on this margin

③ Classical Sanskrit literature

⇒ This further involved literature from diverse themes and backgrounds

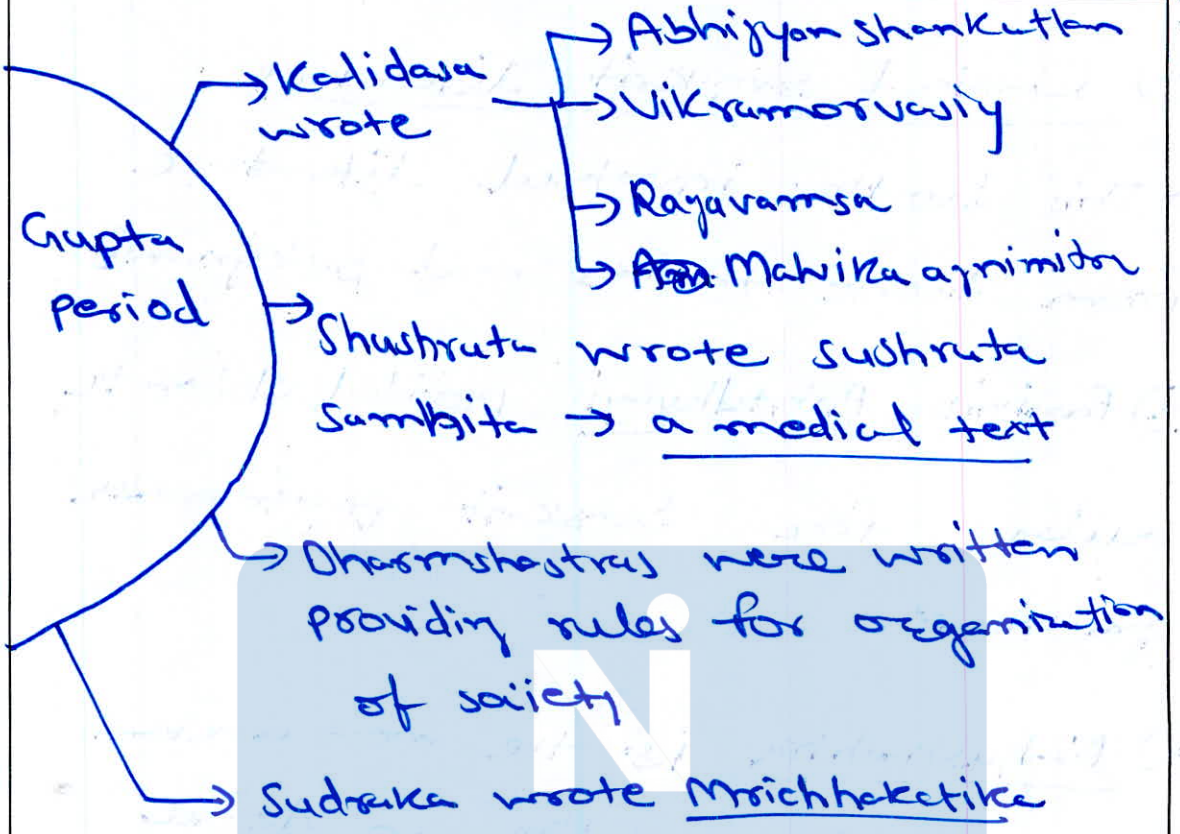
ⓐ Panini's Ashtadhyayi provided elaborate rules for Sanskrit ~~grammar~~ grammar.

ⓑ Natyashastra is the most ancient and elaborate treatise on dance and drama.

ⓒ Arthshastra of the Mauryan period provides elaborate account and ideas for administration by chanakya.

④ Scientific texts by Aryabhatta Mahaviracharya etc are important source of knowledge of the past Gupta period has been called as the peak golden period for Sanskrit literature:

Candidates must not write on this margin



Apart from this Sanskrit also led to development of other languages like Marathi, Gujarati, Hindi etc, with their own set of literature

Presently, there has been a decline in the standard of this language and hence following steps are needed:

1. Preservation of manuscripts.
2. Multilingualism in education
3. Separate boards and symposium for Sanskrit literature as provided by NEP.

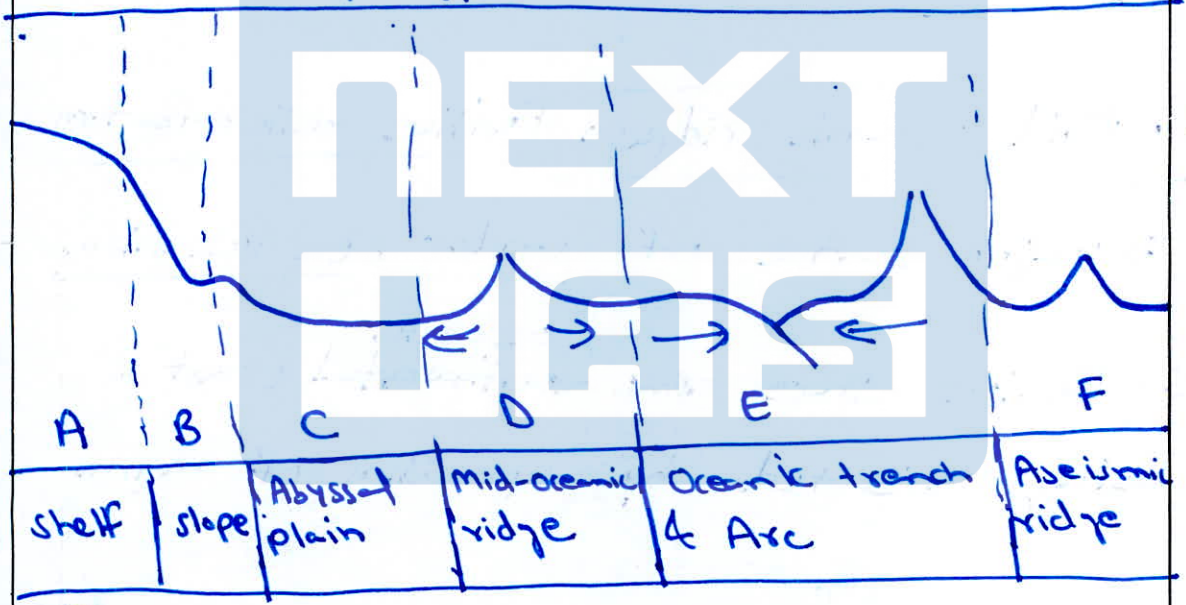
Candidates must not write on this margin

Q.14 महासागरीय नितल का विन्यास उन भूगर्भीय प्रक्रियाओं के बारे में आवश्यक जानकारी प्रदान करता है जिन्होंने पृथ्वी की सतह को आकार दिया है। महासागरीय नितल की प्रमुख विशेषताओं और समुद्र विज्ञान के अध्ययन में उनके महत्त्व की चर्चा कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

The configuration of the ocean floor provides essential information about the geological processes that have shaped the Earth's surface. Discuss the major features of the ocean floor and their significance in the study of oceanography. (Answer in 250 words) 15 Marks

In the 1950s, through sonar based exploration, it was discovered that the ocean floor is not featureless, rather its highly undulating.

Morphology of ocean floor



A&B Continental shelf and slope

→ Transitional areas from continental crust to oceanic crust.

Significance → Helps in understanding process of sedimentation, deposition, formation of canyons etc.

Candidates must not write on this margin

C. Abyssal plain : Undulating plain at base of oceans. It is formed through sea floor spreading taking place at spreading centres, i.e Mid oceanic ridges

Significance: Houses many benthic species, also deposits like polymetallic nodules, hydrocarbons etc.

D. Mid Oceanic ridges: Positive relief features

① Major centre of under sea volcanism

② Regions where new ~~continental~~ oceanic crust is being created by upwelling of magma

Significance : ① Helps in studying process of formation of early earth.

② Understanding the composition, nature & processes in Earth's mantle.

③ Very specific species which survive without oxygen.

Candidates must not write on this margin

④ Zone of economic deposits like cobalt crust, polymetallic nodules, metal sulphide deposits.

E. Oceanic trenches :. Deepest & Negative relief.

⊙ Major areas of consumption of crust.

⊙ Formed by subduction of oceanic crust underneath oceanic or continental crust

Significance : ① Major centres of volcanism & earthquakes of highest magnitude.

② To understand process of mountain building.

③ To understand formation & exploration of deposits of various metals.

F. Aseismic ridges : Ridges formed without seismic events.

⊙ Related to hot-spots (zone of excess heat in mantle)

Significance : → Helps in understanding plate tectonics & continental drift.

Candidates must not write on this margin

Q.15 दुर्लभ पृथ्वी तत्त्वों (दुर्लभ मृदा धातुएँ) की बढ़ती माँग के साथ, उनका वितरण वैश्विक अर्थव्यवस्था का एक महत्त्वपूर्ण पहलू बन गया है। वैश्विक स्तर पर दुर्लभ पृथ्वी तत्त्वों के वितरण, उनके उपयोग और उनके निष्कर्षण के पर्यावरणीय प्रभावों पर चर्चा कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

With the growing demand for rare earth elements, their distribution has become a critical aspect of the global economy. Discuss the distribution of rare earth elements across the world, their uses, and the environmental impact of their extraction. (Answer in 250 words) 15 Marks

Rare earth elements are those which are diffcult to be found as concentrated deposits. They include lanthanides like cerium, yittribium, niobium etc. In recent times their importance has increased significantly.

Global distribution of rare earth elements



Countries with major reserves of rare earth element

Candidates must not write on this margin

⊙ Apart from this, China presently dominates the supply chain of rare earth elements with more than 60% processing happening there.

Uses of rare earth

① Semiconductor chips are made up of elements, which are used in electronics, automobiles etc.

→ recently there was shortage of chips across globe.

② Renewable energy equipments : like permanent magnets use in wind energy turbines, solar panels, wiring etc.

③ Defence equipments : especially those using precision guiding technology like cruise missiles.

④ Medical devices like spectroscopy,

Candidates must not write on this margin

imaging devices etc. use rare earth elements. Thus rare earth elements are being deemed as 'new oil' and base of a low carbon world.

Environmental impact of extraction

① Radioactive pollution threat as often found alongside thorium.

② Involve sophisticated processing leading to green house gas emissions

③ Threat of aquifer pollution from mercury used in processing.

④ May have health impacts on workers involved in industry.

⑤ Issue of subsidence, deforestation etc associated with mining.

Thus we need to take multiple steps to secure supply

① Join critical mineral alliance of US

② Domestic production enhancement [Indian Rare earth limited

③ Research on safe practices.

Candidates must not write on this margin

Q.16 पहाड़ी राज्यों में पर्यटन, इस क्षेत्र की पारिस्थितिक वहन क्षमता से अधिक हो जाने का खतरा है। इस प्रवृत्ति के लिए योगदान करने वाले कारकों का विश्लेषण कीजिए और इस घटना के संभावित पर्यावरणीय प्रभावों का मूल्यांकन कीजिए। इन राज्यों में धारणीय पर्यटन को सुनिश्चित करने के लिए क्या उपाय किए जा सकते हैं?

(250 शब्दों में उत्तर दीजिए) 15 अंक

Tourism in the hilly states is threatening to exceed the ecological carrying capacity of the region. Analyze the factors contributing to this trend and evaluate the potential Environmental impacts of this phenomenon. What measures can be taken to ensure sustainable tourism in these states?

(Answer in 250 words) 15 Marks

Carrying capacity is the maximum burden on resources and ecosystem services that a region can bear by regenerating itself. In recent years, an increase in tourism in unsustainable manner has become cause of concern.

Factors contributing to this trend

① Rise in income levels → people can afford to travel.

② Improved connectivity : Chardham Highway, rail-air connectivity.

③ Lack of regulations : on number of tourists.

④ Revenge travel : as seen after covid lockdown.

Candidates must not write on this margin

⑤ Economic gains: Major economic activity for hilly states of Uttarakhand, Himachal Pradesh etc.

⑥ Mushrooming of hotels and hospitality industry.

This has been seen to result into following environmental impacts

① Unsustainable construction leading to subsidence of land.

(ex) Joshimath crisis

② Plastic pollution and poor waste management causing land & water degradation.

③ Deforestation to accomodate tourist infrastructure.

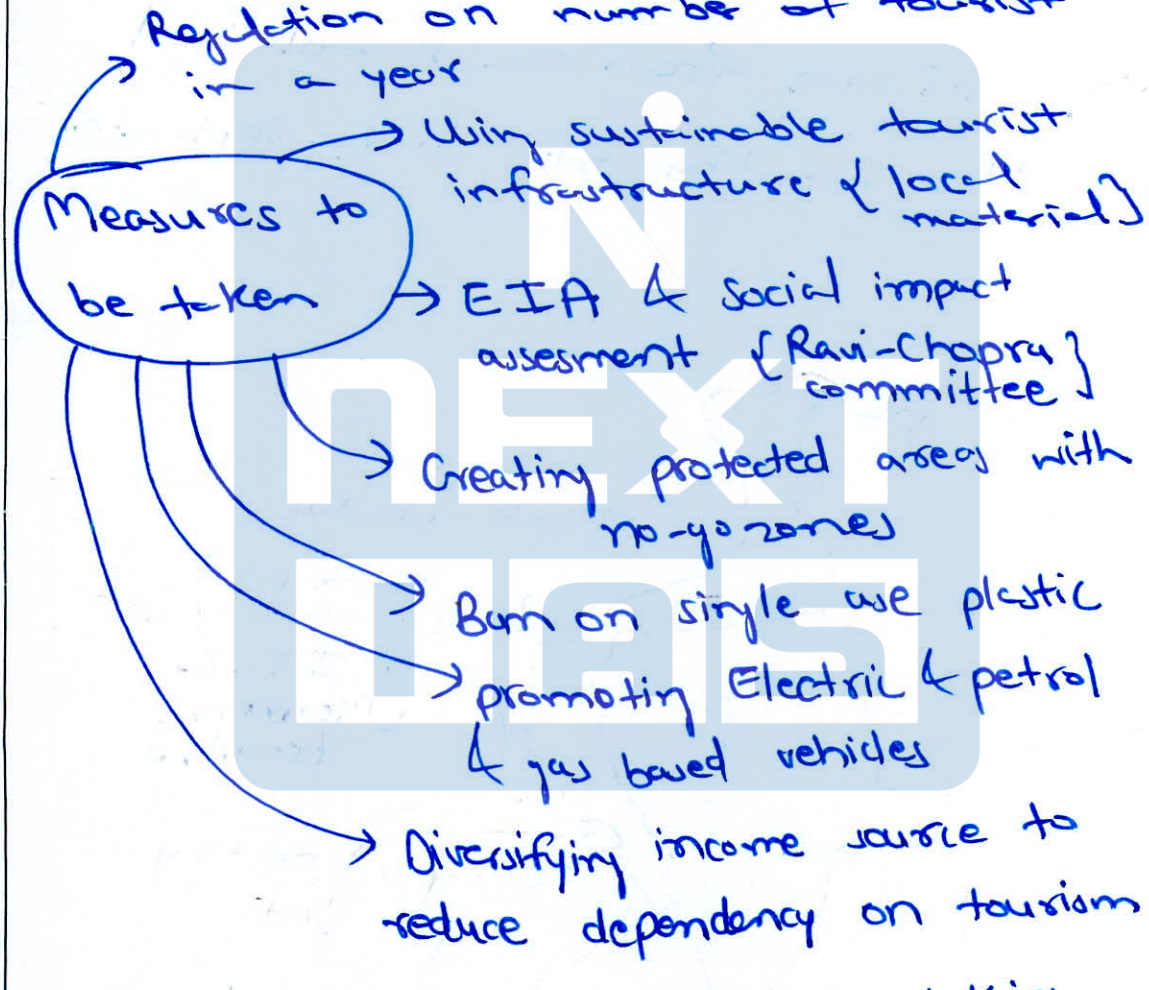
④ Enhanced GHG emissions & heat island effect

→ (ex) Heatwave in Shimla last year.

Candidates must not write on this margin

(5) Impact on biodiversity : increased man-animal conflict as seen with leopards and elephants.

(6) Increased vulnerability to natural disasters like landslides, floods etc.



NITI aayog has be taking National mission of Himalayan studies and is coming up with a policy on sustainable tourism which should be followed in these states.

Candidates must not write on this margin

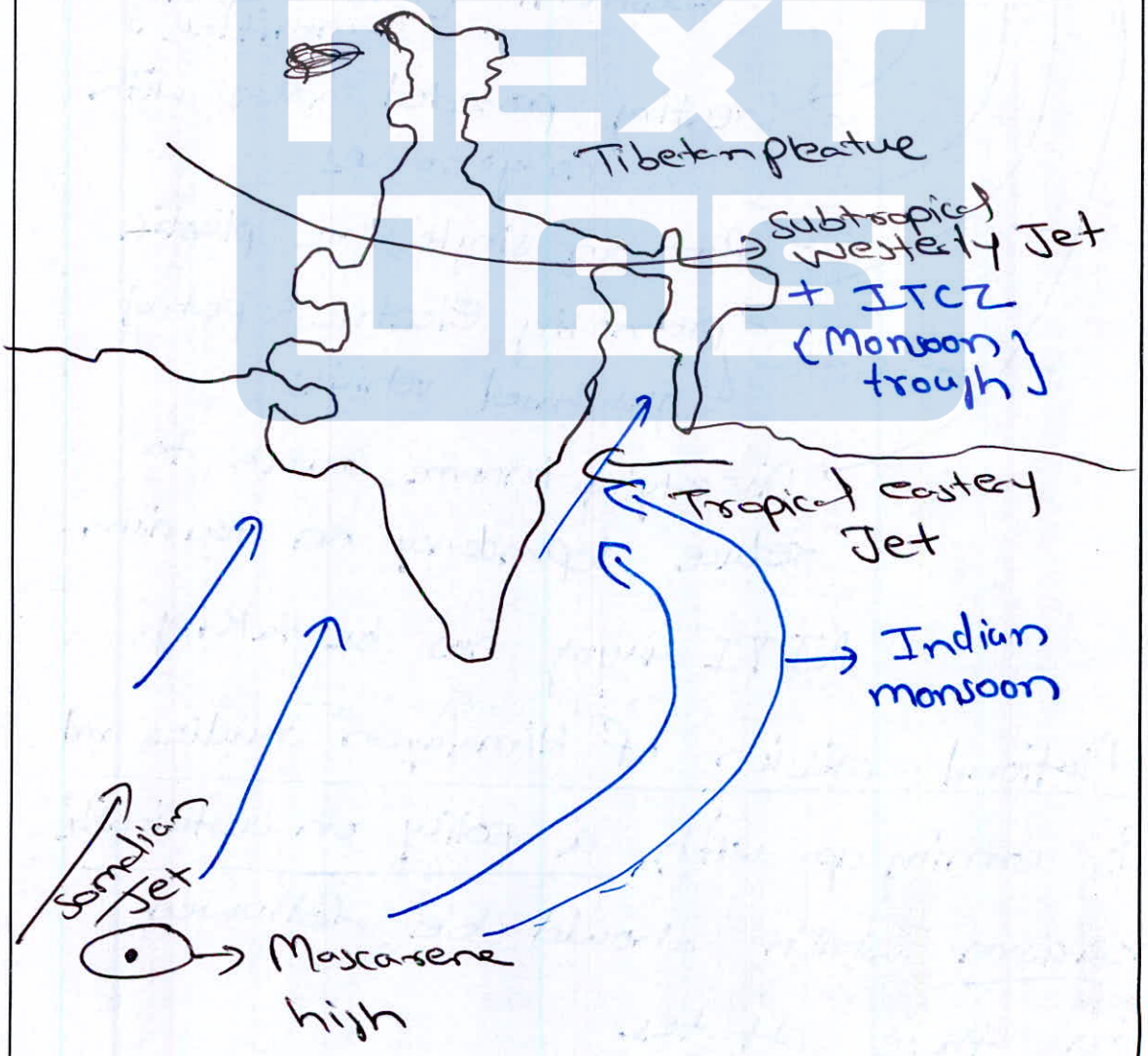
Q.17 भारतीय मानसून विभिन्न जलवायविक कारकों से प्रभावित एक जटिल परिघटना है। भारत में मानसूनी वर्षा की तीव्रता और वितरण के निर्धारण में महासागरीय और वायुमंडलीय कारकों की भूमिका का आलोचनात्मक परीक्षण कीजिए।

(250 शब्दों में उत्तर दीजिए) 15 अंक

The Indian monsoon is a complex phenomenon influenced by various climatic factors. Critically examine the role of oceanic and atmospheric factors in determining the intensity and distribution of monsoon rainfall in India.

(Answer in 250 words) 15 Marks

The phenomenon of monsoon involves seasonal reversal of winds, which carry moisture from sea towards land in the months of June- September.



Candidates must not write on this margin

Role of Oceanic factors

① El-Nino : Presence of warm water along Peruvian coast influences the walker cell leading to poor monsoon

② Indian ocean dipole : Differential heating of western and eastern Indian ocean impacts intensity of Monsoon.

③ La Nina : Warmer water on Indonesian coast & colder on peruvian → + for Indian monsoon.

④ Seasurface temperature : Warmer temperature results in heavier rainfall.

Candidates must not write on this margin

Role of atmospheric phenomenon

① Low pressure over Indian subcontinent (Monsoon trough → its movement decides break in monsoon)

② Subtropical westerly Jet: Uplift of its trough results in burst of Monsoon.

③ Tropical easterly & Somalian Jet → Intensify Monsoon

④ Mascarene high: propels winds towards India.

But other important factors are three too

- ① Himalayas → foothills recieve more rainfall
- ② Western ghats → more rainfall windward side
- ③ Rainshadow zone on other side
- ④ Tibetan plateau: its heating is important for Monsoon
- ⑤ Anthropogenic factors like GHG emission, deforestation, urban heat islands also influence monsoon.

Candidates must not write on this margin

Q.18 हमारे समाज में परंपराएँ परिवर्तन को क्यों बाधित करती हैं? प्राचीन रीति–रिवाज़ों पर आधारित मूल्य–मान्यताओं के विरुद्ध सामाजिक विधान किस सीमा तक सहायक हो सकते हैं? (250 शब्दों में उत्तर दीजिए) 15 अंक

Why do traditions in our society impede change? To what extent can social legislation be instrumental against old customary practices? (Answer in 250 words) 15 Marks

Traditions are rituals, practices which have become conventional and now have social sanctions behind them.

Many a times they seem to impede change.

① Social sanction behind them makes their following mandatory for individuals to be part of society.

② Confirmity with them brings acceptance, while opposition results in isolation.

③ Based on needs of times which may not be valid now.

ex tradition of caste based division of labour.

Candidates must not write on this margin

④ Are backed by informal social institutions like Khap panchayats..

⑤ Based on stereotypes, preconcieved notions, customary morality which may not be in conjunction with present day ethics.

(ex) Patriarchal attitude and discrimination against girl child.

But certain traditions help in bringing positive changes as well.

(ex) Image of girl child as godesses has helped curbe female feiticide.

Utility of social legislations against customary practices

① Legal sanction → fear of prosecution → confirms + behavior

(ex) female feiticide declined after PCPNDT act.

Candidates must not write on this margin

② Establishes new moral standards for people
ex ban on polygamy.

③ Creates awareness amongst people towards the right behavior
ex Property rights for women.

Yet there are certain limitations →
① Behavioural change requires Communication campaign
② Top-down approach doesn't always work
ex Population control measures failed in 70s
③ People become averse to change & retaliate. {Riots against Sabrimala Judgment}

Wayforward Along with legislation we need
① Communication campaigns
② Sensitization measures
③ Reward & punishment techniques
④ Politics & social organizations involvement ex NGOs.

Candidates must not write on this margin

Q.19 मलिन बस्तियाँ ऐसी 'समस्याएँ' नहीं हैं जिनका 'समाधान' किया जाना है – बल्कि वास्तव में, ये बुनियादी ढाँचे के प्रावधान और सामाजिक–आर्थिक मुद्दों को शामिल करने वाली असंतुलित और स्वार्थपरक नगरीय नीतियों का एक परिणाम हैं। विश्लेषण कीजिए। (250 शब्दों में उत्तर दीजिए) 15 अंक

Slums are not 'problems' that have to be 'solved' – but are indeed a result of lopsided and vested urban policies covering infrastructure provision and socio-economic issues. Analyse.

(Answer in 250 words) 15 Marks

According to the 2011 census, almost 16% of urban population lives in slums, with poor amenities.

Consequence of lopsided & vested infrastructure provisions

① Ignorance of peripheral areas while developing infrastructure

(ex) Slums on bank of Yamuna in Delhi.

② Mostly migrant population in slums → not part of vote bank, thus ignored.

③ Housing infrastructure : lack of proper housing, with focus on high rise buildings

④ Lack of sanitation infrastructure.

(ex) Dharavi slums.

Candidates must not write on this margin

Consequence of faulty socio-economic policies

① Poor identification of benificiaries

→ (ex) Migrant population don not have ration cards.

② Lack of dedicated migrant policy at Union as well state level.

(ex) Seen during covid lockdown induced migrant crisis

③ Imbalance regional development: across country as well as within states

But simultaneously, slums have

mushroomed due to other reasons:

① Illegal migration across borders

(ex) Kolkata Salt Lake slums

② Rural urban divide in development

③ Agriculture distress

④ Lack of gainful employment opportunities in home areas.

Candidates must not write on this margin

In this regard government has undertaken the following steps:

① One nation one ration card.

② One card two dispensaries scheme

③ Aayushmaan bharat card for all

④ Right to education.

⑤ Swachh Bharat Abhiyan → sanitation infrastructure

⑥ PM Awas Yojana - slum redevelopment component.

Further to resolve the problem following additional steps can be taken:

① Skill mapping and provision of employment at home states.

② Regut Regularization of certain colonies with urban amenities.

③ PURA model by Dr. APJ Abdul Kalam.

Candidates must not write on this margin

Q.20 साम्प्रदायिकता आर्थिक अभाव से बल प्राप्त करती है, और सामाजिक बहिष्कार के वातावरण में फलती–फूलती है, जिससे असंतोष और विभाजन के लिए उर्वर भूमि तैयार होती है। टिप्पणी कीजिए।

(250 शब्दों में उत्तर दीजिए) 15 अंक

Communalism gains strength from economic deprivation, and thrives in environments of social exclusion, creating fertile ground for discontent and division. Comment.

(Answer in 250 words) 15 Marks

Communalism involves putting interest of one community over that of the nation and also involves hatred for other communities.

Gains strength from economic deprivation

① Inequality leads to have's and have nots → feeling of discrimination

promote communalism ← used by unsocial/ anti-national & immoral politicians

ex Muslim league propagated this idea during freedom struggle.

② Other communities are blamed for economic deprivation of one's community → creates discontent and hatred.

Candidates must not write on this margin

③ Economic deprivation → leads to less incomes → less investment in human capital → low skills, jobs awareness → Economic deprivation

fertile ground for communalism

Thrives from social exclusion

① Often minorities are forced to live in closely knit ghettos → limits interaction with other communities → creates mistrust → live in closely knit ghettos.

② Social exclusion also inhibits intellectual and nationalistic developments.

③ Provides fertile ground for anti-national, conservative elements for cognition capturing.

Candidates must not write on this margin



To counter communalism, a holistic strategy is needed:

① Use of provisions of RPA, IPC to curb hate politics and speeches.

② Social development of communities
Ex PM Minority development programme

③ Economic development & involvement of minorities
Ex Seekho aur Kamao, Nai Udaan, Nai Taleem schemes.

④ Social cohesion through community programmes Ex Ek Bharat shreshtha Bharat.

Candidates must not write on this margin

Rough Work