

UPSC CSE (Main) 2015

General Studies Paper-I

- Q1.** The ancient civilization in Indian sub-continent differed from those of Egypt, Mesopotamia and Greece in that its culture and traditions have been preserved without a breakdown to the present day. Comment.

(200 words) [12½]

Approach to question:

1. The ancient civilization of the Indian subcontinent dates back to the Indus Valley Civilization that flourished around 2500 BCE.
2. The culture and traditions of ancient India were largely preserved due to the continuity of its civilization over thousands of years, despite numerous invasions and foreign rule.
3. Unlike the ancient civilizations of Egypt, Mesopotamia and Greece, which underwent significant cultural transformations and breakdowns, India's culture and traditions have remained relatively intact.

Answer:

The ancient civilization in the Indian subcontinent stands out from its contemporaries in Egypt, Mesopotamia and Greece due to the remarkable continuity of its culture and traditions to the present day.

1. **Vedic Tradition:** The oral transmission of sacred texts, like the Vedas and Upanishads, ensured the continuity of philosophical and spiritual knowledge.
2. **Cultural Assimilation:** Despite invasions and migrations, the Indian culture absorbed external influences while preserving its core values.
3. **Ritualistic Practices:** Traditional rituals and customs have been meticulously followed by successive generations, bolstering the preservation of cultural practices.
4. **Social Fabric:** The caste system, though criticised, played a role in maintaining societal structure and traditional roles.
5. **Syncretism:** The assimilation of diverse regional cultures contributed to a heterogeneous yet cohesive cultural identity.

The Indian subcontinent's ancient civilization defied the norm by preserving its culture and traditions uninterrupted through centuries, making it a unique and fascinating testament to human history.

- Q2.** Mesolithic rock cut architecture of India not only reflects the cultural life of the times but also a fine aesthetic sense comparable to modern painting. Critically evaluate this comment.

(200 words) [12½]

Approach to question:

1. Mesolithic rock cut architecture refers to the rock-cut temples and monuments built during the Mesolithic period in India, particularly in the Deccan plateau region.
2. The architecture of these structures reflects the cultural life of the times, showcasing the religious beliefs, social practices and artistic abilities of the Mesolithic people.
3. The intricate carvings and sculptures on the walls and ceilings of these structures showcase a fine aesthetic sense comparable to modern painting.

Answer:

Mesolithic rock cut architecture in India showcases a fascinating glimpse into the cultural life of ancient societies and their artistic prowess. This architectural form emerged between 7000 and 2500 BCE and flourished during the Neolithic period. The comment praises its cultural significance and artistic excellence, comparing it to modern painting.

1. **Cultural Insight:** Mesolithic rock cut architecture serves as a valuable record of the lifestyle, religious practices and social organization of prehistoric communities. These rock shelters and caves were used as dwelling places, temples and shelters for rituals, highlighting the people's connection with nature and spirituality.
2. **Aesthetic Brilliance:** The intricate carvings and paintings on the rock surfaces display a remarkable artistic sensibility. The deft use of colours, symmetry and geometric patterns demonstrate the sophistication of their artistic expressions.
3. **Comparative Analysis:** While the comment draws a parallel between Mesolithic rock art and modern painting, it is essential to consider the context and tools available in both eras.

The intricate carvings and paintings exhibit a fine aesthetic sense, but comparing it directly to modern painting may

warrant some caution due to the vastly different contexts and technological advancements.

Q3. How difficult would have been the achievement of Indian independence without Mahatma Gandhi? Discuss.

(200 words) [12½]

Approach to question:

1. Mahatma Gandhi played a crucial role in India's independence movement and is widely considered the Father of the Nation.
2. His non-violent approach to resistance against British colonialism inspired millions of Indians to join the freedom struggle.
3. Gandhi's leadership and influence helped to unify the diverse groups and factions within the Indian independence movement.
4. Without Gandhi, it is likely that India's struggle for independence would have been more violent and prolonged, with greater divisions and conflicts.
5. Gandhi's legacy continues to inspire social and political movements around the world.

Answer:

The achievement of Indian independence without Mahatma Gandhi would have been a difficult task. Here are some points to support this argument:

1. Gandhi played a significant role in mobilising the masses during the Indian independence movement. He was able to reach out to people from all walks of life, including the poor and the marginalised and inspire them to fight for their rights. Without his leadership, it is unlikely that the movement would have been as successful in uniting the Indian population.
2. Gandhi's charisma and moral authority made him a unifying figure for the Indian nationalist movement. He was able to bridge the gap between different religious and cultural groups and his message of unity and tolerance resonated with the masses.
3. Gandhi's strategic approach to the independence movement was also crucial to its success. He was able to organise effective campaigns, such as the Salt March and the Quit India movement, which put pressure on the British government to grant India independence.

In conclusion, Mahatma Gandhi was an indispensable figure in the Indian independence movement. His leadership, philosophy and strategic approach played a critical role in achieving India's freedom from British colonial rule. Without him, the movement may have been less effective and the path to independence much more difficult.

Q4. Mahatma Gandhi and Dr. B. R. Ambedkar, despite having divergent approaches

and strategies, had a common goal of amelioration of the downtrodden. Elucidate.

(200 words) [12½]

Approach to question:

1. Both Mahatma Gandhi and Dr. B. R. Ambedkar were social reformers who fought against the caste system prevalent in India during the pre-independence era.
2. While Gandhi believed in the concept of non-violence and fought for the rights of the oppressed through peaceful means, Ambedkar was a firm believer in legal and constitutional methods of reform.
3. Both leaders advocated for the rights of the Dalits, who were considered to be the lowest in the caste hierarchy and worked towards their upliftment and empowerment.

Answer:

Mahatma Gandhi and Dr. B. R. Ambedkar, two significant historical figures in India, had different approaches to social and political issues, but they both aimed to uplift the oppressed and marginalized.

1. Mahatma Gandhi advocated non-violent resistance (Satyagraha) and emphasized self-reliance, economic independence and spiritual upliftment for the oppressed.
2. Dr. B. R. Ambedkar believed in constitutional means for social reform, focusing on political representation and legal protection of rights. He advocated affirmative action policies for marginalized sections.
3. Both leaders recognised the need for social and economic empowerment through education, healthcare and economic opportunities.
4. They shared a common goal of abolishing the caste system and eradicating untouchability, though they had different strategies for achieving it.
5. Despite their differences, Gandhi and Ambedkar respected each other's contributions and understood the importance of unity in achieving their shared objectives.

In conclusion, while Gandhi and Ambedkar had diverse approaches, they both aimed to uplift the oppressed and marginalized, leaving a lasting impact on India's struggle for independence and social reform.

Q5. It would have been difficult for the Constituent Assembly to complete its historic task of drafting the Constitution for Independent India in just three years but its experience gained with the Government of India Act, 1935. Discuss. (200 words) [12½]

Approach to question:

1. The Constituent Assembly was formed in 1946 and tasked with the responsibility of drafting a new constitution for independent India.

2. The task was daunting as India had diverse socio-economic, cultural and linguistic backgrounds.
3. However, the experience gained with the Government of India Act, 1935, helped the Constituent Assembly in drafting the new constitution.

Answer:

The Constituent Assembly of India, established in 1946, faced the daunting task of drafting the Constitution for Independent India. However, the experience gained from the Government of India Act, 1935, proved invaluable in completing the task within three years.

1. The Government of India Act, 1935, introduced a federal system of government, division of powers and bicameralism in the legislature.
2. It also established the concept of a federal court and the Reserve Bank of India, while safeguarding civil liberties and fundamental rights.
3. The Constituent Assembly drew upon the Act's provisions to identify strengths, weaknesses and areas for improvement.
4. Learning from other countries' constitutional frameworks also enriched the drafting process.
5. Despite the Assembly's diverse composition, members worked together to overcome challenges.
6. The drafting committee, led by Dr. B. R. Ambedkar, played a pivotal role in putting together coherent provisions.
7. Active public participation ensured that the Constitution reflected the people's aspirations.
8. Within three years, the Constituent Assembly completed the task and India's Constitution came into effect on January 26, 1950.

In conclusion, the experience gained from the Government of India Act, 1935 and the collaborative efforts of the Constituent Assembly enabled the successful drafting of India's Constitution, which continues to guide the nation's journey.

Q6. Why did the industrial revolution first occur in England? Discuss the quality of life of the people there during the industrialization. How does it compare with that in India at present times? (200 words) [12½]

Approach to question:

The industrial revolution began in England in the 18th century due to several factors, including the availability of raw materials, energy sources, capital, skilled labour, scientific knowledge, favourable political and legal environment and market demand. England's colonial empire and maritime trade also facilitated the accumulation of wealth and resources that fuelled industrialization.

Answer:

The industrial revolution was a transformative event that began in England during the 18th century and later spread to other parts of the world.

Factors leading to industrialization in England:

1. Abundant natural resources like coal and iron provided a foundation for industrial development.
2. The agricultural revolution increased food production, leading to population growth and a larger labour force.

Quality of life during industrialization in England:

1. Factory workers faced poor working conditions, long hours and low wages.
2. Pollution from factories led to health hazards and environmental degradation.
3. Housing for the working class was overcrowded and lacked proper sanitation facilities.

Comparison with present-day India:

1. India has made progress in improving healthcare, education and infrastructure, leading to improved quality of life.
2. Challenges in India include poverty, income inequality and unemployment, particularly in the informal sector.
3. India is currently focusing on rapid industrialization to boost economic growth.

India has made progress in addressing social and economic challenges but still faces obstacles in its development journey. The country's current focus on industrialization will play a crucial role in achieving its goals for the future.

Q7. To what extent can Germany be held responsible for causing the two World Wars? Discuss critically. (200 words) [12½]

Approach to question:

1. Germany's aggressive foreign policies, such as the invasion of Belgium and unrestricted submarine warfare during World War I, contributed to the outbreak of the war.
2. The Treaty of Versailles, which placed full blame for the war on Germany and imposed harsh reparations, fuelled resentment and economic instability, leading to the rise of Hitler and the Nazi Party.

Answer:

Germany's role in causing the two World Wars remains a subject of critical historical analysis. Assessing the extent of Germany's responsibility involves considering multiple factors.

1. **Treaty of Versailles:** The harsh terms imposed on Germany after WWI fueled economic hardships and resentment, possibly contributing to WWII.
2. **Expansionist Policies:** Hitler's aggressive expansionist ambitions in the 1930s heightened tensions and ultimately led to WWII.

3. **Policy of Appeasement:** Failure by other countries to deter German aggression encouraged further acts of aggression.
4. **Long-term Nationalism:** Deep-rooted nationalist sentiments in German society may have contributed to the outbreak of both wars.
5. **Systemic Factors:** The complex web of alliances and arms race among major powers also played a role in triggering the conflicts.

While Germany's actions were significant, it is essential to acknowledge the role of other nations and systemic factors in causing the World Wars. A comprehensive understanding requires a balanced assessment of historical events and the broader international context.

- Q8. Describe any four cultural elements of diversity in India and rate their relative significance in building a national identity. (200 words) [12½]**

Approach to question:

1. **Language Diversity:** India is home to over 19,500 languages, making it one of the most linguistically diverse countries in the world. The diversity of languages spoken in India plays a crucial role in shaping the country's culture and identity.
2. **Religious Diversity:** India is a country where people of different religions coexist peacefully. Hinduism, Islam, Christianity, Sikhism, Buddhism and Jainism are some of the major religions practiced in the country. The religious diversity in India is an essential element in shaping its national identity.

Answer:

India's diversity, encompassing various cultures, religions, languages and traditions, forms a unique national identity. Four key cultural elements contribute to this diversity and shape the country's identity:

1. **Religion:** India's religious diversity, including Hinduism, Islam, Christianity, Sikhism, Buddhism and Jainism, fosters a tolerant and inclusive national identity.
2. **Cuisine:** Renowned for its rich flavors, spices and regional variations, Indian cuisine unites people from different regions and cultures, promoting national integration.
3. **Festivals:** India's plethora of festivals, celebrated across the country, brings people together, transcending regional and religious boundaries.
4. **Arts and Crafts:** India's diverse arts and crafts, reflecting unique regional styles, contribute to its cultural identity and promote national integration.

Religion and cuisine hold more significant roles in shaping the national identity, fostering unity and integration among people from various backgrounds. In conclusion, India's cultural diversity, represented by its

religious practices, culinary traditions, festivals, arts and crafts, enriches the nation's identity and fosters a sense of unity among its people.

- Q9. Critically examine whether growing population is the cause of poverty OR poverty is the main cause of population increase in India. (200 words) [12½]**

Approach to question:

1. Population and poverty are interlinked, but the causal relationship between them is complex and cannot be reduced to a simple cause-effect relationship.
2. On one hand, a high population growth rate puts pressure on resources, increases unemployment and affects access to healthcare, education and other basic necessities, which can contribute to poverty.
3. On the other hand, poverty can also lead to high population growth rates due to lack of awareness and access to family planning and reproductive health services, as well as a need for more hands to earn livelihoods and support the family.

Answer:

India's rapidly growing population has raised concerns about its relationship with poverty. The debate about whether population growth causes poverty or poverty drives population increase has persisted for decades. Here are key points on both perspectives:

Population Growth as the Cause of Poverty:

1. High population growth strains resources, leading to resource depletion and increased competition for limited resources, contributing to poverty.
2. More people entering the workforce leads to higher unemployment rates, lower wages and poor working conditions, exacerbating poverty.

Poverty as the Main Cause of Population Increase:

1. Poverty often comes with a lack of education and awareness, leading to higher fertility rates. Education empowers women to make informed family planning decisions.
2. Economic insecurity drives poor families to have more children as a source of labour and support, perpetuating the cycle of poverty.

In conclusion, the relationship between population growth and poverty in India is complex, with poverty and population growth reinforcing each other in a cycle. To address the issue effectively, comprehensive measures that encompass education, healthcare, family planning and economic opportunities are needed.

- Q10. How do you explain the statistics that show that the sex ratio in Tribes in India is more favourable to women than the sex ratio among Scheduled Castes? (200 words) [12½]**

Approach to question:

1. According to the 2011 Census, the sex ratio among Scheduled Tribes in India was 990 females per 1000 males, while the sex ratio among Scheduled Castes was 948 females per 1000 males.
2. This trend can be attributed to various factors such as socio-economic status, education, awareness and cultural practices.
3. Tribes in India have a more egalitarian social structure and women enjoy a relatively higher status compared to those in Scheduled Castes.

Answer:

The sex ratio in India is the number of females per 1000 males in a given population. The overall sex ratio in India is around 940 females per 1000 males. The possible reason behind it is:

1. **Patriarchal Culture:** Tribes in India have a matriarchal culture where women are valued and considered equal partners in the family, leading to a more favourable sex ratio.
2. **Female Infanticide and Foeticide:** Scheduled Castes have a higher prevalence of female infanticide and foeticide, contributing to a skewed sex ratio in their communities.
3. **Education and Awareness:** Tribes have higher literacy rates, leading to positive attitudes towards women and a more balanced sex ratio.
4. **Economic Empowerment:** Tribes' engagement in agriculture and women's active role in contributing to family income empowers women and leads to a more favourable sex ratio.

In conclusion, the sex ratio varies among different communities and social groups in India. Factors such as culture, education, awareness and economic empowerment influence the sex ratio. Addressing issues like female infanticide and promoting gender equality can help improve the overall sex ratio and create a more inclusive society.

Q11. Discuss the changes in the trends of labour migration within and outside India in the last four decades. (200 words) [12½]

Approach to question:

1. Increased labour mobility due to economic reforms and globalization in the 1990s led to significant changes in the trends of labour migration within India and outside the country.
2. Internal migration in India increased due to rural-urban migration and labour migration shifted from unskilled to skilled and semi-skilled workers.
3. There was an increase in international migration to the Gulf countries, the US and Europe, with skilled and professional workers being the primary migrants.

Answer:

Labour migration has been a significant aspect of India's economy, with notable changes in trends over the last four decades:

1. **Internal Migration:** A rise in internal migration from rural to urban areas driven by employment opportunities in the services sector, especially IT and BPO industries. Factors like poor infrastructure, lack of education, healthcare and poverty also contribute.
2. **Skilled Migration:** An increase in skilled migration to developed countries like the US, UK and Canada due to demand for skilled workers and higher salaries. Policies like H-1B visa (US) and Tier 2 visa (UK) facilitate skilled migration.
3. **Emigration to Gulf Countries:** Growing emigration to Gulf countries (Saudi Arabia, UAE, Qatar) for low-skilled work due to demand for labour. The Kafala system ties workers to employers and restricts job changes or leaving the country.
4. **Gender and Migration:** Increase in women's migration both within India and abroad due to education, job opportunities and evolving social norms. Women's representation in the labour force and migration flows is improving. Overall, labour migration trends are influenced by economic, social and political factors. Migration offers opportunities for economic growth and personal development, but it also poses challenges for vulnerable groups like low-skilled workers and women. Adequate policies are crucial to safeguard migrants' rights and address their challenges.

In conclusion, India's labour migration trends have evolved significantly over time. Internal migration, skilled migration, emigration to Gulf countries, return migration and increased participation of women in migration flows characterise the current scenario. Addressing challenges and ensuring protective policies are in place will lead to more sustainable and inclusive migration patterns for India's economic and social development.

Q12. Discuss the positive and negative effects of globalization on women in India? (200 words) [12½]

Approach to question:**Positive effects of globalization on women in India:**

1. Increased economic opportunities and job creation, leading to greater financial independence for women.
2. Increased access to education, healthcare and technology, empowering women to participate more actively in the workforce and society.

Negative effects of globalization on women in India:

1. Unequal access to economic opportunities, resulting in women being concentrated in low-paying and informal jobs.

2. Vulnerability to exploitation and abuse, especially in industries such as manufacturing, agriculture and domestic work.

Answer:

Globalization has brought both positive and negative effects on women in India. These effects are complex and multifaceted and they interact with various socio-economic and cultural factors.

Positive Effects of Globalization on Women in India:

1. **Economic Empowerment:** Globalization has led to the expansion of industries and increased job opportunities for women. This has provided them with financial independence and a sense of empowerment as they contribute to their families' income and make independent decisions about their lives.
2. **Access to Education:** The process of globalization has facilitated the availability of educational resources. Women in India now have greater access to education and are more likely to pursue higher studies, leading to improved career prospects and social mobility.
3. **Improved Healthcare:** Globalization has brought advancements in healthcare to India. Women now have better access to healthcare facilities and medicines, leading to improved maternal health, reduced mortality rates and overall better well-being.

Negative Effects of Globalization on Women in India:

1. **Exploitation in Low-Paying Jobs:** Globalization has led to the growth of low-paying jobs, particularly in the informal sector. Women often find themselves trapped in exploitative work environments with inadequate pay and poor working conditions.
2. **Cultural Impact:** The influence of Western culture through globalization has challenged traditional gender roles in India. While this has led to some positive changes, it has also resulted in the erosion of certain cultural values and identities.
3. **Gender Discrimination:** Despite progress in women's rights, gender discrimination still exists. Women often face unequal pay compared to men for the same job and are denied equal opportunities for career growth and leadership positions.

In conclusion, globalization has brought about significant changes in the role of women in India, with both positive and negative effects. Women have gained economic empowerment, improved access to education and healthcare and increased awareness about their rights. However, challenges remain in the form of exploitation, cultural changes, gender discrimination and violence against women.

Q13. Debate the issue whether and how contemporary movements for assertion of

Dalit identity work towards annihilation of caste.
(200 words) [12½]

Approach to question:

1. The contemporary movements for the assertion of Dalit identity have emerged in response to the discrimination and oppression faced by Dalits in India for centuries.
2. These movements aim to create awareness about the Dalit identity, their history and culture and to assert their rights as equal citizens.
3. The movements have also been working towards the annihilation of caste, which is the root cause of discrimination and oppression of Dalits and other marginalized groups.

Answer:

Points in favour of the assertion that contemporary movements for Dalit identity work towards the annihilation of caste:

1. **Awareness and Breaking Barriers:** Dalit identity movements have raised awareness about discriminatory caste practices and worked to break down social barriers between castes, promoting social equality.
2. **Empowerment:** These movements have empowered the Dalit community through education, better job opportunities and political representation, enabling them to fight against discrimination and oppression.
3. **Legal Protection:** Attention brought to atrocities against Dalits has led to legal changes, such as the Prevention of Atrocities Act, providing legal protection to oppressed communities.
4. **Encouraging Inter-Caste Marriages:** Promotion of inter-caste marriages challenges caste purity, contributing to a more inclusive society.

Points against the assertion that contemporary movements for Dalit identity work towards the annihilation of caste:

1. **Persistence of Caste System:** The deeply ingrained caste system still exists in Indian society and the movements have not completely eradicated it.
2. **Identity Politics and Division:** Some movements have been accused of promoting identity politics, leading to further divisions within society instead of unity and equality.
3. **Criticism of Separatism:** Movements focusing solely on Dalit interests have faced criticism for neglecting the interests of other oppressed communities.
4. **Violence Concerns:** Some movements have been accused of resorting to violence, which is not conducive to a healthy democratic society.

In conclusion, contemporary Dalit identity movements in India have made significant strides in challenging the caste system, promoting social equality and empowering the Dalit community. However, the caste system still persists and concerns regarding identity politics,

separatism and violence must be addressed. While these movements have played a crucial role in advancing social justice, there is a need for continued efforts to eradicate caste-based discrimination and create a truly equal society for all.

Q14. Explain the factors responsible for the origin of ocean currents. How do they influence regional climates, fishing and navigation?

(200 words) [12½]

Approach to question:

Factors responsible for the origin of ocean currents:

1. **Global Wind Patterns:** Wind patterns in different parts of the world push the surface water in the direction of the prevailing winds, causing ocean currents to form.
2. **Coriolis effect:** The Coriolis effect, caused by Earth's rotation, deflects the ocean currents to the right in the northern hemisphere and to the left in the southern hemisphere.

Effects of ocean currents on regional climates, fishing and navigation:

1. **Regional Climates:** Ocean currents can significantly influence regional climates. Warm ocean currents bring warmer air to coastal regions, while cold currents bring cooler air.
2. **Fishing:** Ocean currents influence the distribution of fish species, which impacts fishing industries. Fishing boats follow ocean currents to find fish in their preferred habitat.

Answer:

Ocean currents are the continuous, directional movements of seawater driven by a combination of various factors.

Factors responsible for the origin of ocean currents:

1. **Wind:** Winds transfer energy to the ocean's surface, creating large-scale circulation patterns.
2. **Temperature and Density:** Differences in temperature and density cause water to sink or rise, leading to the formation of currents.
3. **Coriolis Effect:** The Earth's rotation influences the direction of ocean currents.
4. **Tides:** Gravitational pull from the moon and sun affects the speed and direction of ocean currents.

Influence of ocean currents on regional climates, fishing and navigation:

1. **Regional Climates:** Ocean currents, like the Gulf Stream, can bring warm water to certain regions, influencing their climates.
2. **Fishing:** Nutrient-rich currents support thriving fish populations and fisheries.
3. **Navigation:** Understanding ocean current patterns is essential for efficient and safe shipping routes.

Understanding the origin and behaviour of ocean currents is important for various sectors, including

meteorology, marine biology, fisheries management and shipping. Continued research and monitoring of ocean currents contribute to improved predictability of weather patterns, sustainable fishing practices and safer navigation at sea.

Q15. Mumbai, Delhi and Kolkata are the three Mega cities of the country but the air pollution is much more serious problem in Delhi as compared to the other two. Why is this so?
(200 words) [12½]

Approach to question:

1. Delhi's geography and climate conditions make it more prone to air pollution compared to Mumbai and Kolkata.
2. The city experiences low wind speed during the winter months, which further exacerbates the pollution problem by reducing the dispersion of pollutants.
3. Delhi has a higher number of vehicles and industries compared to Mumbai and Kolkata, which adds to the pollution load in the city.
4. The burning of crop residue in the neighbouring states of Punjab and Haryana during the winter months also contributes to Delhi's pollution.

Answer:

The difference in the severity of air pollution among mega cities like Delhi, Mumbai, and Kolkata can be attributed to a combination of geographical, meteorological, and anthropogenic factors. While all three cities face air pollution challenges, several specific reasons make Delhi's air pollution problem more serious.

Factors responsible for higher air pollution in Delhi compared to Mumbai and Kolkata:

1. **Geography:** Delhi's landlocked location surrounded by the Himalayas and Aravalli hills traps pollutants in the air, while Mumbai and Kolkata's coastal locations allow pollutants to disperse more easily.
2. **Traffic Congestion:** Delhi's high number of private vehicles, over 10 million registered, contributes significantly to air pollution. Mumbai and Kolkata have better public transportation systems, reducing private vehicle usage.
3. **Industrialization:** Delhi has a large number of small and medium-sized industries operating in residential areas, emitting pollutants into the air. Mumbai and Kolkata have industries located in designated industrial zones.
4. **Crop Burning:** Farmers in neighbouring states burn crop residue during winter, adding to Delhi's air pollution. This practice is not as common in the neighbouring states of Mumbai and Kolkata.

5. **Construction Activities:** Delhi's extensive construction generates dust and debris, worsening air pollution. Mumbai and Kolkata have better-regulated construction activities.

Negative impacts of air pollution in Delhi:

1. **Health Risks:** Air pollution increases the risk of respiratory diseases, heart diseases and cancer among residents.
2. **Economic Consequences:** Productivity is reduced and healthcare costs increase due to air pollution's detrimental effects.

Measures to reduce air pollution in Delhi:

1. **Encourage Public Transportation:** Implement policies to reduce private vehicle usage and promote the use of public transport.
2. **Regulate Industries and Construction:** Enforce strict regulations on industries and construction activities to control pollutant emissions.

In conclusion, Delhi's higher air pollution is influenced by its geographical location, traffic congestion, industrialization in residential areas, crop burning and construction activities. This pollution has severe health and economic impacts on the city.

Q16. India is well endowed with fresh water resources. Critically examine why it still suffers from water scarcity.

(200 words) [12½]

Approach to question:

1. **Uneven Distribution:** The availability of freshwater is not uniform throughout the country and varies from region to region, leading to water scarcity in certain areas.
2. **Over-Extraction:** The rapid growth of population and urbanization has led to excessive exploitation of groundwater, leading to the depletion of aquifers.
3. **Poor Water Management:** Inadequate infrastructure, inefficient use of water resources and lack of effective policies for water conservation and management contribute to water scarcity.

Answer:

India is indeed blessed with abundant freshwater resources, including rivers, lakes, and groundwater reservoirs. However, despite this apparent wealth of water, the country continues to grapple with severe water scarcity issues in many regions.

Reasons for water scarcity in India:

1. **Population Growth:** Rapid population increase leads to higher demand for water, straining limited resources.
2. **Uneven Water Distribution:** Some regions have abundant water due to high rainfall, while others

face arid conditions and there is inadequate water transfer between regions.

3. **Climate Change:** Altered rainfall patterns, glacier melting and extreme weather events impact water availability.
4. **Poor Water Management:** Inefficient irrigation practices and inadequate investment in water infrastructure result in water wastage and groundwater depletion.
5. **Pollution:** Industrial and municipal waste discharge contaminates water sources, making them unfit for consumption.

Impacts of water scarcity:

1. **Agricultural Productivity Decline:** Water scarcity affects crop yields and farmers' incomes.
2. **Industrial Production Reduction:** Industries reliant on water, like textiles, face lower production and increased costs.
3. **Household Challenges:** Limited access to clean water leads to health issues for residents in water-scarce areas.

Solutions:

1. **Improved Water Management:** Implement efficient irrigation techniques and invest in water infrastructure.
2. **Water Distribution Systems:** Establish better mechanisms to transfer water from water-rich to water-scarce regions.
3. **Climate Change Adaptation:** Develop strategies to address the impact of climate change on water resources.
4. **Pollution Control:** Enforce stricter regulations to prevent water pollution from industries and municipalities.
5. **Water Conservation Awareness:** Educate the public about the importance of water conservation to reduce wastage.

In conclusion, India's water scarcity is a complex issue exacerbated by population growth, uneven water distribution, climate change, poor water management and pollution. To tackle this challenge effectively, a multi-faceted approach involving improved management, distribution, climate change adaptation, pollution control and conservation awareness is necessary. Addressing water scarcity is crucial for sustainable development and ensuring a secure water future for the nation.

Q17. The states of Jammu and Kashmir, Himachal Pradesh and Uttarakhand are reaching the limits of ecological carrying capacity due to tourism. Critically evaluate.

(200 words) [12½]

Approach to question:

1. The tourism industry has grown rapidly in Jammu and Kashmir, Himachal Pradesh and Uttarakhand, resulting in significant ecological impacts such as deforestation, water depletion, soil erosion and loss of biodiversity.

2. The increasing number of tourists and related infrastructure development has led to higher carbon emissions and pollution levels in these regions, affecting the air and water quality and posing a threat to public health.
3. The local communities often suffer from socio-cultural impacts of tourism such as changes in lifestyle, values and traditions. Moreover, they may not benefit equally from the economic benefits generated by tourism, which may exacerbate existing inequalities.

Answer:

The states of Jammu and Kashmir, Himachal Pradesh and Uttarakhand in India have witnessed a surge in tourism, transforming them into popular destinations. However, this rapid growth has raised concerns about the ecological impact and carrying capacity of these regions. This answer critically evaluates the issue.

Factors contributing to ecological carrying capacity:

1. **Increase in Tourism Infrastructure:** The development of hotels, resorts and roads has led to resource depletion, deforestation and increased waste generation, impacting the ecological carrying capacity.
2. **Rise in Tourist Inflow:** Higher tourist numbers have resulted in overuse of resources, overcrowding and pollution, disrupting the ecological balance.
3. **Climate Change:** The effects of climate change, such as glacier melting and erratic rainfall patterns, have reduced water availability and biodiversity, affecting the carrying capacity.

Impact on the Environment:

1. **Deforestation:** Tourism infrastructure has led to deforestation, harming the ecosystem.
2. **Soil Erosion:** Construction activities have caused soil erosion and reduced soil fertility.
3. **Pollution:** Increased tourism has contributed to air, water and soil pollution, degrading the environment.
4. **Loss of Biodiversity:** Overuse of resources has led to a decline in biodiversity.

Impact on Local Communities:

1. **Displacement:** Construction projects have displaced local communities and disrupted livelihoods.
2. **Unequal Benefits:** Tourism benefits are not equitably distributed, leading to inequalities.
3. **Loss of Culture:** Tourism has led to the erosion of local cultures and traditions.

While tourism brings economic benefits, it also poses significant ecological challenges in Jammu and Kashmir, Himachal Pradesh and Uttarakhand. Striking a balance between tourism development and ecological

conservation is essential for sustainable growth. Encouraging responsible tourism, implementing stringent regulations and involving local communities in decision-making can help preserve the ecological balance while harnessing the potential of tourism for economic development. Only through such measures can these states ensure long-term prosperity and environmental preservation.

Q18. How far do you agree that the behaviour of the Indian monsoon has been changing due to humanising landscape? Discuss.**(200 words) [12½]****Approach to question:**

1. Human activities such as deforestation, urbanization and agricultural practices have altered the landscape of India.
2. These changes have led to a decrease in the natural vegetation cover, increased greenhouse gas emissions and altered land use patterns.
3. These changes have been linked to changes in the Indian monsoon behaviour such as delayed onset, erratic rainfall and increased intensity of extreme weather events.

Answer:

The Indian monsoon is a seasonal wind system that brings crucial rainfall to the Indian subcontinent. It plays a vital role in agriculture and the overall economic growth of the country.

Factors contributing to the changing behaviour of the Indian monsoon:

1. **Deforestation and Land Use Changes:** Deforestation leads to soil erosion, reducing water-holding capacity and impacting rainfall patterns. Land use changes, like converting forests to farmland or urban areas, alter microclimates and affect rainfall timing and amount.
2. **Urbanization:** Urban areas impact surface temperature and moisture, altering rainfall intensity and duration. Heat islands formed in cities can disrupt local atmospheric circulation, affecting the monsoon.
3. **Greenhouse Gas Emissions:** Emissions like carbon dioxide contribute to global warming, influencing atmospheric circulation patterns and the monsoon.
4. **Atmospheric Pollution:** Aerosols and black carbon alter cloud properties, leading to changes in rainfall patterns.

Impact of changing monsoon behavior:

1. **Droughts:** Altered monsoon patterns result in prolonged dry spells, causing severe droughts affecting agriculture, economy and society.
2. **Floods:** Changes in rainfall intensity can lead to devastating floods, damaging infrastructure and agriculture while causing loss of life and property.

Measures to mitigate the impact of changing monsoon behavior:

1. **Afforestation and Reforestation:** Planting more trees and restoring forests can enhance soil water retention, reduce erosion and stabilize rainfall patterns.
2. **Sustainable Land Use Practices:** Implementing conservation agriculture and agroforestry can improve soil water retention and microclimate stability.
3. **Urban Planning and Management:** Proper urban planning, drainage improvement and reducing atmospheric pollution can stabilize rainfall patterns in urban areas.
4. **Reduction of Greenhouse Gas Emissions:** Taking measures to reduce emissions can help mitigate global warming's impact on the monsoon.

In conclusion, the humanization of the landscape has played a significant role in the changing behaviour of the Indian monsoon.

Q19. Smart cities in India cannot sustain without smart villages. Discuss this statement in the backdrop of rural urban-integration.

(200 words) [12½]

Approach to question:

1. Smart cities and smart villages are interconnected and one cannot exist without the other. The development of smart cities will require the development of smart villages to provide resources, food and raw materials to cities.
2. Smart villages are important for creating a balance between urban and rural areas, which is essential for the sustainable development of the country.
3. The development of smart villages will help reduce the migration of people from rural to urban areas in search of better opportunities. This will also reduce the burden on urban infrastructure.

Answer:

Smart cities in India are characterized by advanced technology, infrastructure and governance, with a focus on creating sustainable, efficient and livable urban spaces. Here is how rural-urban integration can help in sustainable development:

1. **Resource Utilization:** Rural areas have abundant natural resources, which can be utilized for sustainable development of smart cities. By promoting agro-industries, organic farming and renewable energy, rural-urban integration can lead to an optimal utilization of resources.
2. **Employment Opportunities:** Rural-urban integration can provide employment opportunities in rural areas, thereby curbing migration to cities.

This can lead to a balanced development and reduce the burden on cities.

3. **Technology diffusion:** Technology transfer from smart cities to rural areas can help in bridging the digital divide. By promoting digital literacy and providing access to information and communication technologies, rural areas can also be made smart.

However, there are several challenges that need to be addressed for rural-urban integration to succeed:

1. **Infrastructure:** Rural areas lack basic infrastructure, such as roads, electricity and water supply, which are essential for development. Therefore, infrastructure development should be prioritized in rural areas.
2. **Governance:** Local governance institutions in rural areas need to be strengthened to ensure participatory decision-making and effective implementation of development programmes.
3. **Funding:** Rural-urban integration requires significant investment in infrastructure, technology and human resources. Therefore, adequate funding should be allocated for rural development.

In conclusion, sustainable development cannot be achieved by focusing only on smart cities. Rural-urban integration is essential for balanced and sustainable development. By promoting rural development, India can achieve the goal of smart cities and smart villages, leading to a sustainable and equitable future.

Q20. What are the economic significances of discovery of oil in Arctic Sea and its possible environmental consequences?

(200 words) [12½]

Approach to question:

Economic significance:

1. The discovery of oil in the Arctic Sea could potentially open up a new frontier for oil exploration and production, as the region is estimated to hold vast reserves of oil and natural gas.
2. This could have significant economic benefits for countries that have access to the Arctic, such as Russia, Canada, Norway and Denmark, as they could potentially become major oil producers and exporters.

Environmental consequences:

1. The exploration and production of oil in the Arctic Sea could have significant environmental consequences, as the region is ecologically sensitive and home to a diverse range of species, including polar bears, walrus and whales.
2. Oil spills and leaks could have devastating effects on the fragile Arctic ecosystem, as well as on the livelihoods of indigenous communities that depend on fishing and hunting.

Answer:

The discovery of oil in the Arctic Sea has the potential to bring about significant economic benefits as well as environmental consequences. The following are some points that discuss the economic and environmental significance of the discovery of oil in the Arctic Sea:

Economic significance:

1. The Arctic is believed to contain significant oil and natural gas reserves, which could potentially transform the energy market by increasing the supply of these resources.
2. The Arctic region is strategically important as it provides a shorter route for shipping goods from Asia to Europe, leading to the possibility of opening new trade routes.
3. The discovery of oil in the Arctic Sea could reduce dependence on oil from the Middle East, making it a politically attractive proposition for countries seeking energy security.

Environmental consequences:

1. The exploration and production of oil in the Arctic Sea are likely to cause significant damage to the sensitive Arctic ecosystem, which is already under threat due to climate change.
2. The melting of sea ice due to climate change has made oil exploration and production in the Arctic Sea more accessible, increasing the risks of environmental damage.
3. The extraction and burning of fossil fuels contribute to greenhouse gas emissions, which contribute to climate change, which could have severe consequences for the Arctic ecosystem and the world at large.

Therefore, while the discovery of oil in the Arctic Sea could have significant economic benefits, it is essential to weigh the costs and benefits carefully, considering the potential environmental consequences.

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