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GENERAL STUDIES (TEST CODE : 874)

Name of Candidate	NANDINI		
Medium Eng./Hindi	ENGLISH	Registration Number	191609
Center	KB	Date	6.10.17

INDEX TABLE		
Q. No.	Maximum Marks	Marks Obtained
1	12.5	
2	12.5	
3	12.5	
4	12.5	
5	12.5	
6	12.5	
7	12.5	
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14	12.5	
15	12.5	
16	12.5	
17	12.5	
18	12.5	
19	12.5	
20	12.5	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

- Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न-पत्र कोड, विद्यार्थी क्रमांक आदि)।
- There are TWENTY questions printed in ENGLISH & HINDI
इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
- All questions are compulsory.
सभी प्रश्न अनिवार्य हैं।
- The number of marks carried by a question/part is indicated against it.
प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
- 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.
प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
- Word limit in questions, if specified, should be adhered to.
प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
- Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

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EVALUATION INDICATORS

1. Alignment Competence
2. Context Competence
3. Content Competence
4. Language Competence
5. Introduction Competence
6. Structure - Presentation Competence
7. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

Answer the following questions in not more than 200 words each:

1. The greatness of the Mughal achievement in the political unification of India was matched by the splendour and beauty of the work of architects, poets, historians, painters and musicians who flourished in the period. Comment.

भारत के राजनीतिक एकीकरण में मुगलकालीन उपलब्धियों की महानता वस्तुतः वास्तुकारों, कवियों, इतिहासकारों, चित्रकारों एवं संगीतकारों के कार्यों की भव्यता एवं सुंदरता से अभिव्यक्त होती है, जो उस काल में फले-फूले। टिप्पणी कीजिए।

The establishment of the Mughal Empire in India began with the victory of Babur in the 1526 Battle of Panipat.

After the disruptive and discontinuous reigns of Babur and Humayun, Akber began the massive project of political unification of the Indian subcontinent.

→ This Rajput policy won him suzerainty over vast areas of current Rajasthan, Gujrat and Malwa.

This policy was diplomatic (marriage alliances) and military (Siege of

of Chittor).

→ Akbar extended his rule over northwest, central and northern India much in the same way → a mix of diplomatic and military conquests.

His reign was acceptable because of his religious tolerance, which aided political unification.

2) Aurangzeb extended the Mughal Empire to (a) the north east, by dominating the Ahoms Kingdom, and (b) the Deccan, although he struggled with the Maratha Kingdom.

This political unification was complemented by various artistic achievements:

1) AKBAR's architectural legacy, the Agra Fort & Fatehpur Sikri, freely

borrow's from Gujarati & Rajasthani archetypes.

2) Abul Fazl's Akbar Nama, which includes Sin'i Akbari is the most important recording of Mughal history.

3) Akbar, Jahangir and Shah Jahan were great patrons of art, poetry and music.

4) Painting excelled under Jahangir, especially the miniature and portraiture styles, and the illustration of Manuscripts.

5) Shah Jahan is known world over for Taj Mahal, Red Fort and the old city of Shah Jahanabad.

The closure of this golden age of artistic achievements under Mughals came with Aurangzeb's personal belief in austerity and Islamic principles, and a financial crisis.

2. Traditionally, India had developed wide-ranging water harvesting techniques in keeping with the local ecological conditions and their water needs. Substantiate with examples.

पारंपरिक रूप से भारत ने स्थानीय पारिस्थितिक दशाओं एवं अपनी स्थानिक जल आवश्यकताओं के अनुसार विविध प्रकार की जल संचयन (वाटर हार्वेस्टिंग) तकनीकों का विकास किया था। उदाहरण सहित पुष्ट कीजिए।

India's ^{agriculture} ~~architecture~~ continues to be largely rained. It sustains on excellent traditional water harvesting techniques, adapted to the local environment and requirements.

1) The Delhi Sultanate (13-15th century) brought many Persian water harvesting techniques like

1) Agrahatta → or the Persian wheel, which created a vertical belt of buckets drawing water from wells.

2) Himachali 'kuls' and 'guls' were successful traditional

embankment techniques which were suited to the hilly areas prone to water-caused soil erosion.

3) Rajasthan's underground tankas met the dual problem of keeping the water cool in hot desert-climates, as well as storing the scarce resource.

4) Meghalaya's exceptional bamboo drip irrigation system used an abundantly available resource (bamboo) judiciously.

These methods were developed and maintained communally, which contributed largely to their success.

Indian local rulers also took

the responsibility to provide
irrigation facilities whenever
needed → eg Sudarshan Lake
built by Rudrasena, 2nd century
AD.

3. Imperial rivalries of 18th Century Europe were played out in India as well. Comment in the context of the Carnatic Wars.

18वीं सदी के यूरोप की साम्राज्यिक प्रतिद्वंद्विताएं भारत में भी देखी गई। कर्नाटक युद्धों के संदर्भ में टिप्पणी कीजिए।

The three Carnatic Wars were fought in between 1740-1763 in Southern India, between the English and French colonial powers.

→ They were a part of the larger 7 years War in Europe, triggered by the Austrian Succession War.

→ The English and French imperial rivalry was marked by:

- desire to colonize more land than the other
- naval and military race
- earn more revenues and capture more markets than the

Other

— (d) Prove that the English Anglican Christianity was better than French Catholic Christianity and vice versa.

These imperial designs to outdo each other led to the breakout of war in (1) America (2) the Philippines (3) India (4) West Africa, (Senegal) (5) The Caribbean.

Thus the Carnatic Wars were just a part of overarching rivalries between European powers.

→ The First Carnatic War ended with the Treaty of Aix La Chapelle which was signed in Paris. The French gave up conquered territory in India.

→ The Second Carnatic War was instigated by the ambitious designs of the French Governor Duplex. The end was inconclusive.

→ ~~So~~ By the third war, the French were marginalized as the British had won the Battle of Plassey in 1757 under the leadership of Robert Clive. The war ended in 1763 with a decisive English victory, boosted by their control over Bengal.

Soon after, in 1765, the British East India Company attained the Durani of Bengal, ending French hopes and establishing the roots of the great British Indian Empire.

4. The Lucknow session of 1916 was a watershed event during the freedom struggle of India due to various reasons. Elucidate.

भारत के स्वतंत्रता संघर्ष के दौरान 1916 का लखनऊ सत्र विभिन्न कारणों से एक ऐतिहासिक घटना थी। स्पष्ट कीजिए।

The 1916 Lucknow Congress session was marked by Hindu-Muslim unity, coming together of Extremists and Moderates, beginning of Congress support for Home Rule Leagues, and presence of Gandhi.

1) Lucknow Pact between the Congress and the Muslim League saw an understanding of cooperation between the two parties.

a) Muslim League agreed to support Congress's constitution demands

b) Congress accepted separate electorates for Muslims.

2) The 1907 Surat Split between the

Moderates and Extremists over differences on how to conduct the Bengal Anti-Partition movement was fixed. The 2 groups decided to coordinate their efforts.

3) Initially, the Congress had resisted supporting Annie Besant's Home Rule League (HRL) movement. But Tilak and Besant had begun building a popular base, and young leaders like Nehru were eager to join. Thus tacit support to HRL was given. The HRL supporters formed the backbone of early Gandhian satyagrahas, like Rowlatt Satyagraha and Non-cooperation movement. Thus support to HRL was watershed.

4) 1915 saw the return of Gandhi

to the Indian political scene, and although he spent 1916 travelling, the stories of his success had followed him from South Africa and created renewed vigour in people.

Thus the 1916 INC session was a watershed. The Lucknow Pact and the Home Rule demands were also factored into the 1919 Mont-Ford Reforms.

5. Reforms initiated by the Justice Party became a model for social affirmative action in the country. Comment.

जस्टिस पार्टी द्वारा आरंभ किए गए सुधार देश में सकारात्मक सामाजिक कार्यवाही हेतु एक आदर्श बन गए थे। टिप्पणी कीजिए।

Various caste based political trends were regrouped and rebranded as the 'Justice Party' by EVs Ramaswamy Naicker, or Poigyar in ^{late} 1930s Madras.

The legacy of Poigyar's Self-Respect Movement, and his disillusionment with Congress politics gave a new shape to reforms under the Justice Party.

1) They supported caste-based reservations, even electorates. This continues as a model for affirmative action in Indian polity.

2) The Temple Entry Movement asserted Dalit rights to public

spaces.

3) The reassertion of Tamil identity by the Justice Party helped create a polity which accords rights and respect to linguistic groups.

4) Non-Brahmin and caste based mobilization had set the precedent for caste-based pressure groups, political parties and identity formation.

The Justice Party consciously tried to keep Congress's overwhelming influence at bay. They formed an informed critique of Brahmin dominance at the Congress.

They also looked to the British

for equal rights → eg they supported the Simon Commission.

Thus the Justice Party set new standards and methods for conceptualizing Indian polity and society. Their efforts line on in contemporary methods of affirmative action.

6. War in the Korean Peninsula proved to be disastrous for Korea, a missed opportunity for the United States and a defining moment for China. Examine.

कोरियाई प्रायद्वीप में हुआ युद्ध कोरिया के लिए विनाशकारी, संयुक्त राज्य अमेरिका के लिए एक खोया हुआ अवसर तथा चीन के लिए एक निर्णायक क्षण सिद्ध हुआ। परीक्षण कीजिए।

The Korean War of 1950-53
was the first military conflict
of the Cold War.

Disastrous for Korea :

- 1) Over 4 million Koreans were injured/killed. Most were civilians.
- 2) The peninsula did not unify, and the 38th Parallel stood as the dividing line between the two Korean countries, just as it had in the beginning of the war.
- 3) American bombing over North Korea resulted in heavy damage to property & infrastructure, and heavy loss of life.
- 4) An undemocratic, totalitarian

state was propped up in North Korea under Kim IL Sung, and a 'seemingly' democratic state in South Korea under Syngman Rhee. Neither brought much prosperity for Korean peoples initially.

5) Korean economy was devastated.

Missed opportunity for USA:

1) USA wrongly assumed that North Korean offenses beyond the 38th parallel were by Soviet instigation.

This set the stage for the Red Scare and the Domino Theory, which caused many wars world wide during the Cold War era. (Vietnam, Afghanistan etc).

2) Chinese offenses against USA highly embarrassed the 'UN Peacekeeping Force' [which composed of mostly US and South Korean soldiers].

3) The opinion in USA's media became critical of the government for going to war without Congress's sanction, bypassing it with the UNO route.

4) Many US soldiers' lives were lost.

5) Debt was racked up.

Defining Moment for China:

1) After having declared itself a Communist Nation only in 1949, the Chinese victories in battles against 'UN' forces were very impressive.

2) It set the stage for China to begin emerging as a global leader.

7. The Munich Pact brought neither peace nor stability in relations between European countries, rather it turned out to be an act of appeasement that made war inevitable. Comment.

म्यूनिख समझौते ने यूरोपीय देशों के बीच संबंधों में न तो शांति उत्पन्न की और न ही स्थिरता, अपितु यह तुष्टीकरण की एक ऐसी कार्यवाही सिद्ध हुआ जिसने युद्ध को अपरिहार्य बना दिया। टिप्पणी कीजिए।

The Munich Pact gave
Germany Czechoslovakian
territory without any
Czech consent.

France, Italy, Germany and the
United Kingdom were signatories
to the 1938 Pact.

The Czechs realized that their military alliance with France was useless, and began looking for other forms of support.

The severe disbalance in power caused by this attempt to appease Germany against

the harsh provisions of the Treaty of Versailles actually ended up triggering the Second World War in 1939.

The Sudetenland gave shape to Hitler's idea of 'living space', and he began expanding German borders beyond acceptable territories, into Poland.

This led to mobilization by Russia ^(USSR) and ended in the outbreak of the Second World War.

~~✗ ✗~~

~~✗ ✗~~

8. Explain how Gandhi's non-violent philosophy influenced Martin Luther King Jr.'s methods. Also discuss the contributions and accomplishments of King to ensure civil rights for all people regardless of race in America.

व्याख्या कीजिए कि किस प्रकार से गांधीजी के अहिंसावादी दर्शन ने मार्टिन लूथर किंग जूनियर के तरीकों को प्रभावित किया। साथ ही अमेरिका में नस्लीय भेदभाव के बिना सभी लोगों के लिए नागरिक अधिकार सुनिश्चित करने में मार्टिन लूथर किंग के योगदानों एवं उपलब्धियों की भी चर्चा कीजिए।

Martin Luther King Jr. was the leader of the American Civil Rights movement in 1950's & 1960's, until his assassination in 1968.

Gandhi's influence :

1) Luther's vision of gaining rights by 'peace, love and protest' is akin to Gandhian notions of satyagraha.

2) Boycott : Montgomery Bus Boycott, initiated by Rosa Parks but led by Luther is reminiscent

of Gandhian tools of non-cooperation and civil disobedience.

3) Persuasion through writings:

~~King~~ Luther's writings from jail were so persuasive that they won him the Nobel peace prize. Gandhi too spread his ideology via Hind Swaraj, and his newspapers Harijan and The Young Indian.

Contributions and Accomplishments of King:

→ The Civil Rights Act 1964 was the result of growing demand for equality, a demand which Luther was instrumental in pushing for. The Act ensured racial equality in United States law and institutions, and

formally ended segregation.

→ Set the stage for movements for rights of Latinos, homosexuals and women. The Second Wave of Feminism soon followed.

→ Board v. Brown v. Board of Education Supreme Court judgement ended segregation in schools.

Luther's 'I have a dream' speech continues to inspire millions across the world, and will continue to inspire generations to come.

9. Apart from the linguistic reorganisation of states, the three language formula was an important part of government policy to address the language question in India. Discuss.

राज्यों के भाषाई पुनर्गठन के अतिरिक्त, त्रि-भाषा सूत्र भारत में भाषा की समस्या का समाधान करने की सरकार की नीति का एक महत्वपूर्ण भाग था। चर्चा कीजिए।

The three language formula is used to ~~the~~ ~~teach~~ English, Hindi and the regional language in schools.

The linguistic reorganisation of states began after the satyagraha of Potti Sreeramulu for a Telugu speaking state. Sreeramulu lost his life in his fast-until-death, and the government took the demand for linguistic states more seriously.

Thus Andhra Pradesh was the first state to be carved out linguistically, in 1952.

Then in 1953, a committee was set up to look into countrywide

demands. Gujarat was carved out of Maharashtra, Haryana out of Punjab and so on.

This policy gave recognition to regional demands of respect to linguistic diversity. However, the question of unity in diversity remained. How was such a vast and varied country to communicate with each other without a common language?

The three language formula was seen as a solution. Children would learn their mother tongue and thus languages would continue to maintain their independence and identity. They would learn English to

communicate intranationally
and internationally. And Hindi,
spoken by 40% of the population,
but also closely linked to many
north Indian languages, became
the third language.

This is protected by the Constitution,
which allows for use of English
in Official & Judicial communication.

Article 29 and 30 protect linguistic
groups and scripts. Article 350
compels states to teach in the
mother tongue, and Article 350A
provides for promulgation of Hindi

10. Enumerate the measures for the welfare of Unorganised Workers in India. In the context of problems being faced by 'domestic helps', discuss the need for additional measures to safeguard their interests.

भारत में असंगठित कामगारों के कल्याण हेतु किए गए उपायों को सूचीबद्ध कीजिए। 'घरेलू सहायकों' द्वारा सामना की जा रही समस्याओं के संदर्भ में, उनके हितों की रक्षा करने हेतु अतिरिक्त उपायों की आवश्यकता की चर्चा कीजिए।

Domestic workers comprise a large but unregulated section of the workforce, vulnerable to exploitation.

Measures for their welfare:

1) Prevention of Sexual Harassment of Women at Workplace Act includes rights of female domestic workers.

2) Disparate laws applying to the unorganised labour force, like the Minimum Wages Act etc encompass domestic workers.

There remains a big legal lacunae to fill ~~the~~ in protection of rights of domestic workers specially, and

a gap in recognition of special problems they face.

→ Perceived criminalization: the police forces often do background checks on domestic workers. This is not done for other unorganized labour services. Moreover, there is overwhelming evidence against the employers being abusive towards the employees in domestic work, but this is not acknowledged.

→ Employer abuses take various shapes: (a) extracting more work than agreed to in the beginning (b) no social security (c) in case the worker dissatisfies the employer, many employers take measures to ban them from buildings or residential colonies, depriving them from finding work elsewhere.

This violates the workers constitutional right to work (under Art. 21).

→ continued physical, emotional and sexual mental violence against workers, especially against tribal women who form the largest group of domestic workers.

Additional measures needed:

- 1) Passing of the Domestic Workers (Rights and Protection) Bill, which is pending in the Lok Sabha.
- 2) Recognizing domestic work as work, not 'help', to accord due dignity.
- 3) Empowerment of workers by making them aware of their rights.
- 4) Empowerment of the Domestic Workers Trade Union. Expanding trade unionism amongst the labour force.

11. The manner in which the mentally ill have been treated in India suggests that policy measures alone may not be sufficient to address the challenges faced by them. Discuss.

भारत में मानसिक रूप से रोग ग्रस्त व्यक्तियों के साथ जिस प्रकार का व्यवहार किया जाता रहा है उससे यह सिद्ध होता है कि मात्र नीतिगत उपाय ही उनके द्वारा सामना की जाने वाली चुनौतियों का समाधान करने के लिए पर्याप्त नहीं हैं। चर्चा कीजिए।

'Mental illness' is a very taboo word, because popular notions of mental illness are not backed by the scientific understanding.

This is the root cause of why policies, programmes and laws may not address challenges faced by mentally ill persons.

Challenges:

- 1) Acute misunderstanding of their behavior and perception.
- 2) Underestimation of their potential contribution to society: eg many think that persons with dementia Syndrome are unemployable, ~~at~~

although many institutions like the Lemon Tree Foundation has successfully employed them in hospitality and inventory jobs.

3) ~~Lack~~ of Perception of mentally ill persons as burden to society.

4) Discrimination, alienation, stigma, stereotyping

5) Lack of trained medical professionals & counsellors in hospitals, schools, colleges etc.

- Sometimes even families are disillusioned about the appropriate way to care for their mentally ill family members.

6) Bullying in schools etc.

Policy measures to tackle these challenges:

1) Persons With Disabilities Act 2016

recognises various mental disabilities and confers rights upon the people.

2) The National Trust of the Ministry

of Social Justice & Empowerment offers funding.

3) Mental Health Bill 2016 takes many positive steps like decriminalizing suicide and approaching it medically. It also mandates awareness generation programmes.

These measures may fall short of completely integrating mentally ill persons into society as scientific awareness and destigmatisation are the prime need. Way forward:

1) Including scientific knowledge about mental illness in school curriculum, so the entire next-generation is sensitized.

2) Adequate human resource building of mental health care professionals, and equitable service access in rural and urban areas.

3) Mass destigmatization campaign, like the Surachh Bharat Abigyan one.

12. Highlight the characteristics of Particularly Vulnerable Tribal Groups (PVTGs) and discuss the challenges faced by them. Also enumerate the measures taken by the government to address these challenges.

विशिष्ट रूप से सुभेद्य जनजातीय समूहों (Particularly Vulnerable Tribal Groups: PVTGs) की विशेषताओं पर प्रकाश डालिए एवं उनके द्वारा सामना की जाने वाली चुनौतियों की चर्चा कीजिए। साथ ही सरकार द्वारा इन चुनौतियों का समाधान करने हेतु किए गए उपायों को सूचीबद्ध कीजिए।

The recent Anthropological Survey of India study

created a database of PVTGs and outlined many challenges facing them.

Characteristics of PVTG: (Dhebar Committee)

- 1) homogeneous population
- 2) simple technology
- 3) small population
- 4) isolated localities
- 5) less integration with rest of society
- 6) no written language.

Challenges faced by them:

- 1) Perceived criminalization, alienation, stigmatization

- 2) Loss of traditional livelihoods like snake charming etc.
- 3) Some areas not included in SC/ST/OBC lists, leaving them with unequal opportunities for representation & employment.
- 4) Poor database maintenance by states, which leads to errors when targeting them for social development schemes. Many PVTG names are excluded, or repeated twice. Eg in Odisha
- 5) States have to take the initiative to create schemes for upliftment. This has not happened everywhere. Eg → Odisha has schemes, Gujarat doesn't.

Measures taken by the Government:

- 1) Setting up a National Commission for PVTG's to look into their upliftment, and implementation

- of schemes for them .
- 2) Special funding to states with PVTGs .
 - 3) Special efforts to create livelihood and employment opportunities of PVTGs .
 - 4) Using the Anthropological Survey database to better target schemes for them .
 - 5) Literacy has improved for PVTGs from single digit numbers after independence to 40%, now .
 - 6) Awareness generation, destigmatization .

Way forward: We need to consciously protect the vulnerable diversity of our nation and cherish it. The fundamental rights of PVTGs must be protected.

13. While suburbanisation is a common phenomenon in most urbanising countries, it is occurring at a relatively early stage of India's urban development. Enumerating the reasons behind this development, highlight the challenges it is creating for Indian cities.

यद्यपि उपशहरीकरण अधिकांश शहरीकृत हो रहे देशों में एक सामान्य परिघटना है, किन्तु भारत के शहरी विकास के संदर्भ में यह अपेक्षाकृत प्रारंभिक चरण पर में हो रही है। इस विकास के अंतर्निहित कारणों को सूचीबद्ध करते हुए भारतीय शहरों के लिए इसके द्वारा उत्पन्न की जा रही चुनौतियों पर प्रकाश डालिए।

Suburbanisation is the creation of satellite towns around core urban areas : eg Gurgaon around NCR, Navi Mumbai around Mumbai.

In developed countries like USA & UK, suburbanisation happened around 1950's - 60's as the urban areas expanded : eg Slough around London, Bronx around New York.

India has not reached similar levels of urbanisation, but suburbanisation is happening anyway because :

- 1) Extremely rapid pace of urban population growth, without consequent increase in core

urban areas. Eg at Independence 11% of the population was urban, predicted to be 40% by 2025.

2) Push migration from rural areas, which suffers from underdevelopment & lack of employment opportunities.

3) Uneven development of cities; eg housing standards are reflective of middle-class needs, leaving the vast labour force to fetch for itself in slums & chawls.

4) Unplanned expansion of cities.

The challenges suburbanisation is creating for Indian cities are:

1) Governance: as cities expand informally, jurisdiction of local and sometimes state governments becomes overlapping and confused. Eg: extension of Delhi metro in

Gurgaon. This was solved by creating a distinct authority, but many other such problem remain.

2) Public transport requirements are expanding beyond capacities of provision. Again, the poor labour force settled on outskirts of cities is worse affected, especially women.

3) Other service provision: water, sanitation, housing, road development etc which becomes more complicated with governance confusions.

4) Waste management: eg East Delhi landfill causing fire, traffic accidents.

5) Law & order.

Way forward: proper implementation of Smart Cities, ^{Mission} Swachh Bharat Abhiyan, HRIDAY, PRASAD, AMRUT etc. Schemes.

14. Various geographical and anthropogenic factors have rendered Brahmaputra Valley susceptible to recurrent floods. Discuss the causes and suggest suitable measures of mitigation.

विविध भौगोलिक एवं मानव जनित कारकों ने ब्रह्मपुत्र घाटी को बारम्बार बाढ़ों हेतु अति संवेदनशील बना दिया है। इसके कारणों की चर्चा कीजिए तथा शमन के उचित उपाय सुझाइए।

The Brahmaputra Valley, passing through Assam and Arunachal Pradesh in India, is critical to the economy of northeastern India. Unfortunately, recurrent floods have been disrupting life and property in the Valley.

Reasons are :

Geographical : (1) the river carries massive debris and silt from the upper reaches of the Himalayas, causing rising of river bed & subsequent flooding

(2) Earthquake prone area :

(3) Several riverine island formation limits water carrying capacity.

- (4) Changing river path
 (5) El Nino making rains unpredictable
Anthropogenic factors

- 1) Damming of the river
- 2) Mining around the valley, causing earthquakes
- 3) Global warming and climate change making monsoon unpredictable
- 4) Release of excess water by China's dams.
- 5) Encroachment upon the ~~the~~ flood prone areas.
- 6) Concretization, which prevents percolation of water
- 7) Ill planned drainage + construction over natural drainage paths.

Measures for Mitigation :

- 1) Removing encroachment upon flood prone areas.

- 2) Rationalizing damming and mining
- 3) Better infrastructure for drainage
- 4) Capacity building and awareness among people for management of flood.
- 5) Clear standard of procedure during disaster management
- 6) Diplomacy with China for clear water management
- 7) Dredging & desilting whenever required
- 8) Early Warning Systems for flood/earthquake prediction - technology does not exist for earthquake prediction so investment into R&D

Assam has seen ~~the~~ flooding in 2015, 2016 & 2017. We need to tackle the problem at a war footing.

15. Give a brief account of Earth's heat budget. Also discuss how increasing concentration of carbon dioxide in Earth's atmosphere effects it.

पृथ्वी के ऊष्मा बजट का एक संक्षिप्त विवरण दीजिए। साथ ही चर्चा कीजिए कि पृथ्वी के वायुमंडल में कार्बन डाइऑक्साइड की निरंतर बढ़ रही सांद्रता इसे किस प्रकार प्रभावित करती है।

Earth's heat budget is the total insolation received and reflected back into space, so that temperatures on earth remain stable.

1) Of the total insolation that comes to earth, some is reflected back from clouds, and ice ~~covered~~ glaciers & mountaintops (the albedo of earth)

2) Some is scattered and absorbed by the atmosphere.

3) The remaining is absorbed by the surface, which is reflected back via convection, conduction and radiation.

4) Of this, some is sent back

into space.

This maintains the heat levels of Earth. Net heat budgeting happens when surplus heat in tropical areas of Earth is transferred onto temperate and frigid areas of Earth, which are heat deficit areas.

Overall temperature balance remains constant.

Increasing amounts of carbon dioxide (CO_2) in the Earth's atmosphere are trapping the excessive heat that should normally be sent back into space.

→ This is called the Green House effect, caused by a

group of gases called 'Green House Gases', of which CO_2 (GHGs) is a potent one.

→ GHGs caused global warming, disrupt the heat budget of the earth, and have wide ranging effects on the climate of Earth (called 'Climate Change').

→ These can be devastating for life on Earth → eg rising temperatures cause ice caps to melt, causing sea level rise.

This may result in submergence of important coastal cities like Chennai, New York, and many island nations.

The world came together to combat climate change with the 2015 Paris Pact.

16. Give an outline of the major geological events that have shaped the present drainage system of Peninsular India. Also, explain why peninsular rivers are unsuitable for navigation but facilitate hydroelectric power generation.

प्रायद्वीपीय भारत के वर्तमान अपवाह तंत्र को आकार प्रदान करने वाली प्रमुख भू-गर्भीय घटनाओं की एक रूपरेखा प्रस्तुत कीजिये। साथ ही स्पष्ट कीजिए कि ऐसा क्यों है कि प्रायद्वीपीय नदियां नौवहन के लिए अनुपयुक्त हैं लेकिन जलविद्युत उत्पादन को सुविधाजनक बनाती हैं।

'Peninsular India' is the landmass South of the Vindhyan mountains and Narmada river. This is one of the most stable landmasses on earth.

Geological events that shaped the Peninsular drainage system :

- 1) Uplift of the Himalayas, causing a rift along the Narmada line, separating Peninsular drainage from Himalayan drainage.
- 2) Uplift of Western side of the Peninsula, tilt the direction of drainage towards the eastern side of the Peninsula.

Peninsular rivers are unsuitable for navigation as

- 1) low depth
- 2) seasonal flow of water.

Thus, most National Waterways in Peninsular India coincide with human-made canals.

Facilitation of hydroelectric power:

- 1) Begin from great heights atop the Western Ghats, which facilitate the kinetic force needed for hydroelectric generation.
- 2) Damming of the river creates conditions for power generation.
- 3) Strong monsoon in Maharashtra, Karnataka, Kerala and Tamil Nadu.

Thus the Peninsular rivers like Mahanadi, Godavari, Krishna and

Kauveri are a very important resource. To optimise them fully we must solve the interstate riparian problems (especially Kauveri crisis), undertake scientific river interlinking, and adopt judicious use of their waters without polluting them.

17. Elaborate with examples as to how government policies influence the location of industries. Also, mention the steps taken by the Government of India to stimulate industrial activity in backward regions.

उदाहरण सहित व्याख्या कीजिए कि किस प्रकार से सरकारी नीतियां औद्योगिक अवस्थिति को प्रभावित करती हैं। साथ ही, भारत सरकार द्वारा पिछड़े क्षेत्रों में औद्योगिक गतिविधियों को बढ़ावा देने हेतु उठाए गए कदमों का भी उल्लेख कीजिए।

The government takes active steps to ensure equitable distribution of industries across India.

1) Tax subsidies to underdeveloped states : Himachal Pradesh, Uttarakhand and the 8 states of northeast had exemption on excise duty and interest subventions on capital loans. This spurred the growth of industry in these hilly areas, which were otherwise unattractive to investors.

2) Rajasthan government in 2015 simplified its labour laws. This resulted in Vedanta Company to invest in mining in Rajasthan.

3) Special Economic Zones : these create special exemptions from domestic laws that invite FDI in India and create industrial towns.

4) Foreign Policy : The Andhra Pradesh government approached Singapore diplomatically, and engaged its help in building of Amaravati, the new capital. This will spur the construction industry, and many more in Andhra Pradesh. Similarly, government can also drive industry away from certain areas : eg declaration of national parks, or scheduled areas restrict industrialization.

Government has taken the following steps to stimulate industrial activity in backward areas :

1) GST exemption upto ₹10 cr. in the

northeastern small industries.

- 2) Special category states → which mandates extra funding to ~~area~~ ^{states} declared 'special' [CRITERIA: less population, tribal population, unviable state finance, hilly terrain, economic backwardness or sensitive international location]
 - 3) Separation of Uttarakhand, Jharkhand and Chhattisgarh so these regions could, among other things, develop economically and industrially.
 - 4) UDAN Scheme connect Tier II and Tier III towns, and will likely spur industrial activity in these regions
 - 5) Declaration of 106 National Waterways.
 - 6) Coastal Economic Zones, Bharatmala, Sagarmala
 - 7) Delhi Mumbai Economic Corridor.
- Much more is needed to be done, but we are on the right direction.

18. Explain, in brief, the process of cloud formation. Also, elucidate how clouds can help in weather forecasting.

संक्षेप में बादल बनने की प्रक्रिया की व्याख्या कीजिए। साथ ही स्पष्ट कीजिए कि मौसम के पूर्वानुमान में बादल किस प्रकार सहायता कर सकते हैं।

Cloud formation is a critical stage of the water cycle, which is necessary to sustain life on earth.

The process of cloud formation :

1) Water evaporates from water bodies on land and seas.

2) The water vapour rises up, and condenses around hygroscopic nuclei when the relative humidity increases, or the temperature decreases. Changes in pressure can also cause condensation.

3) Usually, clouds are formed in the upper troposphere or stratosphere.

These are classified into cirrus, nimbus, cumulus and stratus clouds, depending on their shape, appearance and opacity.

4) Sometimes, when temperature close to the surface drops very suddenly, the water vapour in the air condenses around near-surface nuclei like particulate matter, smoke particles or dust. This forms fog, or mist, which are clouds on the surface of earth. They reduce visibility.

Clouds are obvious hints towards the incoming weather :

- 1) Nimbus clouds suggest a thunderstorm.
- 2) Clear skies, or skies with a few cumulus clouds suggest no rain and high temperatures.
- 3) Stratus clouds usually hide the direct rays of the sun and suggest lower temperatures.

Using the importance of clouds in weather patterns, Karnataka Government is attempting cloud seeding : spraying silver iodide in the atmosphere to encourage cloud formation, and thus bring rains to parched areas.

19. The socio-economic and ecological consequences of soil degradation are far-reaching. Discuss. Suggest measures that can be taken to restore soil fertility and arrest soil degradation.

मृदा निम्नीकरण के सामाजिक-आर्थिक एवं पारिस्थितिक परिणाम दूरगामी प्रभाव डालने वाले होते हैं। चर्चा कीजिए। मृदा उर्वरता को पुनर्स्थापित करने एवं मृदा निम्नीकरण को रोकने हेतु किए जा सकने वाले उपाय सुझाइए।

Soil degradation is one of the most serious threats to future agricultural productivity and food security. It refers to soil erosion, or loss of nutrients in soil leading to infertility. It may even be caused by salinity and aridity.

Socio-economic consequences :

- 1) Food insecurity
- 2) Loss of farmers income, maybe aid farmer suicides.
- 3) Agricultural unproductivity.
- 4) Food inflation
- 5) Rising inequality in rural areas, which can cause push migration, causing further urban problems.

Ecological consequences

- 1) Soil erosion may prevent percolation of water, and lower ground water table.
- 2) Loss of nutrients of agricultural lands.
- 3) Slows down natural vegetation growth over fallow lands.

Steps to restore soil fertility :

- 1) Soil Health Cards : prevent over-use of fertilizers ; help farmers scientifically nourish their soils
- 2) Rationalizing fertilizer subsidy
- 3) Crop rotation : eg planting legumes between cereal crops helps restore nitrogen in the soil.
- 4) Rational agricultural practices : continuous cultivation of paddy in Punjab, a traditionally non-paddy, wheat growing state, has caused many lands in Punjab to become Saline. (5) Organic farming.

Steps to curb soil degradation :

- 1) Planting shelter belts
- 2) Contour bunding - to prevent soil erosion via water like in the Chambal area .
- 3) Terrace farming in hilly areas.
- 4) Mixed cropping , inter cropping .

All these steps can also greatly increase farmers incomes and global food security . We must ensure awareness ~~and~~ generation and adoption of these practices , eg through Krishi Vikas Kendras .

20. Development of island territories requires a careful balancing of environmental and tribal concerns with exploitation of economic potential. Elaborating on the threats faced by island territories of India, comment on the recent measures proposed by the government regarding their development.

द्वीपीय क्षेत्रों के विकास हेतु संभावित आर्थिक क्षमताओं के दोहन के साथ ही पर्यावरणीय एवं जनजातीय चिंताओं के मध्य विवेकपूर्ण संतुलन की आवश्यकता है। भारत के द्वीपीय क्षेत्रों द्वारा सामना किए जाने वाले खतरों को विस्तार से बताते हुए, उनके विकास के संबंध में सरकार द्वारा हाल ही में प्रस्तावित उपायों पर टिप्पणी कीजिए।

Indian island territories of Andaman, Nicobar Islands, and Lakshadweep islands are crucial strategic and economic territories.

They have high economic potential in terms of tourism & exploitation of natural resources. However, the following reasons have curbed their optimum economic exploitation:

ENVIRONMENTAL:

- 1) Threat from sea level rise
- 2) Distinct biodiversity, which will be upset by economic intrusions eg bird sanctuary at Lakshadweep islands; Nicobar pigeons etc.

- 3) Delicate coral reefs in both groups.
- 4) Active volcano at Barren Island in the Andaman and Nicobar group. (5) Earthquake Zone V

TRIBAL CONCERNS :

- 1) All tribes in Andaman & Nicobar Islands are Particularly Vulnerable Tribal Groups → eg Sentlese in Nicobar.
- 2) Similarly, Lakshadweep too has distinct tribal communities, who have the right to protect their culture and way of life.

These will be disrupted by economic exploitation.

The government of India has acknowledged these concerns and undertaken the following steps to ~~preserve~~ develop the

islands :

- 1) 24x7 Power for All in Andaman & Nicobar Islands, with Japanese help.
- 2) Special permit requirement even for Indians to visit tribal areas
Nicobar Islands are mostly inaccessible to tourists.
- 3) Development Plan for the Andamans
 - recognises need for economic, social, ecological and cultural sustainability
 - Andaman and Nicobar Protection of Aboriginal Tribes Regulation 1956
 - Little Andaman protected as Ongc Tribal Reserve.
 - Dugong Creek, harbour is proposed, will benefit Ongcs.

Way forward : Similar plan for sustainable development of Lakshadweep Islands.