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GENERAL STUDIES (TEST CODE : 1066)

Name of Candidate	Ravi Pushnoi		
Medium Eng./Hindi	English	Registration Number	371410
Center	Online.	Date	16/9/18.

INDEX TABLE			INSTRUCTIONS
Q. No.	Maximum Marks	Marks Obtained	
1	10		1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
2	10		1" #3 (") 7, - / 0+1 / " 2 34 (" 678 /) 9 #4, #2 (" 9
3	10		2. There are TWENTY questions printed in ENGLISH & HINDI
4	10		F.) 100 #4 " 672 H 10 17 100 1K # 62
5	10		3. All questions are compulsory.
6	10		10 #4 " 293 5/62
7	10		4. The number of marks carried by a question/part is indicated against it.
8	10		10 #4 N H (" 24 " , (" ,) / " 100 H 10 62
9	10		5. 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 medium other than the authorized one.
10	10		14 4 (" 1 " , 10 10) 1 100 1 / " , 10 10 (" 100
11	15		2 # (" #34 " L < ") 1 10 5 " 15 " 672 17 , ") 10 (" 8/5 " 100
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14	15		10 , 10 10) 1 100 H 10 1 " # (1 2 4 " / 6 10 10 10
15	15		6. Word limit in questions, if specified, should be adhered to.
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17	15		10 10
18	15		7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
19	15		1 " #3 (") 1 10

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1. The cave architecture in India not only enlighten us with information of tradition and customs of ancient times but also illustrate considerable accomplishment with regard to structural engineering and artistry. Discuss. (150 WORDS) 10

भारत में गुहा स्थापत्य न केवल हमें प्राचीनकालीन परंपराओं और रीति-रिवाजों की जानकारी प्रदान करता है, अपितु यह संरचनात्मक अभियांत्रिकी एवं कलाकृतियों के संबंध में महत्वपूर्ण उपलब्धियों का दृश्य उदाहरण भी प्रस्तुत करता है। चर्चा कीजिए।

Cave architecture in India progressed through the ages from ancient to Medieval.



Ajanta Ellora being listed as UNESCO world heritage sites.

Information of Tradition

- eg the caves tell us about the major religion - followed of the time of Buddhism, Jainism.
- The Tataka stories which are depicted in most caves tell

about the socio cultural features
like the position of women, dresses
hierarchy

- Paintings & fresco paintings
reveal the nature of art.
- It also reflects prosperity
and economy of the era.

Structural Engineering

- The caves developed from
rock shelters of Bhimpetka to
rock cut cave temples of Ajanta
and Ellora. Engineering features
 - ↳ Pillared of Ajanta. - 29 caves
 - ↳ Karte Chaitya and Vihara
 - ↳ Multiple stories of Ellora.
 - ↳ Carvings.
- Therefore they depict advancement in engineering over time.

2. While the Battle of Plassey laid the foundation of British Empire in India, it was the Battle of Buxar that proved to be the turning point of British fortunes in India. Discuss. (150 WORDS) 10

यद्यपि प्लासी के युद्ध ने भारत में ब्रिटिश साम्राज्य की नींव रखी, तथापि यह बक्सर का युद्ध था जो भारत में अंग्रेजों की सफलता के लिए निर्णायक सिद्ध हुआ। चर्चा कीजिए।

Battle of Plassey was fought
in 1757 between Nawab of
Bengal and Robert Clive from
East India Company.
It laid the foundation of British
Rule - as

- Bengal was one of the richest
provinces of India. Conquering
it provided Britishers
 - ↳ Economic stability
 - ↳ further development of
army and other aspects
 - ↳ elimination of other rivals
of French from Bengal.
 - ↳ Source of Revenue.

Battle of Buxar in 1764 proved
to be turning point as

→ Here not just Bengal but
Mughal King was defeated.

→ It was well planned and
prepared war - Therefore
established supremacy of
British forces

→ Dwani Rights of Bengal, Bihar.

→ Dual Government - where
Double Britishers got power
without responsibility

→ Increased British Prestige
and might.

Victory of Buxar - further
lead Britain to strengthen its
stronghold on India - and extend
to Delhi by 1803

3. Among many novel methods and themes, the Swadeshi Movement laid great emphasis not only on boycott but also on self-reliance. Discuss.

(150 WORDS) 10

अनेक अनूठे तरीकों और विषय-वस्तु के साथ-साथ, स्वदेशी आंदोलन ने न केवल बहिष्कार, अपितु आत्मनिर्भरता पर भी अत्यधिक बल दिया। चर्चा कीजिए।

*Swadeshi Movement was first
organised mass movement in
Indian freedom struggle in
1905.*

*It introduced many novel
methods from conservative
moderation to political extreme
ism.*

Emphasis on Boycott

*→ Boycott of foreign goods -
to hurt Britain's economy and
refusal to be a colony - sanction
ed by Congress Resolution in
1905. Majority of Indian masses*

refused to consume foreign
liquor and foreign clothes.

→ Novel means was picketing

[Self Reliance] - or ATMA SHAKTI

was also one of the major
theme of the Movement. It
was concretized through
Swarnj Resolution of 1906

Methods → National Education
eg National Commission
on Education in
Vernacular

- Indigenous Industries eg
matchstick, textile
- Emphasis on Khadi
- Emphasis on Indian Art & Music

Both Boycott and self reliance
are complimentary and rein-
force each other.

4. The idea of linguistic states predated independence, however it took some time even after independence for this idea to be implemented. Discuss.
(150 WORDS) 10

यद्यपि भाषाई राज्यों का विचार स्वतंत्रता-प्राप्ति से पहले का था, तथापि स्वतंत्रता-प्राप्ति के पश्चात् भी इस विचार को कार्यान्वित करने में कुछ समय लगा। चर्चा कीजिए।

According to Yogendra Yadav-
the history of India existing as
linguistic ethnic communities
is much older than existence
as states.

Idea of linguistic state has
predated independence.

→ Colonialism created artificial
boundaries and divisions
which were resented by
Indians. Eg.-

↳ Opposition to Partition of Bengal
1905 - separating Bengali speakers.

↳ Nagpur Session of Congress

↳ One of the demands of Nehru

Report (1928)

Post Independence - India adopted holding together model of federalism - where Nehru and Patel created states based on administrative convenience

→ Aim was to present them as models of diversity

~~However~~ JVP commission reflected this view. However it was due to growing demand and death of Patt P. Seimatu and consequent creation of Andhra - the idea of linguistic state was accepted.

Jati Ali Commission



State Reorganisation 1956.

language was one of basis

5. Dr. B. R. Ambedkar understood that persistent inequalities pose fundamental challenges to the economic and social well-being of the nation and people. In this context, discuss the key contributions of Dr. Ambedkar in the history of modern India. (150 WORDS) 10

डॉ. बी. आर. अम्बेडकर का मानना था कि दीर्घस्थायी असमानताएँ राष्ट्र और लोगों के आर्थिक एवं सामाजिक कल्याण के समस्त दुनियावी चुनौतियाँ प्रस्तुत करती हैं। इस संदर्भ में, आधुनिक भारत के इतिहास में डॉ. अम्बेडकर के प्रमुख योगदानों की चर्चा कीजिए।

*Ambedkar is known as the
father of Indian Constitution.
He is regarded as the tallest
leader of his community -
(Bhanujay Keer)*

*Contribution of Ambedkar
were huge in building up Modern
India.*

*→ In realm of Ideology - Belonging
to lower caste and experiencing
discrimination despite highly
educated and Rule of Law -
made him conceptualise that*

- Rights have origin in social consciousness. There can be no political democracy without social democracy.
- Thus inequalities are fundamental challenge to Democracy. was established by him.
- Literature - Annihilation of Caste inspired Dalits
- Constitution Making Role
 - Ambedkar drafted constitution and was fundamental in including affirmative action and Article 17
- Other contributions
 - Raising the consciousness of Dalits
 - Promotion of Modernity
 - Making Democracy more Inclusive
 - Women Equality - oppⁿ to Hindu Code.

6. It has been pointed out that in recent times, while the proportional share of nuclear households has dipped in urban areas it has risen in rural areas. Analyse the reasons behind this trend. (150 WORDS) 10

यह इंगित किया गया है कि हाल के समय में, जहाँ शहरी क्षेत्रों में एकल परिवारों की आनुपातिक हिस्सेदारी में कमी आई है, वहीं ग्रामीण क्षेत्रों में यह बढ़ी है। इस प्रवृत्ति के पीछे उत्तरदायी कारणों का विश्लेषण कीजिए।

According to sources by RSS
although proportion of Nuclear
households is higher in ~~total~~
~~the~~ urban areas (60%) - It
is dipping and rising in
rural areas.

Reasons

- Growing cost of living in
urban areas - promote living
together
- Rising cost of real estate in
urban areas make it difficult
to buy new house
- Working population - including
women - has made it

easier to leave children at home when Joint family
→ Early migrations which caused
Nuclear families are now
stabilising and more generations
converting them into Joint families

Rural areas

- Fragmentation of land and
more land disputes among
brothers → due to overcrowding
of land → limited earning
- Migration from the rural areas
- Feminisation of Rural households

These complex and inter
dependent factors lead to
changing family structures in
rural and urban areas

7. Separation, and not divorce, is the dominant form of marriage dissolution for most women in India. What could be the possible reasons behind this? Also, discuss why there are striking differences in divorce rates between the different regions in India. (150 WORDS) 10

असाहचर्य, न कि तलाक, भारत में अधिकांश महिलाओं के लिए विवाह विच्छेद का एक प्रमुख रूप है। इसके पीछे संभावित कारण क्या हो सकते हैं? साथ ही, तर्क कीजिए कि भारत में विभिन्न क्षेत्रों के बीच तलाक की दर में सुस्पष्ट अंतर क्यों है।

Separation is the major form of marriage dissolution because

- *Social stigma attached to divorce*
- *Complicated legal provisions make divorce difficult*
- *Concern for the children who get adversely impacted due to divorce*
- *Possibility of Resolution and coming back later when tensions subside*
- *Male thinking of not letting the woman go and the*

burden of providing alimony
on divorce.

Divorce rate differences between
regions.

It is shown through various
surveys that divorces are
more in more developed
regions such as Maharashtra
as compared to Rajasthan

- ↳ greater mobility
- ↳ Women Empowerment
- ↳ lower societal restrictions.
- ↳ Love marriages where families
don't mediate.

Divorce rates are lower in
North East and hilly states due
to lower legal awareness and
access.

8. Giving an account of their impact, mention the reasons for increased frequency of dust storms as observed in the last few years. (150 WORDS) 10

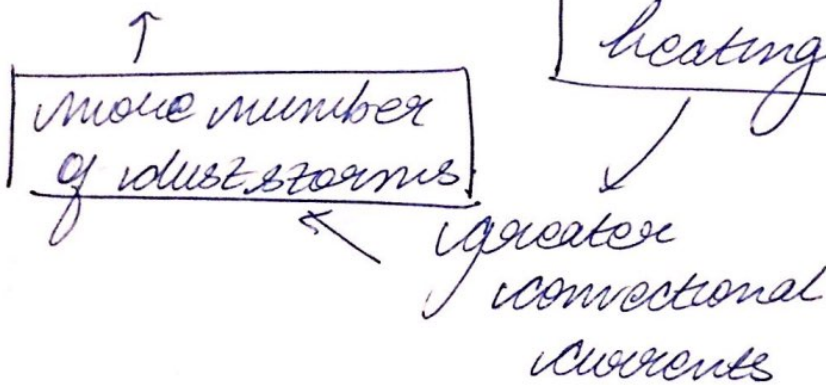
धूल भरी आधियों के प्रभाव का विवरण प्रस्तुत करते हुए, पिछले कुछ वर्षों में अवलोकित धूल भरी आधियों की वृद्धि आवृत्ति के कारणों का उल्लेख कीजिए।

Dust storms

Increased frequency

Climate change

More Intense heating



Impact

- Pollution has been seen in Delhi
- Health Impacts due to increase PM_{2.5} and PM₁₀.
- Temporary heat relief

→ greater cloud formation
potential.

9. Elaborate on the factors responsible for the evolution of the current drainage system in Indian sub-continent, with special emphasis on the characteristic features of Himalayan and Peninsular rivers. (150 WORDS) 10

हिमालयी और प्रायद्वीपीय नदियों की अभिलाक्षणिक विशेषताओं पर विशेष बल देने हुए, भारतीय उपमहाद्वीप में वर्तमान अपवाह प्रणाली के विकास के लिए उत्तरदायी कारकों का संविस्तर वर्णन कीजिए।

Current Drainage

Factors for Evolutions

- 1) Rise of Himalayas - Antecedent drainage of Himalayan Rivers
Rate of Rise < Rate of Erosion
- 2) Rift Valley System - eg. Narmada - Tapti.
- 3) Western Ghats - subsiding of western part → (Arabian Sea formation) - Parallel Drainage.
- 4) Rectangular Drainage in Peninsular eg. Damodar.

Dendritic Drainage- Himalayan
Rivers.
more tributaries
- alluvial soft land

Peninsular - hard land
- stable fixed flows
- consequent of Krishna

11. Bring out the distinctive features of Gandhara, Mathura and Amravati schools of art that flourished towards the first century CE. (250 WORDS) 15

प्रथम शताब्दी ईस्वी के आसपास विकसित होने वाली गांधार, मथुरा और अमरावती कला शैलियों की मुख्य विशेषताओं को प्रस्तुत कीजिए।

Gandhara, Mathura and Amravati
are one of the finest schools of
Art that flourished in Post
Mauryan Period



Distinctive features

<u>Gandhara</u>	<u>Amravati</u>	<u>Mathura</u>
→ Indo Greek Art.	Indigenous	Indigenous
→ Predominantly Buddhist	Hinduism dominated.	Buddhist Jaina Sculptures - Krishna Sculptures

<u>Grandhara</u>	<u>Amravati</u>	<u>Mathura</u>
made of schist	made of white lime stone.	red sandstone.
- Buddhist sculptures - like Apollo - curly hair	- Narrative art of Jataka stories - Hinayana Influence.	- Buddha shown - Masculine - Broad shoulders

Although the three have distinctive features, they were widely prevalent in 1st century CE and high in demand

1st century CE because of these works is regarded as era of climax of Indian Sculptures

Grandhara was situated on Silk Route and was influenced by Greek and Roman designs.

Mathura, also had secular sculptures eg. headless statue of Kushana - which shows the culture of the time.

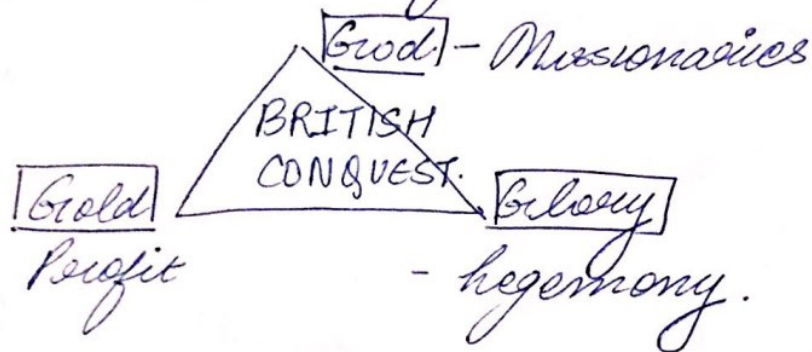
Amravati - was developed by Hindu Rulers - It was covered with stone and was carved. It had greater influence of 'popular art'.

12. The British in India wanted not only territorial conquest and control over revenues; they also felt that they had a cultural mission: to 'civilise the natives', change their customs and values. Critically discuss.

(250 WORDS) 15

भारत में अंग्रेज न केवल क्षेत्रीय विजय और राजस्व पर नियंत्रण चाहते थे; अपितु वे यह भी मानते थे कि उनका 'मूल निवासियों को सभ्य बनाने', उनके रीति-रिवाजों और मूल्यों को परिवर्तित करने का एक सांस्कृतिक मिशन भी था। आलोचनात्मक चर्चा कीजिए।

*British rule - not only in
India but around the world
was propelled by 3 G's.*



*Thus Britishers though
started as merchants but in
order to build their 'hegemony'
they justified their rule as
with the theory of Civilising
Mission*

Territorial conquest and Revenue

- was the primary pillar of their conquest
- It was driven by their colonial aim of getting raw material and markets.
- Also to invest the British capital in colonies and propel Industrial Revolution in home country.

Cultural Mission

- British projected their higher civilisational values - science and technological advancements, and modernisation.
- Britishers made natives

believe in their providential mission eg. Early Moderates believed in the theory

→ The positives include modern education in India, growth of reason, communication, modern means of governance, Rule of law, Civil Liberties, consciousness, Indian Railways etc.

But the myth was broken by Moderate Leaders like Dada bhai Naoroji who in their drain theory exposed the true nature of the British Rule - as all their actions were driven by their own interest

13. Despite Jawaharlal Nehru and Mahatma Gandhi being close associates, there were significant differences between the two regarding the role of state and the control that it exercised. Comment. (250 WORDS) 15

जवाहरलाल नेहरू और महात्मा गांधी के निकट सहयोगी होने के बावजूद, दोनों के बीच राज्य की भूमिका और उसके नियंत्रण की सीमा के संबंध में अर्थपूर्ण मतभेद थे। टिप्पणी कीजिए।

Jawaharlal Nehru and Mahatma Gandhi were one of the greatest leaders of Indian freedom struggle, one being first Indian PM and second the father of the Nation.

Close Associates

- Nehru was son of Motilal Nehru who was closely associated with Gandhi
- Nehru actively participated in all Gandhian mass movements starting from Non Cooperation to Quit India.

→ It was because of Grandhi's
support that Nehru became
the President of INC in 1929
despite opposition from Majority

Differences

Although both worked together
but there were difference
in ideologies.

• Role of State and its control

→ According to Grandhi - he
believed in minimalistic
role of the State.

→ Grandhi believed in decentral
isation and empowerment
of village communities

→ Gandhi's Swaraj - was
Sw-raj - that is control over
 oneself. Gandhi believed in
self rule and self control
 in his Ideal Ramrajya - rather
 than control of state.

Nehru - believed in socialistic
principles - He believed in end
 of capitalism and a Nationalist
ration of economy - where
 state controls the resources

After Independence Nehru's
 model of state was adopted
 by India in the form of welfare
 state. Gandhian vision was
 put in Part IV - 73rd and 74th
 Amendment signify his Idea.

14. Enumerating the reasons behind Sino-Soviet split in the second half of the 20th century, analyse its impact on the Cold War. (250 WORDS) 15

20वीं शताब्दी के उत्तरार्ध में चीन-सोवियत दरार के पीछे उत्तरदायी कारणों को सूचीबद्ध करते हुए, शीत युद्ध पर इसके प्रभाव का विश्लेषण कीजिए।

China and USSR were ~~one~~ ^{two} of the largest communist states of the 20th century. -

But with different models of communism. Initially they worked together. - But later split.

Reasons for Sino Soviet Split

→ Different Models - Soviet followed communist model centered around workers whereas China's communism was centered around peasants

→ Conflict Between Leaders -

Stalin was hardliner, and Mao Zedong wanted to pursue "independent" economic development.

→ Mao Zedong took great leap forward, organised communes and brought about revolution in agriculture.

Impact on Cold War

- Cold war was primarily a war of ideologies - Capitalism Vs Communism

→ Split between two communist states - weakened the position of communist side

→ The split made Soviet pursue

more aggressive policies with other states to prevent similar split of the Korean War, Vietnam War.

→ China could remain Independent and follow own model of development.

~~This~~ Sino Soviet split ended aid from Soviet to China.

This Sino Soviet split marks significant event in cold war - weakening of communist camp and ultimate victory of capitalism.

15. History has disproved the prediction that democracy would not succeed in India. In this context, critically assess the achievements and challenges of democracy in India since Independence. (250 WORDS) 15

इतिहास ने इस भविष्यवाणी को नकार दिया है कि भारत में लोकतंत्र सफल नहीं होगा। इस संदर्भ में, स्वतंत्रता-प्राप्ति के उपरान्त भारत में लोकतंत्र की उपलब्धियों और चुनौतियों का आलोचनात्मक आकलन कीजिए।

India is one of the largest
democracy in the world.

During the time of Independence, there were apprehensions if it could succeed. Western Nations predicted its fall within a decade.

Achievements of Indian Democracy

- Universal adult franchise was given since beginning unlike the developed countries
- Regular free and fair elections
- Increasing voter turn out with every election shows

legitimacy and faith in process
→ Military has been under civilian control. No coup as has frequently happened in Pakistan.

→ Greater Decentralisation through constitutionalising Panchayats show deepening of democracy

→ Regional aspirations have been successfully accommodated through multiple means eg

- Regional Reorganisation
- Greater autonomy.

→ Separation of Powers - Judiciary being most independent compared to other countries

→ Affirmative action and welfare measures for inclusion

of tribals, women, SC, ST. making
India more Inclusive democ-
racy

→ Diversity eg Muslim President
(APJ Abdul Kalam) - giving oath
to Sikh PM - who belongs to
party headed by Christian leader

Challenges → Poverty.

- Separatist tendencies eg Nagalim
- Casteism and communalism
eg Dadri lynching
- Inclusion - eg SC, ST act.
- Money and Muscle power in
elections
- Development deficit
- Rural urban divide, unemploy-
ment

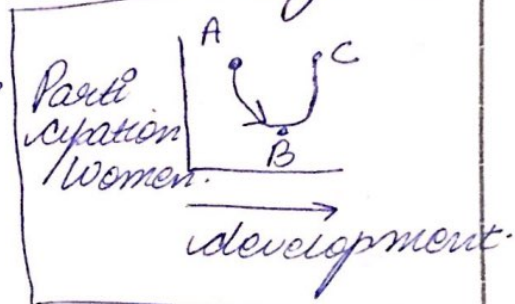
Although there are challenges
but Democratic India through
its democratic culture is gradually
moving towards 'New India'.

16. Enumerate the key issues faced by working women in contemporary Indian society and the steps taken by the government to address them. Also, critically examine the key features of Maternity Benefit (Amendment) Act 2017. (250 WORDS) 15

समकालीन भारतीय समाज में कामकाजी महिलाओं द्वारा सामना की जाने वाली प्रमुख मुद्दों और उनसे निपटने के लिए सरकार द्वारा उठाए गए कदमों को सूचीबद्ध कीजिए। साथ ही, मातृत्व लाभ (संशोधन) अधिनियम, 2017 की प्रमुख विशेषताओं का आलोचनात्मक परीक्षण कीजिए।

According to ILO, the labour force participation rate of the women has been declining -

India is in 'AB' line of the curve.



Issues faced by working women

- Patriarchal set up - Inflexibility to work in late hours.
- Glass ceiling effect
- Double burden - of home and work.
- Low wages. due to low skill.

- low Bargaining Power
- low educational levels eg
Average literacy rate lower
- 64% compared to overall 74%
- Institutional factors - lack
of creches, work conditions.
- Sexual harassment

Steps by Government

- Mandatory Internal Complaints
Committee under Sexual
Harassment Prevention Act 2013
- Vishaka Guidelines by Judiciary
- Several state governments
have reservations for women
in jobs eg Rajasthan
- Digital Technologies like
NARI portal for information.

Maternity Benefit Act 2017

- It extends the period of maternity leave - to 26 weeks
- Mandates crèche facility in workplace with more than 50 employees
- Allow woman to visit baby twice
- Allow women if possible work from home.

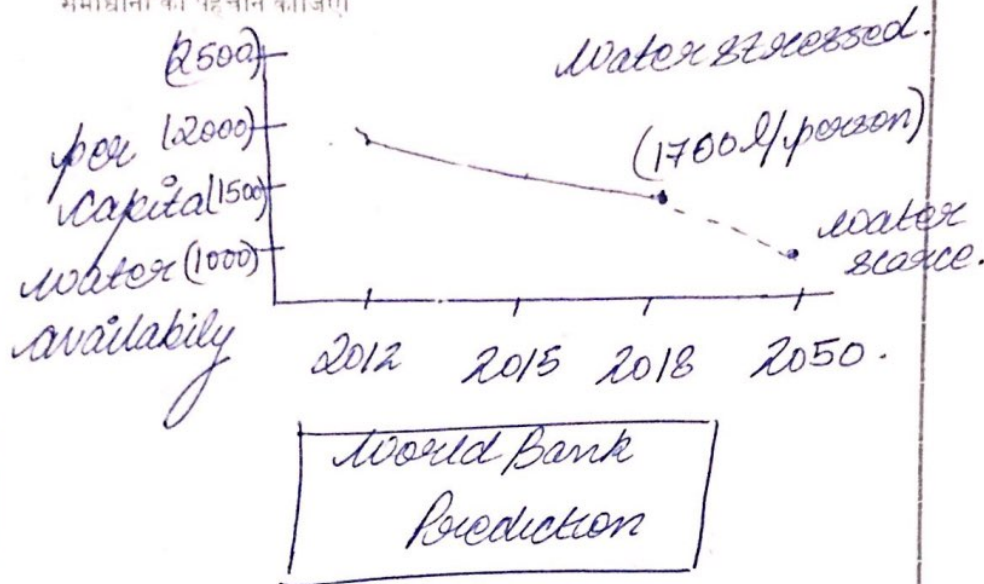
Challenges

- It does not specify leave for father - reinforcing the gender norm that child rearing is women's responsibility

Equality for women at workplace is must for Inclusive Society.

17. State the factors which have led to India being categorized as a water-stressed nation. Also, identify sustainable solutions for averting the crisis at hand. (250 WORDS) 15

उन कारकों का विवरण प्रस्तुत कीजिए जिन्होंने भारत को एक जल-दबावग्रस्त राष्ट्र के रूप में वर्गीकृत होने की ओर अग्रसर किया है। साथ ही, इस संकट को दानने के लिए संशोधनीय समाधानों की पहचान कीजिए।



India is categorised as water stressed by World Bank.

The factors

- 1) Natural factors - India has 17.5% world population but 4% world's fresh water resource
→ Temporal and spatial variability due to monsoon.

- 2) Management factor - Water stress is largely management issue →
- Lack of aquifer mapping
 - free electricity → wastage of ground water.
 - Lack of channelisation of water - majority flows into sea unutilised.
 - Inefficient centralized control
 - Evaporative losses.

- 3) Pollution → Lack of waste water treatment
- ↳ According to Niti Aayog:-
- ↳ 48 Indian Rivers contaminated by at least 2 toxic substances
 - Fertilisers leaching underground.
 - untreated Industrial water.

Sustainable solutions

- Repairing the leakages - and inefficient water management
 - Rainwater harvesting in urban areas eg as done by Rajasthan in public buildings
 - Conserve and Use - eg Palla project of Delhi government
 - Consumer awareness and participation - teaching them responsible use.
 - Decentralised ownership
 - Covered canals eg SAUNI Yojana
 - Technology of Singapore waste water recycling is so efficient - used as drinking water
- Government is increasingly looking towards these solutions to prevent water scarcity

18. Arresting the deterioration of soil health is key to achieve food security. Discussing the regional variations in soil quality, mention some measures taken by the government for its improvement. (250 WORDS) 15

मृदा स्वास्थ्य के ह्रास की रोकथाम खाद्य सुरक्षा की प्राप्ति के लिए अन्यावश्यक है। मृदा की गुणवत्ता में क्षेत्रीय भिन्नताओं पर चर्चा करते हुए, सरकार द्वारा इसके सुधार के लिए उठाए गए कुछ कदमों का उल्लेख कीजिए।

According to Department of Agriculture data 30% of India's land is degraded which pose severe challenge to India's food security.



Regional Variation in Soil Quality

- 1) In the Northern Plains - although the soil was rich and fertile But excessive use

of fertilizers has made it lose its fertility.

2) The arid soils of Rajasthan can be fertile if provide with vegetation

3) The laterite soil of Peninsular India has been suffering due to leaching of silica.

4) The Black soil of Western India — salinisation and hardening due to rain fall and evaporation.

All over India the soil productivity has been declining due to irresponsible fertilizer use

Measures by Government

→ soil health cards

- use of Remote sensing to map the areas of degradation
- Rationalisation of subsidies to incentivise appropriate fertilisers
- Promotion of Biofertilisers through Organic farming eg Tea Budget Natural Farming
- Neem coating of seeds.
- Awareness programs for farmers
- Control deforestation through Green Mobility schemes, REDD+
- Control on Illegal sand mining, promoting fly ash.
- Way forward
- Sustainable agricultural practices like Mulching
- Reclamation of waste land
- contour bunding - to prevent erosion.

19. Give a brief account of the following phenomenon and their influence on Indian Monsoon: 15

निम्नलिखित परिघटनाओं और भारतीय मानसून पर उनके प्रभाव का एक संक्षिप्त विवरण प्रस्तुत कीजिए:

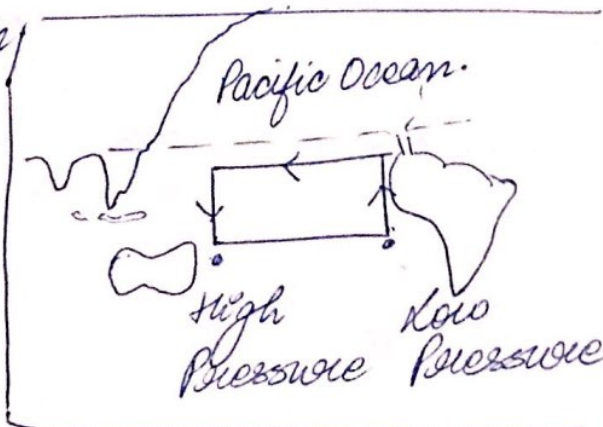
- (a) ENSO (एन्सो)
(b) Madden-Julian Oscillation (मैडेन-जूलियन दोलन)
(c) Indian Ocean Dipole (हिंद महासागर द्विध्रुव)

Indian Monsoon is one of the most complex climatic phenomenon which has various correlations with other phenomena.

a) ENSO → El Niño (ocean part)
↳ Southern Atmospheric Oscillation part.

ENSO refers to see saw arrangement between western and eastern Pacific Ocean.

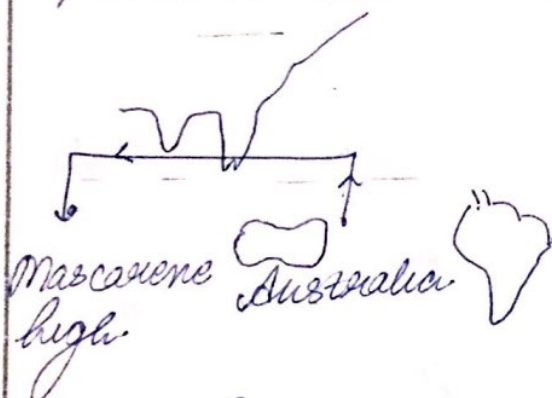
El Niño is setting of upwelling in eastern Pacific Ocean.



Southern Oscillation is high pressure in western Pacific and low in eastern Pacific
Influence on Indian Monsoon

→ Usually associated with decline in rainfall in Indian Monsoon - negative correlation

b) MADDEN JULIAN OSCILLATION



It is an oscillation system in Southern Pacific Ocean.

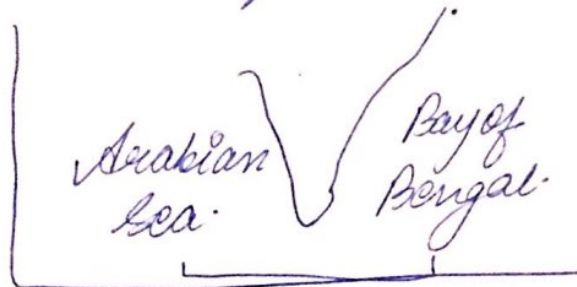
High Pressure over Mascarene high.

Influence → High Pressure at Mascarene high intensifies the Monsoon winds and heavier

rainfall in India. (Pressure
Gradient Increases)

c) Indian Ocean Dipole

It is an
oculating
system



Between Arabian Sea and Bay
of Bengal.

Influence - Warmer ~~Indian~~ Arabian Sea
Ocean compared to Bay of Bengal
Intensifies the monsoon in
India.

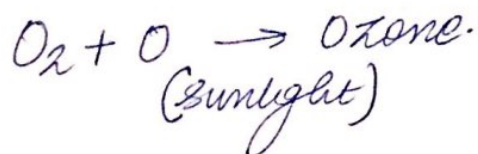
All these phenomenon
show Nature's correlations and
interconnections and that no
process is isolated.

20. Despite tropical areas being the major emitters of CFCs, the phenomenon of ozone hole formation is largely confined to polar areas and that too over the Antarctic and in early spring. Elaborate. **(250 WORDS) 15**

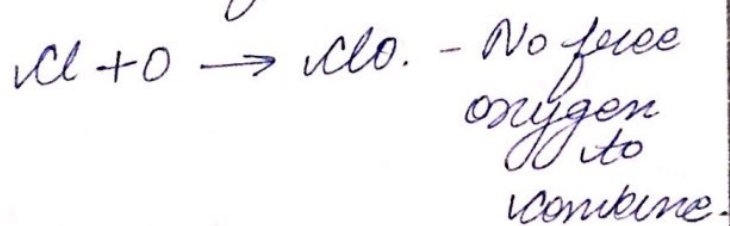
उष्णकटिबंधीय क्षेत्रों के CFCs के प्रमुख उत्सर्जक होने के बावजूद, ओजोन छिद्र निर्माण की परिघटना मुख्य रूप से ध्रुवीय क्षेत्रों तक ही सीमित है और वह भी बसंत ऋतु के प्रारंभ में अंटार्कटिक के ऊपर। सविस्तार वर्णन कीजिए।

Despite Tropical areas being major emitters of CFC - which is ozone depleting substance - the largest hole has been observed over Antarctica due to the process of ozone hole formation.

Ozone layer forms in the ~~atmosphere~~ stratosphere -



Ozone
Hole.



The CFCs emitted from tropical

areas rise up and accumulate towards higher latitudes. as the height of stratosphere is lesser on Antarctic



Also availability of CFC is greater at Antarctic.

Strong convection heating

Early spring represents sunrise which traps the CFC. and cause ozone hole formation.

Major Reason is presence of POLAR STRATOSPHERIC CLOUDS

which serve as platform for CFC to split and where the reaction takes place.

*Early spring is conducive for
such cloud formation*