

UPSC CSE 2020 MAINS PAPER 2 JANUARY 09, 2021 GENERAL STUDIES I ANSWER KEY**Q1. The rock-cut architecture represents one of the most important sources of our knowledge of early Indian art and history. Discuss.**

Answer - Rock-cut architecture is the art of moulding a structure by chiseling it out of solid natural rock. Some conspicuous rock-cut structures of ancient India include Chaityas, Viharas, temples, etc.

Rock-cut architectures: Emblem of Indian art

- The Mesolithic period saw the first use and modifications. The overhanging rocks of natural caves were embellished with petroglyphs or rock-cut designs. Example: Bhimbetka.
- In the 3rd century BCE, rock-cut caves were constructed by the Mauryans for the Avijika and Jain ascetics in the Barabar and Nagarjuni hills of Bihar. The caves are known for the bow-shaped arches.
- The Gupta and Vakataka period (3rd century CE - 6th century CE) was perhaps the golden age for rock-cut architecture. During this period, the designs of rock-cut architectures became more elaborate and aesthetics more pronounced. A profuse variety of decorative sculpture, intricately carved columns and carved reliefs mark the rock-cut architecture of the period. Example: Ajanta Caves.
- The Pallava architects started the carving of rock for the creation of monolithic copies of structural temples. Example: Panch Ratha of Mamallapuram, the five structures shaped as rathas or chariots chiseled out of a large block of stone of granite dates back to the 7th century.
- The Kailash temple, constructed by Rashtrakutas at Ellora, provides a singular example, excavated from the top down rather than by the usual practice of carving into the scarp of a hillside.

Historical significance

- The rock-cut architectures are mostly religious but also reflect an important connection between religion, commerce, and society. The stories represented on the cave walls or through sculptures are valuable sources of historical information.
- Buddhist monks created their cave hermitages near trade routes. The Buddhist missionaries employed the caves as shrines and shelters conforming to the religious concepts of asceticism. Traders often travelled the trade routes in the company of the Buddhist missionaries.
- The architecture also reflects the changing realities of the subcontinent. The themes of rock-cut architectures changed as Buddhism weakened in the face of a renewed Hinduism during the 6th-8th century CE.
- The Buddhist stories were replaced by Hindu Gods and mythologies. Many cave temples, developed under the patronization of southern Indian Hindu kings were dedicated to Hindu gods and goddesses.

Rock-cut architectures occupy a very important place in Indian history. Their significance has been rightly underlined as many rock-cut structures have been incorporated in the UNESCO world heritage list. Example: Ajanta caves, Group of Monuments at Mahabalipuram, etc.

Q2. Pala period is the most significant phase in the history of Buddhism in India. Enumerate.

Answer - The Pala dynasty, founded by Gopala, ruled the regions of Bengal and Bihar from the 8th century until the end of the 11th century. The Pala kings were Buddhists and adopted initiative and policies which helped in the enrichment of Buddhism.

- **Religious tolerance:** Most of the subjects of the Palas were Hindus but they followed an approach of religious tolerance. This allowed for a peaceful exchange of ideas between the faiths and was a major factor why Hindu Tantrism made its way into Buddhism, giving rise to the Vajrayana philosophy.
- **Architecture:** Various mahaviharas, Stupas, chaityas, temples and forts were constructed by the Palas. Built by Dharmapala, Somapuramahavihara at Paharpur is one of the largest Buddhist viharas in the Indian subcontinent.
- **Sculpture:** During this period, most of the sculptures of stones and bronze drew their inspiration from Buddhism. The finest sculptures include two standing Avalokiteshwara images from Nalanda; Buddha seated in Bhumisparsa Mudra and images of Avalokiteshwara seated in Ardhaparyanka. Crowned Buddhas, instead of the earlier bareheaded ascetic figures, also began to appear in Pala times.
- **Paintings:** The Mahayana cult of Buddhism had developed its Tantrayana-Vajrayana aspects. The Pala miniatures are in a sense visual expression of these cults. Example: Miniatures on text Astasahasrika-prajnaparamita.
- **Universities:** During the Pala period, universities became the center of Buddhist studies. The Palas founded and funded universities like Vikramshila and Odantipur to promote Buddhism, in and outside India. Scholars from all over the world came to these universities to learn the tenets of Buddhism. Many Buddhist teachers from the Pala kingdom travelled to Southeast Asia to spread the faith. For example, Atisha preached in Sumatra.
- **Foreign policy:** The Palas forged relationships with different cultures to promote new trade routes. The empire enjoyed good connections with Southeast Asia and the Middle East. Devapala even granted five villages at the request of the Shailendra king of Java for the upkeep of the matha established at Nalanda for the scholars of that country.

The Pala dynasty created the environment to thrive and discuss Buddhist philosophies without prejudice. But importantly, it also facilitated the spread of these ideas around the world, leaving a legacy that is still visible today.

Q3. Evaluate the policies of Lord Curzon and their long-term implications on the national movement.

Answer - When Lord Curzon became the Viceroy of India in 1899, the national movement was still in its infancy. The Indian National Congress has been established in 1885 and was dominated by the moderates who believed in pleading and petitioning to have their demands met.

Policies adopted by Lord Curzon

- **Imperialism:** Curzon was a true imperialist and deeply racist, and convinced of Britain's "civilising mission". He was intolerant of Indian political aspirations and his ambition was to strangle the national movement. He had famously said, "Congress is tottering to its fall, and one of my greatest ambitions while in India is to assist it to a peaceful demise."
- **Calcutta Corporation Act, 1899:** The Act reduced the number of the elected representative to the Calcutta Corporation. The aim was to deprive Indians of self-governance and serve the interests of the European business community who complained of delay in grants of licences.
- **University Act, 1904:** On the pretext to raise the standard of education all around, the Act reduced the number of elected senate members. A countrywide movement against this Act was launched.
- **Bengal Partition, 1905:** Bengal was divided, on the pretext of administrative convenience, in two separate provinces. Besides the ostensible reason, the real motive was to check the relentlessly rising nationalism among the Bengalis. Curzon wanted to create fission based on religious identity.

Implication of Curzon's policies

- The steps taken by Curzon to curb political aspirations created resentment and a confrontation with the educated middle-class nationalists ensued.
- The Swadeshi movement was started in Bengal in 1905 with an appeal to boycott British goods and promote swadeshi. It was probably the first wide-scale movement after the revolt of 1857. The future movements by Gandhiji, such as Non-Cooperation were considered to be based on Swadeshi movement.
- The movement had started on the conventional moderate lines but later it was taken over by the extremists and became a nation-wide anti-colonial movement. Leaders like Tilak, Bipin Pal, Aurobindo Ghose started to dominate the Congress.
- Later, numerous revolutionary organizations like Jugantar began to emerge. They actively engaged in anti-colonial activities and instilling nationalism among the youth.

The partition of Bengal and the high-handed behavior of Curzon fired the national movement. His policies, contradictory to his beliefs, strengthened and extended the reach of nationalism. He also ended up extending the clout of extremists and revolutionaries who did not believe in pleading and petitioning.

Q4. Discuss the geophysical characteristics of Circum-Pacific Zone.

Answer - The Circum-Pacific Belt, also referred to as The Ring of Fire, is a path along the Pacific Ocean characterized by active volcanoes and frequent earthquakes.

Basic characteristics

- **Location:** A nearly continuous chain of volcanoes surrounds the Pacific Ocean. The chain passes along the west coast of North and South America, from the Aleutian Islands to the south of Japan, from Indonesia to the Tonga Islands, and New Zealand.
- **Formation:** This Circum-Pacific chain of volcanoes and the mountain ranges associated with it owe their formation to the repeated subduction of the oceanic lithosphere beneath the continents and the islands that surround the Pacific Ocean. The Ring of Fire is the result of plate tectonics (Convergent, Divergent Plate Boundary, Transform Plate Boundary).
- **Formation of Hot Spots:** The Ring of Fire is also home to hot spots, areas deep within the Earth's mantle from which heat rises. This heat facilitates the melting of rock in the brittle, upper portion of the mantle. The melted rock, known as magma, often pushes through cracks in the crust to form volcanoes. The examples of volcanoes include Mount Fuji of Japan, Aleutian Islands of US, Krakatau Island of Indonesia, etc.
- **Harbors Majority of Volcano & Earthquakes:** 75% of Earth's volcanoes are located along the Ring of Fire. 90% of earthquakes occur along its path, including the planet's most violent and dramatic seismic events.

As the Circum-Pacific Belt harbors the majority of global Volcanic eruptions & Earthquakes, it holds immense significance regarding the study of the earth's interior.

Q5. The process of desertification does not have climate boundaries. Justify with examples.

Answer - The UN Convention to Combat Desertification (UNCCD) defines desertification as land degradation in arid, semi-arid, and dry sub-humid areas resulting from various factors, including climatic variations and human activities. It encompasses far beyond the world's deserts, defying climate boundaries.

The vulnerability of land to desertification is mainly due to the climate, the topography, the state of the soil, the natural vegetation, and the ways in which these resources are used.

- **Climate Change:** Changing rain pattern, warming of land temperature, frequent flood and drought are degrading the vegetation of a particular area, thus, gradually leading to desertification.
- **Loss of Natural Vegetation:** Activities like deforestation, extensive exploitation and grazing of grassland are loosening the soil resulting in soil erosion. Further, soil erosion is a global phenomenon that affects almost all major biomes in the world.
- **Urbanization:** Urbanization is increasing at a rapid pace. Even in India, almost 50% of the population is expected to live in urban areas, by 2050. As urbanization increases, the demand for resources increases, drawing more resources and leaving lands that easily succumb to desertification.

Desertification knows no climate boundaries

- According to Food and Agricultural Organisation (FAO), desertification affects about two-thirds of the countries of the world and one-third of the earth's land surface, on which approximately one billion people live.
- Desertification is a worldwide phenomenon. It does not concern only the natural deserts, and can occur on such lands which are vulnerable to the desertification process.
- Two-thirds of the African continent is desert or drylands. The region is affected by frequent droughts, which have been particularly severe in recent years in the Horn of Africa and the Sahel.
- There are expanding deserts in China, India, encroaching sand dunes in Syria, steeply eroded mountain slopes of Nepal and overgrazed grassland in central Asian countries. In terms of the number of people affected by desertification and drought, Asia is the most severely affected continent.
- Well known for rainforests, Latin America and the Caribbean (LAC) are actually about one-fourth desert and drylands. These regions are particularly affected by land degradation, which is a factor in the vicious circle of land overexploitation, degradation, increased demands on production, greater poverty, food insecurity and migration.

As can be seen from the above arguments, desertification and its impacts are not restricted to certain climatic boundaries. That's why UNCCD describes desertification as one of the greatest environmental challenges of our time and it must be tackled in a holistic manner.

Q6. How will the melting of Himalayan glaciers have a far-reaching impact on the water resources of India?

Answer - India known for her rivers as blessings has both perennial and non-perennial rivers. Rivers of north India originate in Himalayas and Himalayan glaciers and are known as perennial rivers. Ganga, Bharamputra, Satluj etc. are the rivers of Himalayas.

Melting of glaciers is a phase of global warming cycle of the Earth but with the anthropogenic activities the rate of melting of glaciers has aggravated. From the past decade, the global temperature has increased which has accelerated the melting of glaciers which will impact water resources in India in several ways:

- Melting of glaciers will lead to overflow of rivers resulting into floods, breaking of dams, increased expanse of the river course etc. This will cause loss of human life, animal life, destruction of habitat and harvest.
- Increased flow of river also results in the increase of erosion power of river. The rivers will start eroding deep into the river beds which can cause overload of sedimentation and siltation.
- The sediments that rivers carry with them will be drained into sea making the sea water level saline which results into coral reefs destruction, submerging of islands and so on.

Melting of glaciers will solve the scarcity of water in India for short-term. For optimum utilization, the government has to take steps like interlinking of river, formation of ponds, irrigation facilities, etc. which will help mitigate the impacts. These steps can help decrease the possibility of water scarcity in long term as melting of glaciers will lead to decline in the availability of fresh water.

Q7. Account for the present location of iron and steel industries away from the source of raw material, by giving examples.

Answer - The iron and steel industry is called a basic industry. It is basic because it provides the raw material for other industries such as machine tools used for further production.

The iron and steel industry is traditionally located close to the sources of raw materials – iron ore, coal, manganese and limestone. For example, Jamshedpur TISCO plant. However, later it was realized that access to markets, cheap labour, access to ports, and government policies are considerably more important than inputs.

- **Cheap Labour:** In the USA, the industry has also moved towards the southern state of Alabama because of factors like cheap labour and global supply chain. Pittsburg area, which was traditionally the hub of the industry, is now losing ground. It has now also called the “rust bowl” of the USA.
- **Market:** Japan is deficient in both iron ore and coal and almost all raw materials are imported. Japanese steel plants are mostly market-based. Example: The ‘Tokyo-Yokohama’ and ‘Osaka – Kobe –Heemeji’ iron steel regions.
- **Port:** The Vizag Steel Plant, in Visakhapatnam in Andhra Pradesh, is a port-based plant which started operating in 1992. Its port location is of advantage.
- **Government Policy:** In India, which is the 2nd largest crude steel producer, new steel plants which were set up in the Fourth Plan period are away from the main

raw material sources in southern states to promote regional parity. Example, Salem steel plant in Karnataka.

Iron and Steel Industry, not located near the source of raw materials, are less expensive to build and operate and can be located near markets because of the abundance of scrap metal, which is the main input. Realizing the changing trends of the industry, India in 2017 launched the National Steel Policy to create a technologically advanced and globally competitive steel industry that promotes economic growth.

Q8. Has caste lost its relevance in understanding the multi-cultural Indian Society? Elaborate your answer with illustrations.

Answer - The caste system was originally intended to organize the society on the basis of occupation. Caste became an arrangement to pass on the skills acquired to the posterity.

- Each caste had their own distinct customs, assumptions, values, communicative styles which coexisted simultaneously.
- But gradually the caste system rigidified and it became hereditary and a symbol of status and pride.
- Sanskritisation was one factor which predominantly encouraged homogenization of cultural values, aided by modernization.

Caste and its relevance

- The development activity of the state and the growth of private industry have affected caste indirectly through the speeding up and intensification of economic change. The modern industry created all kinds of new jobs for which there were no caste rules.
- Urbanization and the conditions of collective living in the cities made it difficult for the caste-segregated patterns of social interaction to survive.
- Modern educated Indians attracted to the liberal ideas of individualism and meritocracy, began to abandon the more extreme caste practices. However, it was in the cultural and domestic spheres that caste has proved strongest.
- Endogamy, or the practice of marrying within the caste, remained largely unaffected by modernization and change. Even today, most marriages take place within caste boundaries, although there are more intercaste marriages.
- Since the 1980s, we have also seen the emergence of explicitly caste-based political parties. The policies of reservation and other forms of protective discrimination are instituted by the state in response to political pressure.
- A new casteism has emerged, which is characterized by the success of certain selected privileged castes. The benefits of capitalism, after 1991, has not percolated down to castes which are deprived of education or marked by poverty.

One of the most significant yet paradoxical changes in the caste system in the contemporary period is that it has tended to become 'invisible' for the upper caste, urban

middle and upper classes. For the so-called scheduled castes and tribes and the backward castes – the opposite has happened. For them, caste has become all too visible.

Q9. COVID-19 pandemic accelerated class inequalities and poverty in India. Comment.

Answer - The COVID-19 pandemic was unprecedented. From the perspective of the economy both rural and urban areas have been impacted adversely. According to the IMF, the pandemic is having particularly adverse effects on economically more vulnerable people, including younger workers and women.

Aggravating Inequality

- **Rich got Richer:** The pandemic's economic impact was "unequal among unequals". While the poor were struggling and had to incur Out of Pocket expenditure to arrange their food and health requirements, the wealth of billionaires increased by 35% during the lockdown and by 90% since 2009 (Oxfam report).
- **Informal Labourers:** Around 90% of India's workforce is employed in the informal sector who are not provided with employment and social security. About 400 million people are expected to slip into poverty due to the impacts of the pandemic, mostly belong to informal sectors (ILO).
 - The economically worst hit were India's millions of migrant workers, who were seen walking hundreds of kilometers to their homes. Reliant on their daily wages for survival and without immediate assurances, they were left without any assistance.
- **Digital Divide:** Closing down of schools had wide social and health implications. It also brutally exposed the deep digital divide in the country.
 - According to ASER, among enrolled children, around 62% live in families that own at least one smartphone making education among poor inaccessible.
 - Closing down of schools also deprived the less privileged students of key nutrients. They provided mid-day meals which also served as an incentive, especially among families of first-generation learners.
- **Women:** India already had a low labour force participation rate for women due to a couple of factors such as restrictive cultural norms and the gender wage gap. The COVID-19 pandemic has made their situation more dismal. Unemployment for women has risen by 15% during the pandemic from a pre-lockdown level (Oxfam).

The COVID-19 pandemic revealed the need for serious attention for policymakers with regard to public health service provision, economic support for the vulnerable, and inequality mitigation.

Q10. Do you agree that regionalism in India appears to be a consequence of rising cultural assertiveness? Argue.

Answer - Regionalism is a sense of identity and purpose among a section of population residing in a particular geographical space characterized by unique and common language, culture, history etc. In country like India, having vast diversity and culture, regionalism seems inevitable.

Often it has been argued that regionalism in India is a result of rising cultural assertiveness. To an extent, this is true because cultural components do interpret regionalism by way of cultural heritage, myths, folklore, symbolism and historical traditions. Nevertheless, apart from socio-cultural factors, there are other determinants as well.

- **Historical factors:** Colonial policies formed the foundation of regionalism in India. Differential attitudes and treatment by the British towards princely states and those of the presidencies encouraged regionalist tendencies among them.
- **Geographical isolation:** Sometimes geographical isolation and continuous neglect of a region give rise to the feelings of separatism and regionalism among the inhabitants of the region. The 'insider-outsider complex' in North-eastern states is the result of geographical isolation.
- **Economic underdevelopment:** Despite being rich in natural resources some regions remain economically underdeveloped. These types of regional imbalances in development also lead to the rise of regionalism in some regions. Creation of Jharkhand, Chhattisgarh is an example.
- **Political and administrative factors:** Sometimes political parties, particularly regional parties and local leaders, fuel and exploit the regional sentiments to capture power.
- **Linguistic aspirations:** These have remained a formidable basis of regionalism in India. Post-Independence, widespread agitations against Hindi as national language in southern states, shows the crucial role of language in the emergence of Regionalism.

Although, socio-cultural factors motivate regionalism, other factors such as socio-economic and political also play a crucial role in it. The accommodation of multiple aspirations of a diverse population is necessary.

Q11. Indian philosophy and tradition played a significant role in conceiving and shaping the monuments and their art in India. Discuss.

Answer - Indian philosophy refers to philosophical traditions which developed in the Indian subcontinent. It generally includes Hindu, Buddhist and Jain Philosophy, among others.

Art is one of the cultural activities of man through which he reaches his ideas, values, feelings, aspirations and reactions to life. Hence the influence of philosophy on monuments and their art is inextricable.

The Monuments and their arts, from Asoka's Pillars to Chola's Brihadeshwara temple have been influenced by the contemporary and prominent philosophy and traditions. The early monuments have been dominated by Buddhism and Jainism while Hinduism began to influence from the Gupta period.

- The Asokan Pillar, the Stupas have been influenced by the Buddhist philosophies depicting teachings, stories, symbols associated with Buddhism. The Chakra of Sarnath's pillar symbolizes Dharmachakrapravartana and the Chattra of stupas embodies the Three Jewels of Buddhism.
- The ascetics belonging to Ajivika, Jainism, Buddhism required places for meditation. Rock-cut caves like Lomas Rishi, Ajanta or Ellora were carved out to provide a place of solitude for the monks and sages.
- Engravings, paintings, or sculptures of these caves depict the teachings of these philosophies. For example, the ceilings of Ajanta caves have paintings showing the life cycles of Buddha, Ellora caves contain images of 24 Jinas.
- The works at the Jain temples include, in addition to the Jinas, carvings of gods and goddesses, yaksa, yakshi and human devotees. The cells of Jain viharas are small and plain, designed to observe rigorous asceticism by Jain monks.
- From the Gupta period onwards, Hindu temple architecture began to evolve. Constructed mainly in three distinctive styles, Nagara, Vesara, and Dravida, the architecture and walls of Hindu temples are influenced and embellished with sculptures influenced from Hindu epics and mythologies.
- The Khajuraho temple's territory is laid out in three triangles that converge to form a pentagon to reflect the Hindu symbolism for three realms or trilokinatha, and five cosmic substances or panchbhuteshvara.
- The Monolithic temples like Kailasha (8th century CE) at Ellora or Group of monuments at Mamallapuram (7th–8th century CE) have been influenced by Hindu religion and mythology, telling stories from Shivapurana, Mahabharata, etc.

The Indian philosophy and traditions have been a predominant factor influencing the architecture and interiors of the monuments. But the monuments were not solely shaped by philosophies and they have incorporated activities such as trade or cultural interaction.

Q12. Persian literary sources of medieval India reflect the spirit of the age. Comment.

Answer - With the arrival of Mughals, Turks and Afghans, the Islamic and Indian culture interacted and influenced each other. During the medieval period, Persian was the most popular language and it replaced Sanskrit in those parts where the Muslims ruled.

Persian litterateurs and literary sources reflecting the spirit of the age:

- **Amir Khusrau** is credited with prominent works like **Panch Ganj, Matla-ul-Anwar, Shirin wa Kharav, Laila wa Majnun, Aina-i-Sikandari and Hasht Bihisht**.
 - He, for the first time, made use of Hindi words and idioms and wrote on Indian themes.
 - In his ghazals, he employed alternate hem-stitches in Persian and Hindi.
- **Shams Siraj Afif** wrote **Takhi-Firoz Shahi** which is of immense value to understand the reign of Firoz Shah Tughlaq (14th century).
 - Afif has given a detailed account of the policies of Firoz.
 - The book talks about irrigation tax (1/10 of produce) paid by the cultivators who used waters from canals constructed by Firoz Shah Tughlaq.
 - Firoz had a great liking for the laying out of gardens, which he took great pains to decorate. He formed 1,200 gardens in the vicinity of Delhi.
- **Khawaja Najm-ud-Din Hasan** wrote **Fawa'id-ul-Fa'id** which records a conversation with the great saint Nizamud-Din Aulia.
 - This work is considered a valuable document on Sufi philosophy because it contains the discourses of Nizamud-Din Aulia in chronological order.
- **Abu'l Fazl** is credited with writing **Akbarnama** and **Ain-i-Akbari**, the masterpieces depicting the Mughal era.
 - Akbarnama is embedded with miniature paintings. It is an important source to study Mughal style paintings. For example: "Emperor Akbar on Elephant Hunt" and "Ran Bagha crossing the river Jumna". Paintings are also a source to understand the prevalent dress and fashion style.
 - Akbarnama and Ain-i-Akbari provide a holistic picture of the policies adopted by Akbar for religious and social tolerance. For example, Akbar, with his Sulh-e Kul, was trying to calm down the tension and drive the society into peace and harmony.
 - Ain-i-Akbari also describes the administrative system of the Empire as well as contains the famous "Account of the Hindu Sciences". It also deals with Akbar's household, army, the revenues and the geography of the empire.
- **Dara Shikoh**, son of Mughal Emperor Shahjahan, has been credited with translating many Hindu scriptures from Sanskrit to Persian.
 - **Sirr-i-Akbar** is the Persian translation of Upanishads which he completed in 1657.
 - Dara tried to find commonalities between Hindu and Islamic traditions. He also translated Bhagavad Gita into the Persian language.

With the coming of the Muslims to the subcontinent, Persian, an Aryan tongue and sister language of Sanskrit, came to India, which is the confluence of diverse faiths, languages and cultures and which has a tradition of adopting and blending and then producing a composite cultural unity in diversity.

Q13. Since the decade of the 1920s, the national movement acquired various ideological strands and thereby expanded its social base. Discuss.

Answer - The 1920s was a watershed decade in the history of Indian National Movement. The events and changes which manifested in the decade were seminal as they remarkably changed the course of the freedom struggle.

Ideologies that influenced freedom struggle

- **Gandhian:** Mahatma Gandhi introduced new techniques of Ahimsa (non-violence) and Non-cooperation to the national movement. The Non-Cooperation Movement in the early 1920s was the first true nation-wide movement.
- **Communism:** A powerful left-wing group developed in India in the late 1920s and 1930s. The stream of the struggle for independence and that of the struggle for social and economic emancipation of the suppressed began to come together. The establishment of organizations like Communist Party of India (1925), All India Trade Union Congress (1920) and Workers' and Peasants' Parties (1927) extended the reach of communism throughout India among workers and peasants.
- **Communalism:** Post-1922, communalism reared its ugly head and the country was repeatedly plunged into communal riots. Old communal organizations were revived and fresh ones were founded. The Muslim League and Hindu Mahasabha began to further their vested interests.
- **Revolutionary activism:** The failure of peaceful mediums had frustrated the youth. They began to mobilize with secret organizations like Hindustan Republic Association (1923) and Hindustan Socialist Republic Association (1928). RamPrasad Bismil, Ashfaqulla Khan, Chandrashekhar Azad, Bhagat Singh among others actively engaged in anti-colonial activities and encouraged youth to join the cause.

Expansion of social base

- Gandhiji for the first time made the national movement a mass movement. People from every background began to participate in the protests. Peasants (Eka movement), tribals (Alluri Sitaram Raju) vigorously engaged in challenging the authority of British rule.
- Due to this new awakening, the suppressed social classes asserted their right in society. Movements like Vaikom Satyagraha of Kerala (1924), Adi-dharma movement of Punjab (1926) were the outcome of the aspirations of the suppressed and Dalits.
- Women no longer remained confined to the houses and freedom-fighters such as Rajkumari Amrit Kaur, Sucheta Kripalani and Aruna Asaf Ali actively participated and shaped the national movement.

Earlier, the freedom struggle, with a narrow social base, was largely confined to the middle-class and elites. The 1920s witnessed the expansion of the social base and

people from every stratum began to associate themselves with it through different ideological dimensions. The participation of masses made the struggle more vibrant and inclusive.

Q14. The interlinking of rivers can provide viable solutions to the multi-dimensional inter-related problems of droughts, floods, and interrupted navigation. Critically examine.

Answer - Unlike southern states, the northern plains of India are endowed with surplus water due to the presence of perennial rivers originating from the Himalayas. The river interlinking project aims to link 60 rivers so that water from the surplus basin to deficit basin can be transferred. The project aims to link 60 rivers, some of which include Ken-Betwa, Daman Ganga-Pinjal, Mahanadi-Godavari.

Proposed Benefits

- **Hydropower Generation:** The river interlinking project claims to generate a total power of 34 GW which will help India fulfil its growing requirements and commitment to the Paris Climate Deal.
- **Flood Control:** The objective is to conserve seasonal flows for irrigation, hydropower generation, and flood control. For instance, the linkage will transfer surplus flows of the Kosi, Gandak and Ghagra to the west.
- **Drought Mitigation:** The aim is to transfer water to drought-prone regions. A link with the Ganga and Yamuna is proposed to transfer the surplus water to drought-prone areas of Haryana, Rajasthan and Gujarat.
- **Round the Year Navigation:** As it would address the low levels of water in southern India's rivers, it would provide around year waterways connectivity. Under the project, 10,000 km of navigation will be developed reducing the transportation cost.
- **Irrigation Benefits:** Interlinking of rivers will increase the country's total irrigation potential. It will provide additional irrigation to 35 million hectares in the water-scarce regions.

Concerns with the Project

- **Perennial Rivers are not so Perennial:** A new analysis of rainfall data reveals that monsoon shortages grow in river basins with surplus water falling in those with scarcities.
- **Federal Issue:** Historically, there has been dissent on the part of the states regarding water sharing. Examples include Cauvery, Mahadayi disputes.
- **Neighboring Countries:** Convincing neighbours will be a tough task. For example, Bangladesh being a lower riparian state is less likely to agree to India's interlinking project.
- **High Environmental Cost:** Construction of dams will lead to submerging of Himalayan forests and wide-scale displacement of people. For example, Ken-

Betwa project will consume 23 sq miles of forest land. Moreover, it would harm many ecological factors like delta formation, growth of mangroves, and aquatic life.

The necessity and feasibility of river-interlinking should be seen on case-to-case basis, with adequate emphasis on easing out federal issues and environmental costs. Alongside, local solutions (like better irrigation practice) and watershed management should be focused on.

Q15. Account for the huge flooding of million cities in India including the smart ones like Hyderabad and Pune. Suggest lasting remedial measures.

Answer - Urban flooding has become a common occurrence these days in India. Several cities have suffered catastrophic flooding situations over the past few years. The latest victim of flooding were Hyderabad and Pune. According to recent studies, more than 50% of smart cities in India are prone to floods.

Some of the most common reasons for frequent flooding in urban India are as below:

- **Inadequate Drainage Infrastructure:** Cities like Hyderabad, Mumbai rely on a century-old drainage system, covering only a small part of the core city.
- **Terrain Alteration:** Lasting irreversible damage has been done to the city by property builders, property owners, and public agencies by flattening terrain and altering natural drainage routes.
- **Reducing Seepage:** Indian cities are becoming increasingly impervious to water, not just because of increasing built up but also because of the nature of materials used which is hard, non-porous.
- **Lax Implementation:** Even with provisions of rainwater harvesting, sustainable urban drainage systems, etc., in regulatory mechanisms like the Environmental Impact Assessment (EIA), adoption at user end as well as enforcement agencies remains weak.

Lasting Remedial Measures to Counter Floods

Countering urban floods is not possible through one size fits all approach as geological reasons resulting in floods are different for different cities. The following steps can be taken to mitigate the frequent urban flood situations in million plus cities:

- In the case of South Indian cities, especially like Hyderabad and Chennai, flooding takes place mainly due to sudden downpour caused by cyclonic activities. To reduce the events of floods, the need is to clear the critical areas, like waterbodies, from encroachments.
- In the Himalayan areas, cloud burst events, especially during monsoon season, result in flash floods. To counter the same, check dams, small-scale levees and

sandbag embankments need to be developed. Increasing the width and base level of river flow will increase downstream flow and prevent overflowing of rivers.

- In case of cities like Patna and Kolkata lying in plain areas, the 'normal' riverine floods occur which are comparatively easy to predict and counter. The need is to construct a 'sponge city' with a larger number of gardens, parks, wetlands, and floodplains nearby and use modern technologies to divert surplus water from the city. This will not only recharge depleted aquifers but also prevent the fast-changing hydrology of the rivers.

Shortcomings in urban planning and poor coordination among various departments/bodies have resulted in damaging the existing infrastructure of cities which ultimately results in flood situations. The government through public-private partnership should try to address the problem at the earliest.

Q16. India has immense potential of solar energy though there are regional variations in its developments. Elaborate.

- Answer - Solar energy is a renewable source of energy that is sustainable and inexhaustible, unlike fossil fuels. Fortunately, India has been endowed with huge solar energy potential with 5,000 trillion kWh per year energy incident over India's land area and most parts receiving 4-7 kWh per sq. m per day.
- However, different parts of Earth's surface receive different amounts of sunlight; therefore, all regions are not equally suitable for solar power generation. Since almost half of India lies in the tropical region while the other half in the temperate region, therefore all regions within the country are not equally suitable for solar energy generation.
- South Western parts of Rajasthan, Gujarat, Maharashtra, Karnataka, Odisha, Tamil Nadu, Telangana, and Andhra Pradesh are some of the best states suited for solar power generation, as they lie in the tropics. On the other hand, areas of Punjab, Himachal Pradesh, Uttar Pradesh, and Bihar are comparatively less suited to solar power generation, as they are mainly concentrated in temperate regions.
- Besides solar radiation intensity, various other factors responsible for installation of solar power plants are quality of local physical terrain, environment, and distance of the site from the nearest substations for grid connectivity.
- As per current position (May 2020), Karnataka leads the solar power production in the country with a total installed capacity of about 7100 MW. The second position is occupied by Telangana (5000 MW) followed by Rajasthan (4400 MW).
- India is a solar rich country and is also leading the International Solar Alliance (ISA). In fact, India's prolific solar power producing states are boosting India's ability and willingness to ensure fulfilment of the country's aim of achieving 175 GW of renewable energy by 2022.

Q17. Examine the status of forest resources of India and its resultant impact on climate change.

Answer - According to the 'India State of Forest Report 2019' the total forest and tree cover in India is 80.73 million hectares which is around 24.56% of the total geographical area of the country. These forests and trees deliver important ecosystem goods and services. Any major change caused in the available forest resources, directly or indirectly affects climate change.

Forest Resources and Climate Change

- Different forest types are a gateway to different wood and non-wood forest resources. Forests also provide food, fiber, edible oils, and drugs. Forest is an important source of minerals and minor forest produce like tendu and honey.
- These forest resources in India despite being under protection laws suffer as open access resources. Due to this, almost 78% of the forest area is subjected to heavy grazing and other unregulated uses. Forests are also prone to illegal mining activities and slash and burn agricultural practices in certain areas. With increase in population, the pressure on forest resources have increased. This over-exploitation of resources has aggravated the impact of climate change.
- Forests help in carbon sequestration and oxygen enrichment in environment. Unregulated use of forest resources and deforestation activities disturb the carbon cycle resulting in increase in global temperature levels. This translates to change in wind pattern and precipitation levels.
- Climate change is increasing the risk of drought in some areas, while making many other areas prone to extreme precipitation and flooding situations. Increased temperature is increasing the melting rate of icebergs thereby resulting in increase in sea level and submergence of coastal areas and islands.
- Also, the unchecked forest resource utilization has resulted in frequent wildfires, storms, insect outbreaks, invasive species and diseases. The increase in human-animal conflict cases nowadays is also a result of over exploitation of forest resources.
- Thus, there is a close interrelationship between climate change and forests. The issue of unchecked human activities in forest areas needs to be addressed in a holistic manner not only at local level but also at global level. Making plantation mandatory along highways, road dividers, vacant land along railway tracks, etc. coupled with promoting sustainable usage of forest resources will serve the purpose.

Q18. Is diversity and pluralism in India under threat due to globalization? Justify your answer

Answer - "India is the cradle of the human race, the birthplace of human speech, the mother of history, the grandmother of legend, and the great grandmother of tradition. Our most valuable and most artistic materials in the history of man are treasured up in India only." – Mark Twain.

- India has long been considered as the most pluralistic and diversified society in the world. Her past is full of amalgamation of foreign tribes with indigenous ones. This amalgamation created a unique synthesis of cultural traditions and customs. The present-day Indian society is a continuation of these traditions.
- Ever since globalization, beginning from the 18th century onwards, Indian society is constantly interacting with other global societies and exchanging customs and traditions more rapidly.
- The reactions to global events are clearly manifested in Indian society. For example, religious fundamentalism has gained ground in India. The ISIS militant group has seen participation from Indian youths as well. Religious brainwashing through misinformation has eroded religious fabric. The communal riots have also been recorded in many parts of India. As a counteraction to this, various hardline groups have also emerged among other sections.
- Moreover, religious conversion movements have also sparked debates as cases of forcible conversions and conversion through monetary incentives are recorded. Some of them have been most active in Tribal areas and Northeastern part of India. Their distinct culture and traditions are impacted by these activities. Further, the ridiculing of ancient Indian traditions in the name of modernity and westernization has also been on rise.
- However, globalization has also contributed to women empowerment and has put some of the most regressive Indian traditions such as Sati and Purdah on a rational test. Also, it has helped to export our cultural practices such as cuisine, dances, and various other art forms, etc. all over the world particularly Yoga. This, in turn, has boosted tourism in the country and resulted in generation of even more unique customs and traditions.
- Thus, spaces where unhindered access to global forces is given, there have been cases of violation of India's diversity and pluralism. But on the other hand, active participation from Indians and foreign elements in a healthy environment has resulted in exchange of information and promotion of Indian culture.

Q19. Customs and traditions suppress reason leading to obscurantism. Do you agree?

- Answer - Obscurantism is described as the practice of deliberately presenting information in an imprecise and complicated manner so that a smaller number of people understand and investigate further on the subject matter. In other words, it is the way to limit transfer of knowledge beyond certain limits. Obscurantism has remained a common feature in almost all religious beliefs.
- Custom and tradition refers to a common way of doing activities and which are being practiced for a long time. These activities vary from marriage, divorce, way of worship to other rituals and ceremonies. It has been noticed that some of the old customs and traditions are neither logical nor even reasonable in modern context and therefore are also not acceptable in the morals of contemporary society.

- The modern reformers demand to do away with such customs and traditions and put an end to long perpetuating orthodox dogmas. But to avoid any changes in old customs and traditions and to maintain their authority the so called religious pundits try to practice obscurantism so that information about customs and traditions of a religion is less delineated and hence less reform in the religion is demanded by the society.
- For example, the evil traditions of nikah halala and triple talaq propagated for so long in India despite the tradition being illogical and unreasonable, just because of obscurantism by the Muslim Personal Law Board. Similarly, customs like Sati and child marriage were perpetuated for long because of obscurantism. The tradition of animal sacrifice in ceremonies is still practiced in many religions. The custom of Female Genital Mutilation (FGM) is still practiced by few communities. Similarly, the customs like polygamy and polyandry are still a common practice in many cultures because of obscurantism.
- Nevertheless, customs and traditions form an important part of human civilization and help people to align themselves in closely knit bonds. Further, these customs and traditions are not cast in stone. By their very nature, they are supposed to evolve constantly and meet the changing requirements of time and social contexts. Humans have intrinsic rights to decide which customs and traditions to preserve or revise or even discard.

Q20. How have digital initiatives in India contributed to the functioning of the education system in the country? Elaborate your answer

- Answer - In recent times, there has been a rise of digital education products in India both in private as well as public sectors such as app-based classes, SWAYAM portal, DIKSHA platform, etc. Notably, the online education market in India was valued at Rs. 39 billion in 2018 and is expected to reach `360 billion by 2024.
- In the traditional education system, physical presence is paramount, i.e., attendance of teachers and students in the classroom. This has resulted in higher school dropout rates especially of girls due to lack of proper infrastructure (clean & separate toilets, distance from home) and various other household constraints.
- Also, the investment needed in setting up schools and running them is also rising due to various factors. Moreover, the transportation of students, teachers and staff is also burdensome in some hilly states of India.
- Digital initiatives like online lectures, online attendance, 3-D presentations, hearing and visual aid technology, etc. have changed the education world. There have been noticeable changes due to these technologies such as maximum participation of students is ensured, parents could keep real-time check on their pupil's progress, traditional student-teacher interaction could be broadened,

lectures could be recorded and be seen at any time, etc. Both students and the teaching community have benefitted.

- The lockdown phase, from March 2020 onwards, has seen the rise of digital education on large scale. However, caution needs to be maintained and a study needs to be done to understand the negative and positive effects of digital technology on education.
- Most importantly, as it is an emerging market with huge potential, the government needs to be in vigilant mode so that the most backward of our citizens can have access to this revolution.