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(To be filled by candidate)

Code : TC071

Name of Candidate : YASH KANWAT

Roll No. : PTTP 220323

Registration Number : ..... Date of Examination : 2/8/23

Exam Centre : Old Rajinder Nagar ☑ Bhopal ☐ Online ☐

MTS IGP Batch 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

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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.

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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 Subcontinent has been birthplace of several philosophical thoughts which have enriched our society and the world at large.

Philosophical thoughts in Northern Indian

1.) Vedic philosophy originated in the northern part at gangetic valley

2.) The origin of Buddhist and Jainism in the region also contributed to the febric.

3.) The Bhakti movement gained impetus in Northern India due to various voices like Kabir, Guru Nanak, Mirabai, Lal Ded

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4.) origin of sufism and several sufi orders like Chisti, Qalandhars etc.

Philosophical thoughts in Southern India

1.) The Sangam Age and the sangam assemblies held between 300 BC - 300 AD

2.) Philosophies of Ramanuchariya had a huge impact in growth of philosophical thought.

3.) Alvars and Nayanars gave boost and started Bhagvatism.

4.) Lingayats and Basava sect also contributed not only to Philosophy but brotherhood

The Kashi-Tamil Sangam highlights the combined efforts of North & South India in expanding Philosophical fabric

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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

The colonial rule due to its oppressive policies provided an Heterogenic source and impulse for societal change & reform.

Colonial Rule as impulse for social change and reform

1) Realisation of lack of unity.
   - ↳ India getting under control of colonial EIC.
   - ↳ reform to bring unity lead to origin of Indian National Congress

2) Backwardness of Indian society as cause for defeat.
   - ↳ social reform & change in the 19th & 20th century

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↳ upliftment of women and reducing caste untouchability.

3.) Lack of modernisation in industries and technology.

↳ Due to deindustrialisation and flooding of machine made British goods

↳ voice for swadeshi enterprices, setting up of industries.

4.) Foreign nature of colonial rule

↳ social reform for swaraj

↳ Demand for independence.

5.) Ideas of humanism and rationality

↳ to counter backwardness in situations tying India down

↳ ideas of equality, liberty

These reforms and change hence ~~proved~~ paved way to counter colonial rule and bring swaraj.

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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 occured in 1917 in the Tsar dynasty ruled Russia and had far reaching influence & consequence.

Factors that led to Russian Revolution

1) Reverse of Russia in war against Japan.

2.) Delayed Industrial Revolution when it happened all over Europe.

3.) Economic hardships due to involvement in world war I.

4.) Mismanagement by Tsar king during the war.

Consequences of Revolution

1.) Removal of Tsar and setting up of formal government.

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2) Nationalisation of land and economy.

3) Spread of communist and Marxist Ideology.

4) Establishment of USSR as one of the superpower.

Influence of Russian Revolution on Indian National Movement

1) Broke the myth of white supremacy
   ↳ due to defeat of Russia at hand of Asian country Japan.

2) Influenced ideologically
   ↳ 1920s saw rise of marxist and socialist ideologies

3) Setting up of Communist Party of India in 1925.

Therefore, Russian revolution is a watershed event in history having far reaching influence.

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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

The varied ecosystem and presence of different organisms having different temperature requirement highlights unevenness in temperature distribution on Earth's surface.

Factors responsible for uneven temperature distribution

1) Shape of Earth and tilt on its axis
   - ↳ Geoid shape
   - ↳ 66½ degree tilt with axis of revolution

2) Rotation and Revolution around the Sun.
   - ↳ ensure constant change in ~~heat~~ insolation.

3) Latitudinal change affects insolation intensity
   - ↳ Higher latitude slant sunrays reduces intensity and temperature.

Candidates must not write on this margin

4.) Altitudinal change : higher ~~latitudes~~ altitudes have lower temperature.

5.) Mix of land and ocean mass.
- Northern Hemisphere have higher uneven temperature distribution
- Southern Hemisphere being homogenous have lesser variation.

6.) Air Pressure systems also affect temperature.

7.) Ocean currents alter temperature of coastal areas.
- eg: cold Peruvian current

8.) Continentality effect reduces moderating influence of sea and land breeze.

9.) Albedo affects the reflection of insolation thereby making temperature distribution uneven.

Recent phenomenon of Anthropogenic activities are also affecting temperature distribution which needed to be controlled to arrest global warming

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

As per Artic Region report card 2022, the glaciers are melting twice as fast as in 2000. This have serious implications for ecosystem and human society.

Climate change as driver of melting glaciers
- → global warming
- → ozone hole
- → feedback loop due to decreased albedo.

Implications of melting glaciers on human society

1.) Contribute to rise in sea water level.
- ↳ affects coastal population livelihood.
- ↳ can default in climate refuge.
- ↳ loss of social ties

2.) Affects Infrastructure due to rise in devastating events
- (Eg) cyclone biparjoy. (feedback loop mechanism)

Candidates must not write on this margin

3.) Reduce in ocean current circulation can affect bio diversity. can hamper fishing and aquaculture industry.

4.) Possible resurrection of harmful pathogen.

Effects of melting glaciers on environment and ecosystem

1.) Act as multiplier force for climate change.

2.) Can damage coral bio diversity
- ↳ increased sea level
- ↳ increased extreme events.

3.) Reduce carrying capacity of ecosystem.

4.) Distruction of Habitat of various flaura & fauna
- ↳ Eg: Polar bears and Penguins

Measures to arrest melting glaciers

1) Reversing Climate change and global warming.
2) Shift from fossil to renewable energy
3) Adherence to CoP 15 (Paris) commitment
4) Afforestation activity & sustainable agriculture

Global cooperation is need of the hour as the problem affects global society.

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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 refers to steps and policies taken that promoted increased production in milk output making India not only self sufficient but a net exporter.

Reasons for Success of White Revolution in Western Part

1.) Increased dividends from success of Green Revolutions enabled farmers to invest in animal husbandry.

2) support from leaders and Chairmanship of Verger Kurise.

3) Well established ecosystem of Cooperatives helped in achieving economies of scale.

4) use of tech enabled to optimise output and quality.

Candidates must not write on this margin

Factors for regional success

1) Green revolution bypassed Eastern India.
   - ↳ no economic dividends reaped.
   - ↳ technology remained at pre green revolution level.

2) Cooperative system was marred with Problems.
   - ↳ Politicisation of cooperatives
   - ↳ non existent in some part of country.

3) Subsistence level of Agricultural activity dominated in other parts
   - ↳ did not have enough output to reach economies of ~~scale~~ scale.

The creation of Ministry of Cooperation as well as reforms in agriculture sector can ensure the benefits of white revolution reaches other part of country also.

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 investigation involves study of patterns and behaviours of seismic waves to understand Earth's interior.

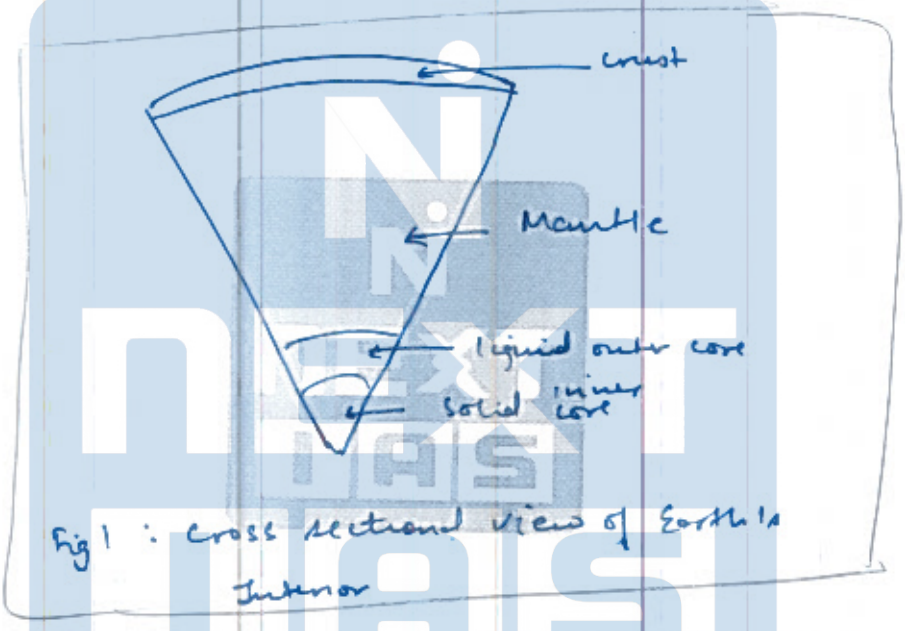


Fig 1 : Cross sectional view of Earth's Interior

Seismic investigation role in understanding Earth's interior

1.) P waves having characteristics
- first to be recorded
- passes through all medium
- shadow zone between 105°-145°

2.) S waves having characteristics
- second to be recorded
- passes through only solid medium
- shadow zone between 105°-105°

Candidates must not write on this margin

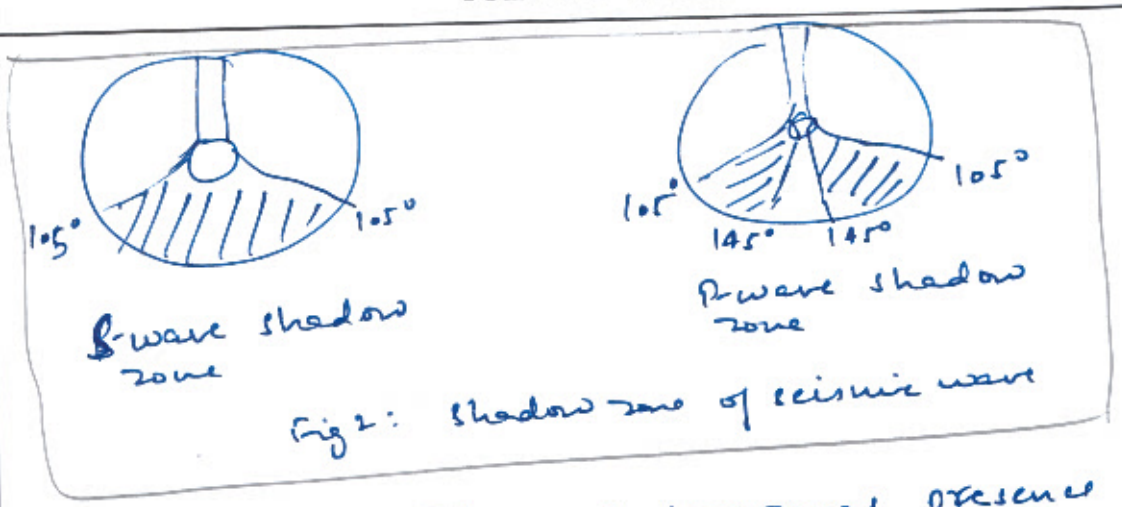


Fig 2: Shadow zone of seismic wave

Extent of seismic wave investigation

- → shadow zones presence highlights change in medium
- → S-wave shadow zone highlights outer liquid core.
- → P-wave shadow zone highlight inner solid core.

Limitations

1.) Material composition is unknown

2.) Temperature and Pressure distribution not possible.

3.) Boundary extent of inner material change

Other sources such as mining, drilling activities, volcanic activity and magnetic and gravity anomaly can enrich our understanding about Earth's Interior

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

As per UNFPA, India has crossed China to become the most populous nation.

Another report by UNFPA highlights that India's population growth will be till 2063.

NFHS-5 have however highlighted that India has attained replacement rate of 2.1 in population growth.

However, this replacement rate is not uniform. States like Kerala, Tamil Nadu have recorded replacement rate below 2.1.

whereas, states like UP, Bihar and Chhattisgarh have recorded on higher side of the 2.1 rate.

This highlights varied pace of demographic transition across different States of India.

Candidates must not write on this margin

Varied Pace of demographic transition as double edged sword for population growth

1) States with high fertility rate are also states with low human development index.
   - ↳ decreased education and health outcome affects future productivity
   - ↳ low skill will force to work in informal low paying jobs

2) Federal issues can arise
   - ↳ Delimitation of Lok Sabha and Rajya sabha based on 2026.
   - ↳ Finance commission using 2011 census
   - ↳ there will reduce incentive for birth control measures.

3) Lack of opportunities may lead to migration from populous to low population states ↳ can fuel sons of soil and promote disharmony.

There is need to reap economy dividend before India attains its peak. Investment in health, education and skill needs to operate and collaboration between states of India

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

Despite having ethnic and cultural diversity India as a notion have withstood for 7 decades showing the thread of unity that binds us all.

Major Factors that have contributed to cultural unity

1) Religious philosophies
   - ↳ Hinduism: Jarva Dharma Sambhav
   - ↳ Bhakti & Sufism preached brotherhood
   - ↳ Buddhism, Jainism, Sikhism promoted equality & fraternity

2) Shared values of Indian freedom struggle.

3) Constitutional safeguards in form of Fundamental Rights and Federalism

Candidates must not write on this margin

4.) Centre of culture cutting across region promotes unity.

5.) Reorganisation of states based on language.

However, there are certain challenges:

1) Rising communalism and hatred.
2) Rising secessionist tendencies (Eg Khalistan.
3) Regionalism in form of sons of soil.
4) Increasing regional inequality.
5) Role of non state actors to promote disharmony.

ways to uphold unity

1) Territorial integrity as precursor to unity.
2) Equal representation and reducing governance deficit.
3) Promoting fraternity and inclusive development

Unity is therefore important as 'united we stand, divided we fall'.

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 system is ascriptive system based on birth. It creates a segmented and hierarchical society.

However, phenomenon of untouchability and its related disabilities have perverted the system. As a result Dr BR Ambedkar called for annihilation of caste to create Egalitarian ~~for~~ society

Dichotomy in public & ~~Pvt~~ Private life as barrier to annihilation of caste

1) secular public life with reduced caste role.
However, Private life is still followed by caste rules.

2) Public organisation have ~~caused~~ reduced role of caste for joining.

Candidates must not write on this margin

However, in private life caste organisations have reinforced caste ties.

3.) Relations in public life are determined by secular factors like job, class etc.

However in private life relations like marriage are still done on per caste.

4.) Untouchability have become non-existent in public life.

However in private domain untouchability practices still practised.

5.) Public infrastructure is free for all irrespective caste.

Private infrastructure such as community halls are based on caste identity

To annihilate caste one needs to promote value based education, awareness about ills of caste system.

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 Independence, India has been forced into numerous wars to protect its integrity and sovereign territory. Out of these India saw major wars with Pakistan and China

Causes for Indo-Pak wars

1) History of Partition and associated communalism.

2) On the issue of Kashmir.

3) 1971 war due to liberation of Bangladesh to prevent inward migration of erstwhile East Pakistan citizens.

4) Kargil war to claim Indian Territory

5) Policy of Pakistan to 'bleed India with thousands cuts'.



Fig 1: Border of India

Candidates must not write on this margin

Impact of Indo-Pak war on Bilateral Relations

1) Strained relations between both nations.
2) Issue of PoK and CPEC corridor affecting sovereignty.
3) Trade have been on the lower sides.
4) Breakdown of diplomatic channels due to infiltration and terrorist attacks.
5) Constant tension at borders.

Steps taken to improve Bilateral relations

1) Kartarpur Sahib corridor
2) Formation of SAARC as multilateral platform to engage.
3) Friendly visits by PM to improve ties.

Causes of Indo-china War

1) Independent India having lower strength in armed forces taken advantage by China.

Candidates must not write on this margin

2) Aksai Chin as strategic location.

3) Chinese incursion in Indian Border.

4) Chinese action on Arunachal Pradesh affecting sovereignty.

Impact of Indo-China wars on bilateral relations

1.) Competition increased in trade and not security provider role.

2) Confrontation as seen in Galwan valley clash, Increased status of India seen as threat by China, QUAD formation.

3.) Collaboration in multilateral phenomenon and platforms such as SCO, BRICS, AIIB.

Since one cannot chose his neighbours like one can choose his friend. India needs to collaborate on issues which affects the interest of all nations as a starting point to build on credible bilateral relations

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

1857 and 1864 saw British decisive wins in Battle of Plassey and Battle of Buxar respectively.

Battle of Plassey as start of Bengal consolidation

1) Defeat of Nawab of Bengal in Battle
2) Installation of dummy king in form of Mir Jafar and later Mir Qasim.
3) Gained access into revenue rich Bengal.
4) No European power to challenge British
5) Duty free trade and Diwani rights gained.

Candidates must not write on this margin

Battle of Buxar as Culmination of Bengal Consolidation

1) Decisive victory against nawab of Bengal, Awadh and Mughal king.

2) Supremacy in Bengal established by Britishers.

3) Dual rule established in Bengal.

Battle of Buxar as more important than Battle of Plassey

1) Battle of Plassey saw only defeat of Nawab of Bengal.
Battle of Buxar also saw defeat of Nawab of Awadh and Mugal king

2) Battle of Plassey replaced only the nawab that provided concessions to East India company (EIC).

Battle of Buxar established dual rule system with entire control under EIC.

Candidates must not write on this margin

3.) Battle of Buxar instilled confidence in EIC to expand beyond economic trade and started territorial conquest.

However, Battle of Plassey also holds importance for Establishment of EIC rule.

1.) First battle which saw defeat of major power at the hand of EIC troops.

2.) Provided an early blueprint of divide and rule (a) Mir Jafar was offered nawab position to ensure defection.

3.) Provided access to rich resources of Bengal to fund future wars and conquest.

Hence, both Battle of Plassey and Battle of Buxar marks an important watershed event that helped in future colonial rule.

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

Literary history of India is marked with rich depository ranging from symbols of Harappan time, to inscriptions of Maryan period, Sanskrit literature and synthesis of Indo-Islamic literary sources.

Sanskrit literature as source of literary history

1.) Source of extent of kingdoms.

2.) Tells us about economic and political history of Ancient and medieval India.

3.) Religious sources
   - (Eg) Buddhist literature of Mahayana Buddhism.

4.) ~~boast~~ As a source of construction

Candidates must not write on this margin

activity.

↳ (eg) Shaka ruler – reconstructed sudarshan lake

Sanskrit literature during Guptan Age set high water mark

1.) Role of Kalidasa

↳ Poems : Malvikaagnimitra
↳ tells about agnimitra of shunga dynasty

↳ short stories : Abhijanshakuntalam
↳ still referred to as one of greatest written literary piece

↳ Drama : Mudrarakshas
↳ provide insight about chandragupta maurya

2) 9 luminaries in the court of Vikramaditya
↳ contributed to growth of sanskrit

3) Prayag Prashasti : Eulogy written in sanskrit by courtsan of Samudragupta

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5) Mahabhashya of ~~Patanjali~~ Patanjali as a commentary on Panini Astrithdhayi.

6) Contribution in Science and domain of astronomy written in Sanskrit

↳ Aryabhatta Samhita

↳ works of Vrahamira

↳ works of Banabhatta

7) Contribution in sanskrit through numismatics

↳ Gupta age coins marks golden age in numismatics.

Therefore Sanskrit literature as a general source and materials heighd during Gupta age contributed immensly in literary history.

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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 महत्व 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

Ocean floor configuration study began in the 1940s to help in understand the evolution and formation of Earth's surface.

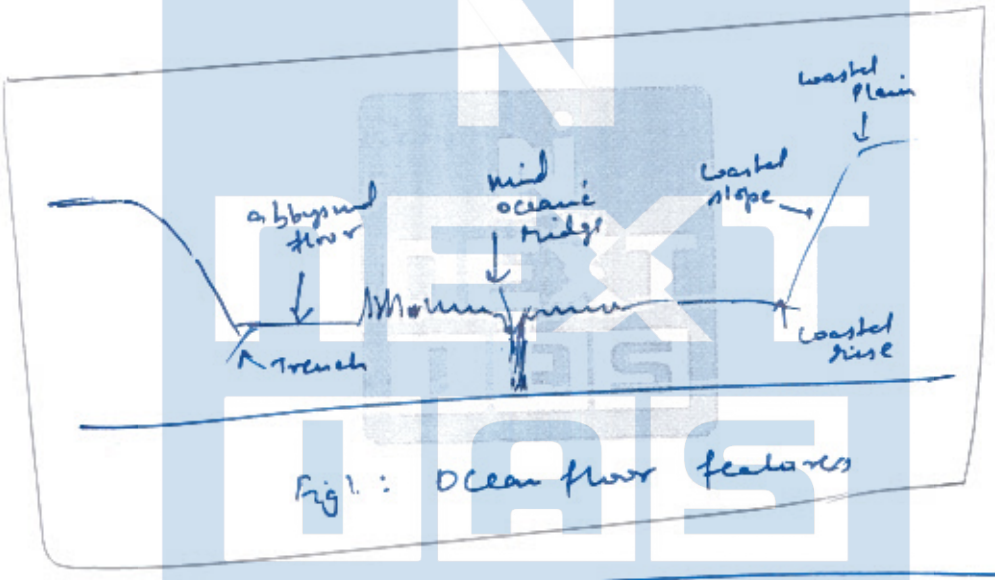


Fig 1. : Ocean floor features

Configuration of ocean floor as a source of information about geological proces

1) Continental crust is older than sea/oceanic crust.
   ↳ shift from earlier theories.

2) Mid oceanic ridge causing expansion of oceanic floor by outpouring lava.

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3) Age of rocks increase as one moves away from Mid oceanic ridge.

4.) Rocks on equidistance on either side of ridge show equal properties in terms of age, composition and magnetic properties.

5.) Abbysmal floor have lower sedimentation compared to Coastal ~~plain~~ plain.

6) Shift from earlier theory of movement of continents on sea as proposed in continent drift theory.

Major Features of ocean floor and their significance

1.) Mid oceanic ridge
- ↳ source of expansion
- ↳ outpour lava act as source to study interior of Earth
- ↳ formation of volcanic structures.
- ↳ cause deep & shallow Earthquakes

Candidates must not write on this margin

2) Rocks formed around mid oceanic ridge
   - ↳ source of Palaeomagnetic history
   - ↳ show the change in magnetic characteristic of Earth.

3) Trenches eg : Mariana Trench
   - ↳ seen as zone of subduction.
   - ↳ helps in our understanding of Earth's surface.

4) Coastal plain and coastal rise.
   - ↳ Integrated zone between continent and ocean floor
   - ↳ Zone of maximum biological activity.

5) Sea mount and volcanic mountains
   - ↳ shapes movement of water
   - ↳ source of diastrophic geomorphic process.

Therefore, ocean floor study have helped us enrich our knowledge about Earth's surface and geomorphic processes.

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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 refers to group of 17 elements of Periodic table. They are called rare earth elements despite being available in quantifiable quantity due to the nature of their extraction which is complicated.

The push for Industrial Revolution 4.0 and use of rare earth elements have increased their demands.

Distribution of Rare Earth Elements

1.) China have 60% of Rare Earth Elements

2) India have only 3% of global share.

3) USA has 2nd largest share after China.

4) Central Asian countries and Latin American

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nations have sizeable share.

5) Presence of rare earth elements in ocean floor.

Uses of Rare Earth Elements

1.) Used in making strong magnets

(eg) Neodymium

2) Use in space sector for building spacecraft components.

3) Use in semiconductor chips and manufacturing quantum computers.

4.) Use in rising and emerging technologies

eg: Drone, AI and ML machines

5) Potential use in defence sector to upgrade efficiency and effectiveness of weapons and defence sectors.

6.) To harness potential of renewable source of energy.

Candidates must not write on this margin

(g) – solar panels, EV – cars and charging Infra

Environmental impact of their extraction

1.) Requirement of huge quantity of fresh water at time of water crisis.

2) Air pollution during mining.

3) Sea and river pollution

4) Deforestation due to mining activities

5) Displacement of local communities.

6.) Disturbance in ecosystem.
- affecting flora & fauna
- destruction of habitats

7) Destruction of Mangrove and coral ecosystem.

Sustainable practices should be employed while extracting rare earth elements to reduce negative externalities and ensuring sustainable growth.

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

As per NITI Aayog reports, increased tourism and unsustainable tourist practices are affecting and exceeding ecological capacity of hilly states.

Factors contributing to the trend

1) Climate change induced global warming
   - ↳ summer season hotter in plains.
   - ↳ people go for hilly areas
   - (e.g.) Shimla booked fully in advance in 2022.

2) Increasing tourist infrastructure
   - ↳ Rise in number of hotels, stayings and restaurants.
   - ↳ Putting pressure on available resources.

3) Expanding connectivity infrastructure
   - ↳ increasing road length → weaken hilly structure
   - ↳ high ways

Candidates must not write on this margin

4) Rising disposable income of population
   ↳ increased savings give avenue to trips in hilly area by large people.

5) Demand explosion due to covid-19 restriction

Potential Environment Impacts

1) Increased construction activities reduces structural integrity of hills
   ↳ Landslides instances occuring more.
   ↳ landslip

2) Pressure on existing resources
   ↳ (Eg) Ladakh have fresh water problem due to unregulated use by tourist and hotels.

3) Plastic and solid waste in hilly area
   ↳ (Eg) Kedarnath saw huge amount of solid waste

4) Increase in hill temperature
   ↳ due to deforestation for construction

Candidates must not write on this margin

5) Increased extreme events
   - Eg) Cloudburst chamoli, Uttrakhand floods

6) Affect Biodiversity of hilly areas
   - Himalayas house to several endemic species
   - light pollution affect behaviour
   - increased animal-man conflict
   - reduced habitats.

Steps to ensure sustainable Tourism in Hilly Areas

1) Environmental Impact assessment before construction activity
2) Increasing awareness among tourist.
3) Ensuring proper waste disposal management.
4) Afforestation and retention wall to reduce landslide and soil erosion.
5) Taxing small amount from tourist to supplement environmental support activities.

Sustainable tourism is essential to ensure livelihood and biodiversity of hilly state people and location.

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

Monsoon refers to seasonal reversal of trade winds that brings rainfall in the Indian subcontinent -

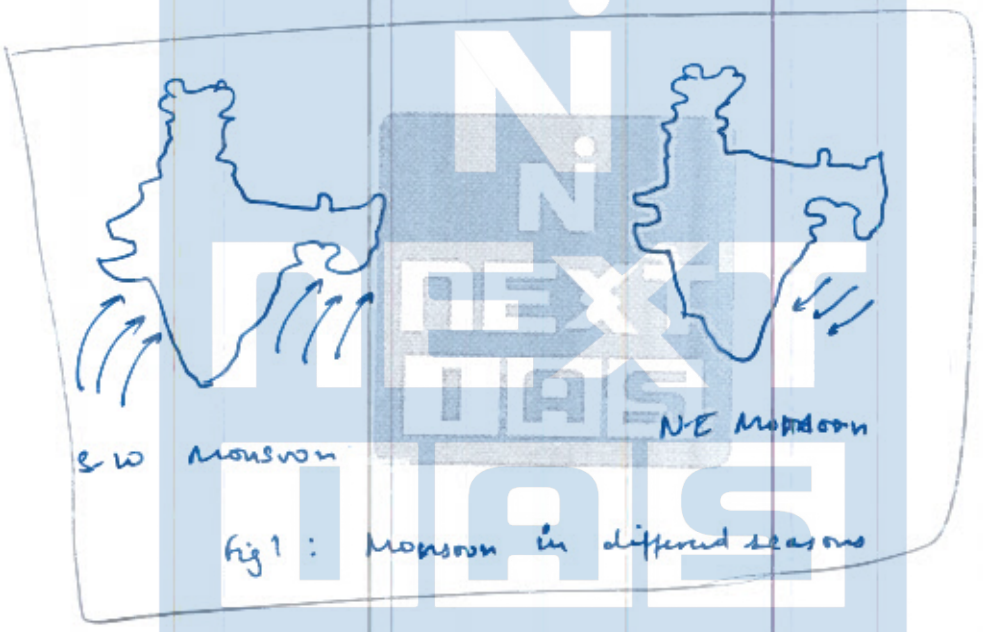


Fig 1 : Monsoon in different seasons

Indian monsoon is a complex phenomenon influenced by various climatic factors like oceanic circulation, jet streams, insolation pressure belts.

Candidates must not write on this margin

Role of oceans in Determining intensity of monsoon and its distribution

1) La Nina
   - ↳ above normal heating of western Pacific and above normal cooling of central and eastern pacific
   - ↳ support high intensity of rainfall.
   - ↳ can lead to flood also.

2) EL Nino
   - ↳ weakened Walker cell
   - ↳ West pacific ocean become cold east & central pacific become warm
   - ↳ reduced intensity of monsoon
   - ↳ drought in N-W India.

3) Indian Ocean Dipole
   - ↳ positive phase supports high rainfall.
   - ↳ negative phase supports low rainfall.

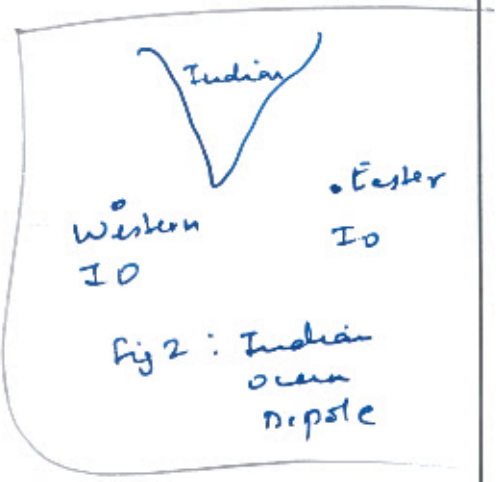


Fig 2: Indian ocean Dipole

Candidates must not write on this margin

Role of Atmospheric factors in determining intensity and distribution of rainfall

1) Westerly jetstream
   - ↳ brings western disturbance during winters.
   - ↳ ↑ rainfall and snow in Northern India

2) Sub Tropical easterly jetstream
   - ↳ withdrawal towards north supports high rainfall

3) Heating of Tibetan Plateau
   - ↳ Proper heating creates excessive low pressure increase wind intensity
   - ↳ influence monsoon strength.

1) Mascerene Pressure difference affects intensity of monsoon.

Having influence on agriculture and other sector of society. Proper understanding of monsoon is essential to predict its nature, intensity and distribution.

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

The recent objection by traditional and religious scholars against recognition to same sex marriage under special marriage act. Highlights, role of traditions in impeding social change.

Why do traditions impede change

1) Traditions are based on past practices. Have sentimental values attached to them.

2) Promotes status quo by objecting change.

3) Change is seen as attack on Tradition. Therefore, resisted.

4) Change tries to bring change in traditional authority. This is seen as negative by followers of traditions.

Candidates must not write on this margin

5) To maintain social institutions.

(Eg) Same sex marriage is seen as breakdown of marriage institution having large ramification on society later on.

Social legislation refers to Reforms brought in from society itself having moral backing

Social legislation as tool of change against Age old tradition

(A) Extent of success

1.) Having the force of present day morality against morality of past

(Eg) Homosexuality - victorian concept made it offence

2.) Coming within from society have higher chances to reform traditions.

3.) Based on consultation among society members will have wider perspective.

Candidates must not write on this margin

(B) Limitations of social legislation

1) Do not have force of law.
   ↳ may not allow action against non compliance.

2) May not bring substantial change as society members may be conservative

3) Traditional authority may have drafted legislation → will show biasness towards traditions

Way Forward

1) Education as driver of change

2) Legal laws and jurisprudence to bring change (Eg) Navtej Johar case decriminalised Homosexuality

3) Constitutional morality (Eg) Sabrimala case

4) Awareness about benefits of change need to shared among society members.

Indian society's strength in the past and at present has been its ability to adapt while retaining its good traditions.

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

Slums as per UNDP refers to dilipited conditions habited with low sanitation.

- Issues with slums
  - lack of sanitation
  - illegal encroached areas
  - areas of deviancy due to lack of job opportunities
  - slum dweller have low acces to social security
  - put pressure on existing resources.

- Benefits of slums
  - source of affordable labour
  - Habitation to migrant labour force with low capital
  - economic powerhouse potential
    - eg Dharavi of Mumbai

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Slums as result of lopsided urban policies

1) Lack of proper planning before expansion of urban areas

2) Increased cost of construction increases cost of living in houses.
   ↳ push to slum dwelling as cost effective.

3) Unchecked encroachment leads to development of large scale slums.

4) Policy of free resources for political consideration increases slum occupancy.

5) lack of stakeholder involvement while planning solves concern of few and leave larger population behind.

6) Source of affordable labour in informal economy reduces social security cost of employer. vested interest of employer seen in delayed action against encroachment

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Since, slum dwellers have the potential to increase economy output at the same time have right to life and dignity following steps can improve their conditions.

1) Redevelopment of slums
   - eg) Dharavi redevelopment

2) PM- Awas Yojana (U) → to ensure housing condition

3) Swachh Bharat Abhiyan → to ensure sanitation and clean environment

4) Skill and vocational training to increase their potential.

5) Proper stakeholder approach in future urban planning.

India's achievement of SDGs depends on its ability to improve slum also. Slum therefore need to be seen as 'not problem' but 'as potential'.

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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 refers to ideology of loving one's community based on identity such as religion over larger society.

Communalism gaining strength from economic Deprivation

1.) Creates inequality between communities

2.) To overcome inequality one resorts to extreme policies.

3.) Creates diametric opposition between economically prosper and economically deprived.

4) Gain of one community is seen as loss of other community.

5) Extremist elements bank upon these division to promote hatred and

Candidates must not write on this margin

gain strength.

Communalism thriving in social exclusion

1) Social exclusion promotes gated societies and ghettoisation.

2) Member of one community is unaware of ideals and values of other community.

3) Social exclusion also acts as impediment in economic development & prosperity.

4) Migration in lieu of non existent opportunities leads to slums.
   - ↳ become source of exclusion
   - ↳ broken window syndrome
   - ↳ deviancy

5) Increases distances between culturally accepted goals and means to achieve them

6) Communalist elements hence utilise social exclusion do increase communalism.

Candidates must not write on this margin

Social exclusion and economic deprivation together create fertile ground for discontent and deviation.

As a result people resort to violence, communalisation of politics, extremism and secessionist tendencies

Ways to counter - communalism

1) Inclusive development to reduce economic deprivation
2) Promotion of fraternity and integrity to reduce social exclusion
3) Separation of religion and politics
4) Improving standards of health, education and skill development.

Tackling communalism is necessary to uphold the integrity and inclusive character of Indian society.

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Space for Rough Work