

MAINS 2019-GENERAL STUDIES I APPROACH

Duration: 3hours

Marks: 250

1. Highlight the Central Asian And Greco Bactrian elements in Gandhara Art.

(10 marks, 150 words)

Approach

Underlying theme : Architecture from ancient to modern times

Keyword : Highlight means you clarify a topic by giving a detailed account with examples

Introduction : Introduce the answer by describing few features of Gandhara art : the type of material, religious influence, area and promoted by Kushana dynasty

Body : Gandhara School was based on Central Asian and Greco-Bactrian norms encapsulating foreign techniques and an alien spirit. It is also known as Graeco-Buddhist School of art.

Divide the answer into two parts : Central Asian influence and Greek influence

Central Asian influence

- **Anthromorphic tradition :** The tradition of representation of Buddha in human form. Gautam Buddha or Gautama Buddha, had a youthful Apollo-like face.
- **Dress :** Draperies arranged in style of Roman toga.
- Incorporated many motifs and techniques from classical Roman art too as seen from vine scrolls, cherubs bearing garlands, tritons and centaurs.

Greek Influence

- Artistic beauty :
 1. Wavy hair
 2. Large forehead
 3. Large ears
 4. Eyes half closed
 5. Protuberance on head

Greek influence in Gandhara sculpture is observed in the form of Buddha's wavy hair, draperies covering both shoulders. footwear, Buddha the founder of Buddhism, under the projection of Greek God Herakles and so on. In fact, the very concept of man-God is attributed to Greeks.

- Halo and bun of Gandhara Buddha signifies imbibation of Buddha from Greek tradition.
- Stucco plaster, which was commonly observed in Greek art, was widely used in Gandhara artwork for the decoration of monastic and cult buildings

Conclusion : Summarize the answer by describing how foreign elements were fused in under the influence of Kushana dynasty as well as Gandhara being a cross road of cultures.



2. The 1857 Uprising was the culmination of the recurrent big and small local rebellions that had occurred in the preceding hundred years of British rule. Elucidate

(10 marks, 150 words)

Approach

Underlying theme : Modern Indian history from about the middle of the eighteenth century until the present

Keyword : Elucidate means to describe by giving examples

Introduction: Introduce the answer by giving a brief description about British policies and consolidation of power which led to general discontent and big and small mutinies.

The Revolt of 1857 was no sudden occurrence and was the culmination of a century-long resistance to British rule.

Body: 1. Give an account of both civil and tribal uprisings before 1857 rebellion with examples :

- The series of civil rebellions, which run like a thread through the first 100 years of British rule, were often led by deposed rajas and nawabs or their descendants, uprooted and impoverished zamindars, landlords and poligars (landed military magnates in South India), and ex-retainers and officials of the conquered Indian states. The backbone of the rebellions, their mass base and striking power came from the rack-rented peasants, ruined artisans and demobilized soldiers.
 - The tribal people organized the most militant outbursts and insurrections during the 19th century. The colonial administration ended their relative isolation and brought them fully under the ambit of colonialism.
2. Briefly define the general causes as well as specific causes of some of these rebellion preceding 1857 rebellion.

Civil rebellion : These almost continuous rebellions were massive in their totality, but were wholly local in their spread and isolated from each other. They were the result of local causes and grievances, and were also localized in their effects. They often bore the same character not because they represented national or common efforts but because they represented common conditions though separated in time and space.

Tribal rebellion: The colonial administration recognized tribal chiefs as Zamindars and introduced a new system of land revenue and taxation of tribal product. It encouraged the influx of Christian missionaries (especially in Bengal and Assam) and thus created serious threat to the tribal religion and culture. It introduced a large number of outsider middleman (money-lenders, traders and revenue farmers) among the tribal. They increasingly took possession of tribal lands and trapped the tribal in debt-web and this brought the tribal people within the fold on the colonial economy and exploitation. The large scale influx of non-tribal region also created serious threat to the tribal.

Conclusion : The movements preceding 1857 rebellion were local in nature but provided a context to the future rebellion by making aware of common grievances.



3. Examine the linkages between the 19th century Indian Renaissance and the emergence of national identity. (10 marks, 150 words)

Approach

Underlying theme : Modern Indian history from about the middle of the eighteenth century until the present

Keyword : Examine means to inquire into the topic and make an evaluation from the your own perspective.

Introduction: Give a brief background about Indian renaissance

The social and religious movements, popularly termed as the renaissance, which preceded the political struggles, are considered a necessary precursor to the coming of nationalism. Hence, nationalism is conceptualised as a natural outcome of the renaissance.

Body:

Discuss the linkage between Indian renaissance and emergence of national identity

- Growing spirit of Indian nationalism which aimed at giving back to the nation its lost identity
- Concepts like Back to Vedas given by Arya Samaj, established the concept of national identity which was superior to the British colonizers.
- With the introduction of English as the medium of instruction, it became the channel through which India discovered the liberal thought that was transforming Europe and establishing concept of nation and democracy.

Conclusion: Indian renaissance gave a new awakening to the people, it not only introduced the concept of national identity but also introspection into strengthening that identity by eliminating social evils.

4. Assess the impact of global warming on the coral life system with examples 10 marker

Approach

Introduction

According to UNESCO, the majority of the coral reefs would cease to exist by the end of this century if we continue to emit greenhouse gases as usual.

Body

Effects of global warming on the coral system

1. Warming ocean- induces thermal stress, results in coral bleaching
2. Sea level rise- leads to sedimentation
3. Changes in precipitation- increased runoff and sediments and land based pollutants.
4. Changes in direction of ocean currents
5. Ocean acidification
6. Changes in storm patterns- stronger and more frequent

Conclusion: Limiting global average temperature to well below 2°C above pre-industrial levels in line with the Paris Agreement provides the only chance for the survival of coral reefs globally.



5. Discuss the causes of depletion of mangroves and explain their importance in maintaining coastal ecology 10 marker

Approach

- Introduction
 - Mangrove forests are extremely productive ecosystems that provide numerous goods and services both to the marine environment and people.
- Body
- **Causes of depletion**
 - Agriculture purpose: Clearing mangroves for expansion of agriculture
 - Over harvesting of mangroves for their wood for firewood, pulp production etc.
 - Changes in the course of a river: Construction of dams and projects often affects the mangroves
 - Pollution: Agriculture run off contains various pesticides and fertilizer residues which is detrimental to the health of mangroves
 - Climate change: Mangroves are sensitive to changes in the sea level rise.
 - Overfishing: often results in destruction of mangroves
- **Importance of mangroves in maintaining coastal ecology**
 - Biodiversity: Home to number of species and biodiversity hotspots Ex; sunderbans
 - Water quality: Play key role in maintaining the quality of the water
 - Act as defense : In times of Tsunami and Cyclones
 - Carbon storage: Sequester carbon at 4 times greater than mature tropical forests
- **Conclusion**
 - Mangrove forests are extremely productive ecosystems, providing critical services that benefit all of us. It is the need of the hour to protect mangroves from destruction and lead to the path of restoration.

6. Can the strategy of regional resource-based manufacturing help in promoting unemployment in India? 10 marker

Approach

Introduction: According to the Periodic Labour Force Survey (PLFS) the Labour Force Participation Rate (LFPR) in India has declined to 36.9% in 2017-18 from 39.5% in 2011- 12 . The Worker Population Ratio (WPR) in India has also declined to 34.7% in 2017- 18 from 38.6% in 2011-12. The unemployment rate is the decade highest at 6.1%.

Body : How regional resource manufacturing could help in elimination of unemployment?

- It would decrease disguised unemployment
- Easy availability of raw material for example Mango jelly cottage industries in Andhra Pradesh.
- Strengthens social ties
- Wider availability of market
- Promotion of IP rights like GI tag for example UP scheme of One district one product



- Harnessing the potential of the region
However there are many challenges that needs to be addressed
- Unskilled labour
- lack of capital (Loan to MSMEs in 59 minutes, Stand up and Start up India are right steps in this direction)
- lack of entrepreneurship
- failure of cooperatives
- lack of infrastructure like roads, logistics etc
- lack of access to market
- Unorganized nature etc.

Conclusion: The regional resource based manufacturing despite many challenges could help in tackling unemployment. The need of the hour is to incentivise, formalise and prioritize the industry as mentioned by economic survey to harness it's full potential.

7. Discuss the factors for localisation of agro-based food processing industries of North-West India. 10 marker

Approach

Introduction: Agro processing involves the processing of raw materials from the field and the farm into finished products for rural and urban markets. Major agro-processing industries are food processing, sugar, pickles, fruit juices, beverages (tea, coffee and cocoa), spices and oils fats and textiles (cotton, jute, silk), rubber, etc. Agro processing includes canning, producing cream, fruit processing and confectionery. Government has taken major steps through PM Kisan SAMPADA yajana & APEDA. However north west region has diverse climate ranging from dry, humid to chilly weather.

Body

- Geography of North-West India
 - Punjab, Haryana, Himachal, Uttarakhand, Delhi, Western UP, Rajasthan etc.
- Economy of North-West India
 - Areas such as Punjab, Haryana, Himachal, Western UP have high agricultural production due to good irrigation infrastructure.
- **Issues food processing industry is facing :-**
 - Supply chain issues - high raw material cost, intermediaries, high cost of transport, storage, package
 - Logistics cost - high for transportation, warehousing, material handling as the region comprise varied climatic zones
 - Economic issues - dominated by unorganised sector
 - Inadequate infrastructure - inadequate road, rail, port facility, cold storage, warehousing facility
 - Political issues - absence of national policy



- But these issues have been tackled better in the North-Western states as shown below.
- **Factors which favoured creation of agro based industries in north west India are as follows :**
- Availability of raw materials: High production in north west states. Eg: Punjab alone accounts for 17% of wheat and 11% of rice production. The climatic conditions favours growth of hardy crops like millets. Rajasthan, Punjab, Haryana are leading producers of wheat, maize, jowar, bajra, rice, groundnuts, mustard.
- State Government Initiatives: Food Processing considered as a thrust sector in Punjab Industrial and Business Development Policy 2017 for disbursement of special incentives. Investors Portal 'Nivesh Bandhu' will provide information regarding all policies of central and state governments. And Food Map of India will help investors take decisions regarding the location of industry as per the presence of surplus production.
- Availability of manpower - tapping of skilled labour force of Rajasthan, Haryana, Punjab & curbing unemployment leading to a virtuous cycle of growth & inclusion.
- Private players & startups - World Food India initiative to showcase investment potential of India in the Food Processing Sector, 61 Countries CEOs participated in this event, which has helped to understand the potential of the country, leading to increased investment
- Policy support : Centre/State initiated some moves to establish mega food parks schemes in Punjab reducing food wastage. "Pradhan Mantri Kisan Sampada Yojana" Scheme has helped in integrating food processing units and food trade with the farmers creating huge opportunities for employment of increasing income of the farmers.
- Fiscal Incentives for Food Processing Units: Eg: in Punjab - 100 % reimbursement all taxes and fees paid for purchase of raw material for food processing units up to 10 years
- Capacity building of human resources: Best is class education for Food Processing, Agriculture and Allied Courses Eg: National Institute of Food Technology Entrepreneurship and Management in Sonapat, Haryana.
- Research and Development: New ideas being translated into agricultural productivity & business opportunities Eg: Indian Institute of Maize research in Ludhiana.
- Transportation & warehousing costs - cold storage & proper logistics is necessary because the harsh weather can cause damage & perishability.
- Advanced levels of Infrastructure: North-West's existing infrastructure is amongst the best in India. These States along with private participants have continuously made investments to enhance connectivity, communication networks, and develop the urban infrastructure in these States.
 - Excellent air, road, and rail connectivity as well.
- Credit availability - ease in the process of credit generation to women & entrepreneurs & MSME's through SIBDI
- Availability of resources - creation of Indira Gandhi canal, Bhakra dam have improved irrigation facilities & HEP generation required by industries.
- Market mechanism - organised APMC's, local mandis thereby eliminating middlemen



- Literacy - research & development, agricultural institutions [ICAR], government channels like DD-Kisan have helped in providing timely information to the farmer's respective needs.

Way Forward

- Sunrise industry - focus on other areas as well. Food processing has numerous advantages which are specific to Indian context. It has capacity to lift millions out of poverty and malnutrition. Government should develop industry in a way keeping in mind the interests of small scale industry along with attracting big ticket domestic and foreign investments.
- Simplify processes to start: The entire food value chain in India is controlled by multiple ministries, departments and laws. A comprehensive policy will ensure that various initiatives across the departments are aligned to the overall goal of ensuring availability, awareness, affordability, access, quality and safety of food.
- Encourage collaboration: The target of ensuring food security for more than a billion people requires a concerted effort by all stakeholders including government and the food processing industry. In addition to private players and government, industry bodies and academia will also have a crucial role in the success of these initiatives.

8. What makes Indian society unique in sustaining its culture? Discuss. (10 marks, 150 words)

Approach

Underlying theme : Salient features of Indian Society, Diversity of India.

Keyword: Discuss means Giving both the sides of the story and conclude with positive/negative.

Introduction: Give a brief introduction about Indian society and its culture.

Indian society is multifaceted to an extent perhaps unknown in any world culture.

Body: Discuss how Indian society is unique in sustaining its culture

- Through Socialization and importance of social control through institution of family.
- Continuity and Change in social institutions: Eg: Though joint family has disintegrated but the importance of kith and kin in major life decisions and events like marriage, death remains and so is the culture.
- Adaptive in nature
- Religion and culture as a binding force and reinforcement through festivals, fairs etc
- Government initiatives

Conclusion: India society culture has sustained itself through times immemorial through its adaptive, modernizing nature

9. "Empowering women is the key to control population control" Discuss.

(10 marks, 150 words)

Approach

Underlying theme: Role of women and women's organization, population and associated issues, poverty

Keyword : Discuss means Giving both the sides of the story and conclude with positive/negative



Introduction: Population growth is straining the our nation to the breaking point, and educating girls is the single most important factor in stabilizing that.

Body: Discuss how Empowerment of women and population control related

- In most, if not all, countries, women do not have as much power as men. They are disadvantaged in multiple ways, including accessing education and employment opportunities, and in their ability to control their fertility, sexual health and safety from harm.
- Traditions of child marriage violate human rights, cause tremendous suffering, and reduce opportunities for education, autonomy and a decent quality of life. Early marriage also leads to larger families and brings greater risk of maternal death and injury related to childbirth.
- Patriarchal societal norms mean that a woman's ability to determine the number and spacing of children are limited or non-existent.
- Even in many developed countries, women often get paid less than men for the same jobs, face gender-based discrimination and violence, and suffer from misogynistic attitudes and sexist policies that restrict their autonomy over their own bodies.
- Birth control and contraceptive techniques unawareness or no power to use
- Ensuring equal participation of girls and women in education and the work place;
- Giving women sovereignty over their bodies, including unrestricted access to modern contraception and abortion;
- Ending the practice of child- and forced marriage, which violate girls' rights to a healthy, fulfilling life;
- Granting women full equality under all laws and ending all policies that disadvantage women;
- Eliminating patriarchal attitudes and behaviours that cause women to suffer and that prevent them from accessing positions of power;
- Providing adequate parental leave and childcare opportunities that enable women to have the same unhindered career progression as their partners.

Conclusion: The number of years a woman has spent in education is usually inversely correlated with the number of children she will bear in her lifetime.

10. What are challenges to our cultural practices in the name of Secularism?

(10 marks, 150 words)

Approach

Underlying theme : Social empowerment, communalism, regionalism & secularism

Keyword: It is a straight forward question

Introduction : Define Secularism

Secularism means separation of religion from political, economic, social and cultural aspects of life, religion being treated as a purely personal matter.

Body: Write about challenges to cultural practices in name of secularism

Secularism is often perceived to be a challenge for cultural practices :



- Seen as homogenizing all the practices
- Threat to personal laws
- As a tool for minority appeasement
- Confusion between Hindu and Indian style of life eg: opposition to yoga

Right from the beginning, Indian secularism drew its strength from pluralism. Indian concept was not opposition of religion but was related to communalism. It is not a challenge to cultural activities but an equidistant distance from religion. The secular activities like economic, political etc are kept separated from religion and not a opposition to religion.

Conclusion: Secularism just stands for respect for all religions and not a challenge in any form of cultural practice.

11. Many voices had strengthened and enriched the national movement during the Gandhian phase. Elaborate. (15 marks, 250 words)

Approach

Keyword: Elaborate means Bring out things clearly as if the examiner does not know what it is

Introduction: Briefly describe the Gandhian phase

In the history of nationalism a single individual is often identified with the making of a nation. Thus, for example, we associate Garibaldi with the making of Italy, George Washington with the American War of Independence, and Ho Chi Minh with the struggle to free Vietnam from colonial rule. In the same manner, **Mahatma Gandhi** has been regarded as the 'Father' of the Indian nation

Body: discuss how varied voices during the Gandhian phase strengthened the movement

- **Swarajists** : who favoured electoral politics entry to combat imperial power
- Democratic Socialists : Young Congress leaders such as Nehru, Subash Chandra Bose
- Forward Bloc, INA
- Communists
- Revolutionaries

Conclusion : In Gandhian phase, though methods of Gandhi were prominent but it also gave space and voice to many other voices which further strengthened the movement.

12. Assess the role of British imperial power in complicating the process of transfer of power during 1940s. (15 marks, 250 words)

Approach

Keyword: Assess means bring out the clear picture

Introduction : Give a brief background of Indian Independence Act which led to transfer of power

The 1947 Indian Independence Act 1947 is an Act of the Parliament of the United Kingdom that partitioned British India into the two new independent dominions of India and Pakistan.

Body: Write about role of British imperial power in making the transfer of power complicated



- The Indian Independence Act, passed by the British parliament, abandoned the suzerainty of the British Crown over the princely states and dissolved the Indian Empire, and the rulers of the states were advised to accede to one of the new dominions. This led to scramble for power among princely states and making consolidation of India a long process, which was finally done by Patel.
- Rushed in and armchair division by Racliffe commission for demarcation of India - Pakistan boundary which has given rise to disputes which continue till now.
- The Punjab's population distribution was such that there was no line that could neatly divide Hindus, Muslims, and Sikhs.
- A well-drawn line could have minimized the separation of farmers from their fields, and also minimize the numbers of people who might feel forced to relocate.
- In the course of that tragic exodus of innocents, as many as a million people were slaughtered in communal massacres that made all previous conflicts of the sort known to recent history pale by comparison.

Conclusion : A haphazard and no moral liability for peaceful and fair transfer of power by British Imperial power led to deep seated problems which both the countries suffer till date.

13. Explain how the foundations of the modern world were laid by the American and French Revolutions. (15 marks, 250 words)

Approach

Keyword : Explain means to Bring out things clearly . as if the examiner does not know what it is

Introduction : Give a brief description about American and French Revolution

American Revolution was a colonial revolt which occurred between 1765 and 1783. The American Patriots in the Thirteen Colonies defeated the British in the American Revolutionary War with the assistance of France, winning independence from Great Britain and establishing the United States of America.

Body

Talk about how both the revolution laid foundation of modern world

American revolution

- committed the world to ideals of liberty, equality, natural and civil rights, and responsible citizenship and made them the basis of a new political order.
- Separation of Church and State
- Republican Governments
- Extinguishing the Remnants of Feudalism and Aristocracy
- End to slavery

French Revolution

- The revolution proclaimed that it was the people who would hence forth constitute the nation and shape its destiny.

- Ideal of liberty, equality and fraternity foundations of a democracy were being revealed, a core value in a democratic society is equality across everyone.
- Universal suffrage of men that came from all social backgrounds was promoted as a government-sponsored reform

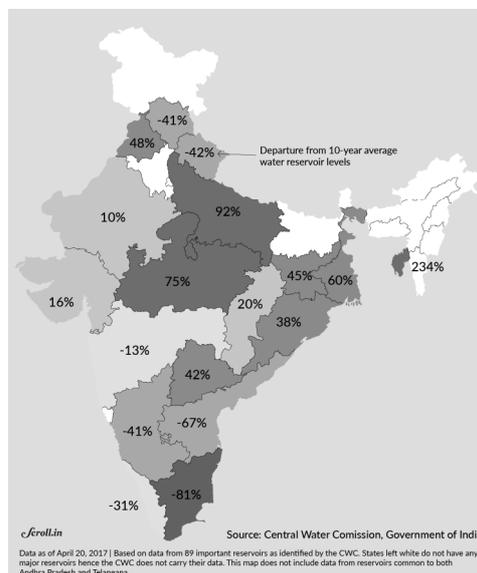
Conclusion: American and French Revolution thus opened door to a new modern, demo ration world, the ideals it established still to date hold high relevance.

14. What is water stress? How and why does it differ regionally in India? 15 marker

Approach

Introduction

- As many as one billion people in India live in areas of physical water scarcity, of which 600 million are in areas of high to extreme water stress, according to a new report.
- India is currently ranked 120 among 122 countries in the water quality index.
- Body
- What is water stress?
 - **Water stress** –Water stress occurs when the demand for water exceeds the available amount during a certain period or when poor quality restricts its use. Water stress causes deterioration of fresh water resources in terms of quantity (aquifer overexploitation, dry rivers, etc.) and quality (eutrophication, organic matter pollution, saline intrusion, etc.).
- How does it differ regionally?



- Why does it differ regionally?
 - Urban areas:
 - In 2015, about 377 million Indians lived in urban areas and by 2030, the urban population is expected to touch 600 million. Already, according to the National Sample Survey, only 47% of urban households have individual water connections and about 40% to 50% of water is reportedly lost in the distribution system due to various reasons.



- Chennai recently ran out of water. It also witnessed a dry spell that lasted for over 200 days, leading to the drying up of 4 reservoirs that supply water to the city. This problem was aggravated by manmade mismanagement of water resources.
- In New Delhi, for example, water distribution loss was reported to be about 40%
- In Mumbai, where most residents get only 2-5 hours of water supply per day, the non-revenue water loss is about 27% of the overall water supply.
- Leakages in distribution: To top this, are issues of leakage losses, water pricing and metering of water. Lack of proper maintenance of existing infrastructure causes further losses of almost 40 per cent of piped water in urban areas.
- Rural/Agri areas:
 - irrigation, farm practices: traditional techniques of irrigation causes maximum water loss due to evaporation, drainage, percolation, water conveyance, and excess use of groundwater. As more areas come under traditional irrigation techniques, the stress for water available for other purposes will continue.
- Pollution of water resources:
 - Industrial Areas: Discharge of industrial effluents without proper treatment Eg: Yamuna outside of Delhi, or Noyyal river in Tiruppur
- Inter-state issues: Eg: Cauvery river - Already, Karnataka has refused to release water from the Cauvery river, which the two states share, to Tamil Nadu, saying that it has barely enough to meet its own needs
- Below average rainfall in certain areas: With nearly 50 per cent of India grappling with drought-like conditions, the situation has been particularly grim this year in **western and southern states** that received below average rainfall.
- Groundwater overdependence and exploitation in some areas: According to the Composite Water Management Index (CWMI) report released by the Niti Aayog in 2018, 21 major cities (Delhi, Bengaluru, Chennai, Hyderabad and others) are racing to reach zero groundwater levels by 2020, affecting access for 100 million people.
- Encroachment of water bodies in areas where there is population pressure

Conclusion: The Union government recently formed a new Jal Shakti (water) ministry, which aims at tackling water issues with a holistic and integrated perspective on the subject. The ministry has announced an ambitious plan to provide piped water connections to every household in India by 2024.

It is important to promote water conservation measures such as:

- Development of watersheds
- Improving storage of surface water
- Recharging groundwater
- Mitigating floods through storm water drains

15. How can the mountain ecosystem be restored from the negative impact of development initiatives and tourism?

Approach



Introduction: Many tourist destinations are located in mountain regions. About 15–20% of the tourist industry or US\$ 70–90 billion per year, is accounted for by mountain tourism. The Alps alone account for an estimated 7-10% of annual global tourism turnover. Similarly, bringing developmental activities like housing, transport, communication, water supply etc are considered to make lives easier in the regions. But these areas are also highly sensitive and need to be taken care of to reduce any negative impact of such activities.

Body

- What is mountain ecosystem?
 - Montane ecosystems refers to any ecosystem found in mountains. These ecosystems are strongly affected by climate, which gets colder as elevation increases. They are stratified according to elevation. Dense forests are common at moderate elevations. However, as the elevation increases, the climate becomes harsher, and the plant community transitions to grasslands or tundra.
- What is the negative impact of development initiatives and tourism on mountain ecosystems? (Add examples)
 - Natural hazards
 - Himalayan frontal arc is one of the seismically active regions of the world. The 50 km wide zone between the Main Boundary Thrust (MBT) and the Main Central Thrust (MCT), is seismically most active. This zone is also known as the Main Himalayan Seismic Belt in which the massive earthquakes ($M > 8$) have been occurring.
 - Due to development related activities and tourism, more traffic is brought to the area, more damages are being done due to unplanned activities. This results in the area getting affected by landslips, landslides, flash floods and other changes in the surface topography owing to high seismic activity and fragility of the land mass. Recurrent landslides cause heavy damage to property, disruption of road communication and loss of human lives every year.
 - Give some examples - Notable among such events are Malpa landslide in the Kali valley (1998), Varunavrat landslide in Uttarkashi (2003) and a series of landslides and flash floods in the Satluj valley during 2000 and 2005.
 - Biological diversity
 - Flora
 - Mountain ecosystems are high in endemic and threatened species distribution.
 - But such development and tourism activities have caused threats to rare endemic and threatened species and now several localities have been identified as important areas for plant conservation.
 - Examples: Drass and Surru Valley in Ladakh
 - Fauna
 - We are aware of the information available for mountainous ecosystems pertaining to larger vertebrates, especially large mammals and birds that are easily observed.
 - Smaller mammals, reptiles, amphibians, and fishes have been under sampled, while the insects too are present and are threatened due to such activities.
 - Example: Black-necked Crane (*Grus nigricollis*) seen near Rhongo village Ladakh



- Many plastic remains from tourists and humans are getting accumulated in these mountainous regions affecting the ecology and food of such fauna.
- Ecosystem services and diversity
 - The abrupt rise of the mountains from less than 500m to over 8,000m results in a diversity of ecosystems that range from sub-tropical to alpine and arid types. The complexity of topography, geology and relief features, coupled with intensive biotic influence, have given rise to a variety of ecosystems
 - Forest ecosystem
 - The North-Eastern region has the most diverse types of forest ecosystems in the country.
 - The forest cover assessments made for different North-Eastern states by Forest Survey of India (FSI) indicates that in many NE hill states there has been a decline
 - Alpine Meadows
 - The alpine arid areas and alpine meadows of the Greater Himalaya have been traditionally used by a large number of local and migratory pastoral communities as summer grazing ground.
 - For instance, degradation of ecosystem is causing these communities to keep going higher in search for better ground.
 - Grassland Ecosystems
 - Most of the grasslands in the temperate, sub-tropical and tropical belts in many places are anthropogenic in nature i.e., derived as a result of frequent fire and forest clearing. This helps in promoting agriculture for the communities or for large contract farmers. It's a fertile ground for large extensive cultivation. Such developments also have resulted in loss of forests and biodiversity.
 - Wetlands
 - Assam's wetland, Deepar beel, under threat (near 33rd national games location)
 - Ecologically sensitive Calcutta wetlands under threat
 - India's only wetland cat is under multiple threats. Fishing Cat downgraded to "Vulnerable" from "Endangered"
 - Agro-ecosystems
 - U can talk about many forest areas being depleted for making plantations or monoculture crops that comes with developments like agriculture.
- Measures to restore the health of mountain ecosystems.
 - Environmental Impact Assessments - to approve initially, and then periodically as well.
 - Capacity building and sharing best practices: Survey of the different forms of soils, forest, water use, crop, plant and animal resources of mountain ecosystems, taking into account the work of existing international and regional organizations
 - Vulnerable area mapping: Identify mountain areas threatened by air pollution from neighbouring industrial and urban areas or from tourism related activities.
 - Policy: Encourage policies that would provide incentives to farmers and local people to undertake conservation and regenerative measures
 - Enhance understanding of mountain ecosystems and the conservation of its biological and cultural diversity, and sustainable development



- improve coordination of regional efforts to protect fragile mountain ecosystems through the consideration of appropriate mechanisms, including regional legal and other instruments
- Promote the development of policies that enhance the management of mountain ecosystems including biodiversity conservation, sustainable development, climate change mitigation and adaptation
- Indigenous/ local knowledges and conservation practice
- Social learning and nature-based solutions with an emphasis on women, youth, indigenous and local communities
- Ensuring reducing displacement and migration from or into those areas
- alternative livelihood opportunities.
- Greater inclusion of community groups and grassroots organizations within global policy making

Conclusion: Care should be taken to ensure that fruits of development and tourism shouldn't be at the expense of damage to the environment.

16. How is efficient and affordable mass transport key to the rapid economic development of India?

Approach

- What are efficient and affordable mass transport
 - Mass transport systems are a system of transport for passengers by group travel systems available for use by the general public, typically managed on a schedule, operated on established routes, and that charge a posted fee for each trip.
 - Examples of public transport include city buses, trolleybuses, trams (or light rail) and passenger trains, rapid transit (metro/subway/underground, etc.) and ferries.
 - They have to be efficient- (by using AI/analytics to plan routes and timings and number of such vehicles at a particular time). They should be made less polluting (by removing the 15-20 yr older vehicles from the roads, or using electric vehicles. At the same time the success of public mass transport depends on whether it is affordable to the public at large.
- How do they contribute to rapid economic development of India
 - By promoting clusters and agglomerations: it can sustain clusters of industries and businesses by supporting their closer proximity to each other, improving productivity and creating clusters of activities. Example: Coimbatore is a hub of textile industry and is connected to Tiruppur, Palakkad, Salem etc.
 - Enhances job creation
 - Improves labour market accessibility: efficient transportation reduces the time distance between the suburbs, where some of the labor force lives, to the down town areas. Entire Delhi metropolitan area sources labour, raw materials, etc from the larger tri-state area Delhi, Haryana, UP quite efficiently.
 - Opens new markets for business: transportation infrastructure allow companies to expand their market reach and access to a larger customer base, which can increase their competitiveness. Rural areas can now supply to urban areas where there could be markets for their products efficiently if it is affordable to them.



- Enhances supply chain efficiency: When businesses are clustered together, it is easier and quicker for them to reach their suppliers and customers. This phenomenon has a positive impact on freight logistics and delivery scheduling.
- Promotes trade facilitation: by cutting time and distance to reach bring labour, raw materials, and markets closer to each other.
- Will help in creating economies of scale when large quantities of goods/services can be transported and quickly.
- Increases productivity: When transportation improvements increase the accessibility of people and businesses to reach jobs, services, goods, and activities, productivity also increases. This uptick may be due to reduced travel time and infrastructure enhancements.
- Rural areas: Creates jobs in backward and rural areas by promoting industries in those areas as even in those areas they can bring in raw materials and send out their final products.
- Urban areas: promotes labour mobility especially those of women and the poor to travel across the length and breadth of the city for required purposes.
- The economic impact of transportation projects can be measured in the benefits they bring to economic growth, job creation, trade facilitation, and the economies of scale created

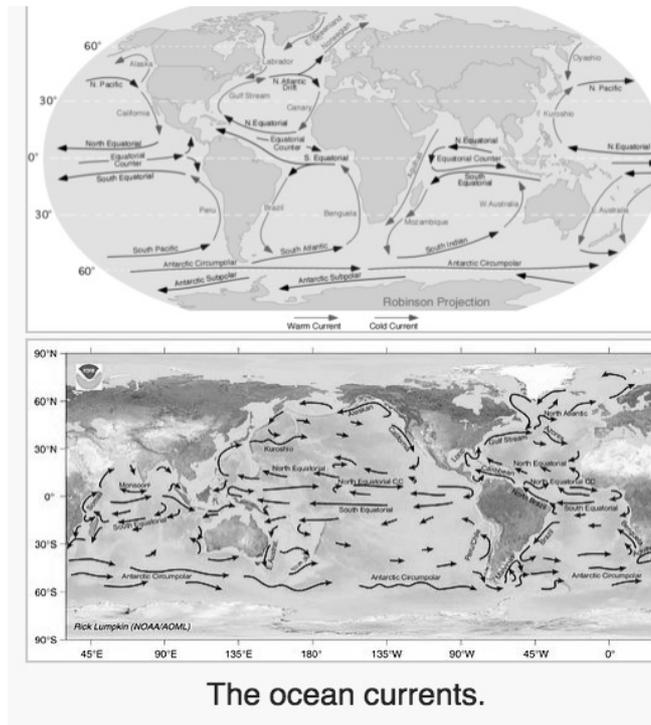
Conclusion: While the benefits of travel time savings are substantial, the traditional method of measuring seconds saved per trip is outdated and insufficient. The investment in mass transportation in India contributes much more to the economy than the travel time savings alone.

Just disincentivizing private vehicles is not the answer, instead the focus should be to invest and strengthen the public mass transport system to enable efficiency and affordability to the masses.

17. How do ocean currents and water masses differ in their impacts on marine life and coastal environment? Give suitable examples.

Approach

- What are ocean currents
 - An ocean current is any more or less permanent or continuous, directed movement of ocean water that flows in one of the Earth's oceans. The currents are generated from the forces acting upon the water like the earth's rotation, the wind, the temperature and salinity differences and the gravitation of the moon.

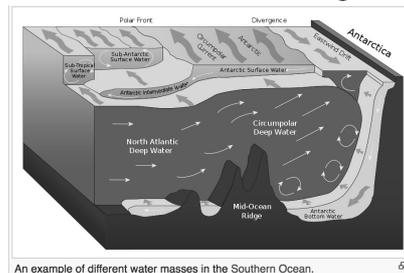


- Impact of ocean currents on marine life are as following: (Give examples)
 - Upwelling: Sea life is concentrated in the sunlit waters near the surface, but most organic matter is far below, in deep waters and on the sea floor. When currents upwell, or flow up to the surface from beneath, they sweep vital nutrients back to where they're needed most.
 - Downwelling: The ocean currents take oxygen-rich surface water and flushes it through the deep sea. Without this renewal, the dissolved oxygen in bottom sediments and waters would quickly be used up by the decay of organic matter.
 - Examples
 - Example for upwelling: Nowhere is the link between ocean circulation and productivity more evident than around Antarctica. There, strong currents pump nitrogen and phosphate up from the deep sea to fuel vast blooms of algae and other plants. These plankton are eaten by swarms of shrimp-like crustaceans called krill. Because of upwelling nutrients, krill are abundant enough to feed the largest animals on earth, baleen whales, as well as myriad penguins, seals, and seabirds. In fact, despite the harsh conditions, the biomass of Antarctic krill is thought to be greater than that of any other animal on Earth.
 - Example for downwelling: Anaerobic bacteria takes over decomposition, leading to a build up of hydrogen sulfide. Few benthic animals would survive such toxic conditions. Hence, the downwelling brings in that oxygen to the deep sea to protect the benthic animals.
 - Changes in water circulation are "fundamental and comprehensive" changes. These are driving major changes in marine ecosystems
 - expansion of dead zones within the ocean depths.
 - less abundant coral reefs, sea grasses and mangroves (important fish nurseries);

- fewer, smaller fish;
 - a breakdown in food chains;
 - changes in the distribution of marine life;
 - and more frequent diseases and pests among marine organisms.
- Impact of ocean current on coastal environment

When land borders the ocean, the currents of the ocean warm or cool it, depending on the nature of the particular current that flows by that land. In cases where a warm current flows along a particular coast, that coastal area will generally be warmer than it would otherwise be if it were landlocked. Similarly, cool currents cause coastal lands to remain cooler than they would be if they were landlocked. Coastal areas of northern Scandinavia and northwest Russia are often able to remain ice-free throughout the winter because of a warm current that flows from the central Atlantic.

- What are water mass
 - Water mass, body of ocean water with a distinctive narrow range of temperature and salinity and a particular density resulting from these two parameters. Water masses are formed as the result of climatic effects in specific regions.
 - Example: Antarctic bottom water is an important water mass that forms on the Antarctic continental shelf as a cold, dense residual brine during the formation of sea ice.



- Example: Mediterranean water is another example of a water mass. Excessive evaporation, low rainfall, and high temperatures continually generate large volumes of warm (11.9° C), salty (36.5 parts per thousand) water.
- Impact of water masses on marine life are as following:
 - Allows for a habitat for organisms that evolve to tolerate a particular saline range.
 - Allows for a habitat for organisms that evolve to tolerate a certain temperature range.
 - Different water masses result in richer biodiversity. - Different organisms in surface water mass, deep water mass etc.
 - Impacts the health of corals
 - Influence development of sea weeds, algae which is an important economic resource for countries.

With the regular patterns of ocean currents and water masses, certain ecology has developed under certain conditions. Any disturbance to that will affect the entire ecology.

18. Do we have cultural pockets of small India all over the nation? Elaborate with examples.

Approach

Introduction: Indian culture, often labelled as an amalgamation of several cultures, spans across the Indian subcontinent and has been influenced by a history that is several millennia old. Many elements



of India's diverse cultures, such as Indian religions, philosophy, cuisine, languages, martial arts, dance, music and movies have a profound impact across the Indosphere, Greater India and the world. Similarly, it is evident that there are cultural groupings all over the regions of India.

Body

- Tribal culture: Different tribal groups inhabited India have different culture compared to mainstream culture. For example: In North-east, some tribal groups follow matrilineal system.
- Festivals - wide variety of festivals are celebrated widely across every part of India which determine that people with different culture also participates in the celebration. For example in Maharashtra, people of diverse caste & religion participates in the Ganpati procession, similarly it happens during the Durga Puja celebrated in east, Holi, Diwali, Raksha bandhan is widely celebrated.
- Culture changes with each state: In every state there is a different culture in the aspects of marriage, celebrating festivals etc.
 - For example the rituals during the time of marriage majorly differs from each state
 - Even culture differs in each community in a religion: For example differences in shias and sunnis culture.
- Food habits: In some parts of India, Brahmins are allowed to consume non vegetarian where as in some other parts they need to follow strict vegetarian food habits.
- Religious influences: For instance, Malapuram district is a Muslim majority district in Kerala, and makes a strong and rich contribution to Kerala or Malayalee culture through local Islamic influences. Similarly, districts like Kottayam make a rich contribution through Christian influences.
- Linguistic influences: With its many languages, and dialects, it is hard to say what's an 'typical' Indian accent. Rich diverse languages fluidly transition into another when one visits the border areas, and then on to nearby states.
- Similar differences in caste, customs, dress habits, etc.

Despite the many and diverse cultural pockets, there is still a national identity and unity.

- This means that there's no monochrome ideals or a narrow conformism required. India can endure differences of colour, caste, creed, culture, cuisine and conviction, custom, and costume and still rally around a consensus and be united.
- Acceptance of difference rather than mere tolerance has been the great Indian way of embracing our diversity - idea that was perpetuated by Swami Vivekananda inspired from the Sanskrit shloka from the Rig Veda "Ekam Sat Vipra bahudha vadanti"

In spite of such diversity, Indians are bound by a common larger nationality which is imbibed in our adherence to democratic values, ideals of freedom struggle as reflected in our constitution - respect for national flag, national anthem; intermingling of cultures and traditions which is manifested in common festivals, free movement of people across the length and breadth of our country and so on.

Conclusion: Our country with subcontinental dimensions, varied geographies and diverse ethnicities has given birth to unique local cultural islands which resemble a small nation in themselves and yet are bound by the common thread of Indian nationality



19. What are the continued challenges for women in India against time and space?

Approach

Introduction: Women comprises of nearly half of the population in India have been facing numerous challenges in India against time and space even in the 21st century.

Body: What are the challenges being faced by the women in terms of time and space?

1. Child marriages and related challenges like early motherhood, no say in household matters, number of children to give birth, domestic violence and dowry
2. Not to allow women stepping outside the house in the name of tradition, culture, etc.'
3. Glass ceiling effect: in terms of promotion for women
4. Sexual harassment at work places
5. Not equal pay for the same work even after bringing laws(clearly directive principles of the state speaks about this)
6. Not recruiting women in to some specific combat roles in army, Air force, navy etc. mainly based on sex.
7. In political arena low representation of women mainly because of the restrictions imposed by the family.
8. Restrict entering of the women to temples(Sabarimala temple), mosques (because of gender) etc.

Conclusion: If a nation wants to be in the path of progress it is mandatory to remove the obstacles in the path of the womens' development.

20. Are we losing our local identity for global identity?

Approach

Introduction: Identity in societal terms is a subjective experience. What one associates oneself with forms his/her identity i.e, a regional identity, economic identity and so on. Under the influence of globalisation, there's a constant flux in the definition of identity, with local identities getting juxtaposed with the global ones

Body: List out the various dimensions of local identity.. rural-urban, class identity, family type, one's own cultural practices..

Mention how each of these dimensions is touched by global forces and people are adopting, aspiring for global identities. e.g. studying/working abroad - global citizen, food, dressing, lifestyle - western influence etc

However, globalisation has also strengthened national, local identities.. e.g. growing demand for ethnic wear, organic foods, celebrations of Indian festivals abroad, caste endogamy still strong in marriages etc

Conclusion: Globalisation, being a multidimensional concept, has had its influence on the cultures and identities of local people. However, the impact has been that in some cases, global identities are getting adopted while in other areas a local identities are getting reinforced

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