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The process of desertification does not have climate boundaries. Justify with examples. (UPSC IAS Mains 2020 General Studies Paper – 1)

Desertification is the process by which fertile land becomes desert due to a combination of climate change, overgrazing, deforestation, and other human activities. This process can occur in any region where the balance between the natural ecosystem and human activities is disrupted, and it is not limited to specific climate boundaries. Four examples to illustrate this point:

1. Sahel region of Africa: The Sahel region of Africa is a semi-arid zone that stretches from the Atlantic Ocean to the Red Sea. In recent decades, this region has experienced severe desertification due to a combination of factors, including overgrazing, deforestation, and climate change. As a result, many areas that were once productive farmland have become barren and unusable.
2. Central Asia: Central Asia is another region that has experienced desertification due to a combination of factors, including overgrazing, deforestation, and the diversion of rivers for irrigation. The Aral Sea, which was once the fourth-largest lake in the world, has shrunk dramatically in recent decades due to these factors, and the surrounding region has become increasingly arid and desert-like.
3. Australia: Australia is another region that has experienced desertification due to human activities. In particular, overgrazing and the introduction of non-native species have contributed to the spread of invasive plant species, which have displaced native vegetation and altered the natural ecosystem. This process has led to the loss of fertile land and the spread of desert-like conditions in many areas.

These examples illustrate that the process of desertification can occur in any region where the balance between human activities and the natural ecosystem is disrupted. While climate change may exacerbate the process in some regions, it is not a necessary precondition for desertification to occur. The loss of fertile land and the spread of desert-like conditions can have serious consequences for the people and ecosystems that depend on these areas for their livelihoods and survival. Therefore, it is important to take steps to prevent and mitigate desertification wherever it occurs.

How will the melting of Himalayan glaciers have a far-reaching impact on the water resources of India?. (UPSC IAS Mains 2020 General Studies Paper – 1)

- The Himalayan glaciers are a critical source of freshwater for India and the surrounding regions, with the majority of India's major rivers originating in the Himalayas. The melting of these glaciers due to global warming and climate change is expected to have far-reaching impacts on India's water resources.
- As the glaciers melt, they will initially release more water into the rivers, leading to increased water availability. However, this effect will be short-lived, and in the long term, the melting glaciers will lead to a reduction in the amount of freshwater available in the rivers.
- This reduction in freshwater availability will have significant impacts on India's agriculture, which relies heavily on irrigation, as well as on hydropower generation and urban water supply. It is expected that the reduced water availability will lead to increased competition and conflicts over water resources, particularly in regions where water scarcity is already a significant issue.
- The Himalayan glaciers are also a critical source of freshwater for other countries in the region, including Pakistan, China, Nepal, and Bhutan. The melting of these glaciers will impact the water resources of these countries as well, which may lead to regional tensions and conflicts over water.
- The reduction in freshwater availability due to the melting of the Himalayan glaciers is expected to have significant impacts on India's economy, particularly on the agricultural sector, which accounts for a significant portion of India's GDP and employs a large number of people. With reduced water availability, farmers may face challenges in growing crops, which could lead to reduced agricultural productivity, food insecurity, and ultimately, economic losses.
- Furthermore, the melting of the Himalayan glaciers will also lead to changes in the timing and intensity of the monsoon rains, which are critical for agriculture and overall water availability in India. These changes in the monsoon patterns will have further impacts on the water resources of the country, leading to increased droughts and floods in different parts of the country.
- Overall, the melting of the Himalayan glaciers is expected to have far-reaching impacts on India's water resources, and it is critical that appropriate measures are taken to mitigate the effects of this melting and to ensure the long-term sustainability of water resources in the country.

Account for the present location of iron and steel industries away from the source of raw material, by giving examples. (UPSC IAS Mains 2020 General Studies Paper – 1)

The iron and steel industries were historically located close to sources of raw materials such as iron ore, coal, and limestone. However, in recent decades, we have seen a trend towards the relocation of these industries away from raw material sources. This has been driven by a number of factors, including changes in technology, transportation infrastructure, and the availability of other resources. Here are some examples to illustrate this trend:

- **Japan:** Japan is one of the world's largest producers of steel, but it has relatively few domestic sources of iron ore and coal. As a result, the country has developed a sophisticated transportation infrastructure to import these raw materials from other countries. Today, many of Japan's major steel producers are located near ports and other transportation hubs, rather than near sources of raw materials.
- **India:** India has significant reserves of iron ore and coal, but these resources are unevenly distributed across the country. As a result, the country's steel industry has developed in regions where transportation infrastructure is well-developed and other resources are abundant. For example, the state of Odisha is a major producer of iron ore and has become a hub for the steel industry due to its proximity to ports and abundant supplies of coal.
- **China:** China is the world's largest producer of steel and has developed a highly centralized steel industry that is largely based on imported raw materials. The country's steel industry is concentrated in a few regions, including Hebei, Shanxi, and Inner Mongolia, which are located near major ports and transportation hubs.

These examples illustrate how changes in technology, transportation infrastructure, and resource availability have led to the relocation of iron and steel industries away from raw material sources. While this trend has brought some advantages in terms of cost and efficiency, it has also created new challenges related to environmental impacts, labor conditions, and supply chain resilience. Therefore, it is important for policymakers and industry leaders to consider the long-term implications of industrial relocation and ensure that it is managed in a sustainable and equitable manner.

Has caste lost its relevance in understanding the multi-cultural Indian Society? Elaborate your answer with illustrations.. (UPSC IAS Mains 2020 General Studies Paper – 1)

The caste system was originally intended to organise 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 homogenisation of cultural values, aided by modernisation.

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.
- Urbanisation 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 modernisation 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.

**COVID-19 pandemic accelerated class inequalities and poverty in India.
Comment. (UPSC IAS Mains 2020 General Studies Paper – 1)**

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 kilometres 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.

Do you agree that regionalism in India appears to be a consequence of rising cultural assertiveness? Argue. (UPSC IAS Mains 2020 General Studies Paper – 1)

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.

Indian philosophy and tradition played a significant role in conceiving and shaping the monuments and their art in India. Discuss. (UPSC IAS Mains 2020 General Studies Paper – 1)

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 symbolises 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.

**Persian literary sources of medieval India reflect the spirit of the age. Comment.
(UPSC IAS Mains 2020 General Studies Paper – 1)**

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 Khwarav, 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 Takih-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 Fawaid-ul-Fauid 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.

- Surr-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.

Since the decade of the 1920s, the national movement acquired various ideological strands and thereby expanded its social base. Discuss. (UPSC IAS Mains 2020 General Studies Paper – 1)

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 organisations 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 mobilise with secret organisations like Hindustan Republic Association (1923) and Hindustan Socialist Republic Association (1928). Ram Prasad 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.

The interlinking of rivers can provide viable solutions to the multi-dimensional inter-related problems of droughts, floods, and interrupted navigation. Critically examine. (UPSC IAS Mains 2020 General Studies Paper – 1)

River interlinking can provide realistic solutions to the multidimensional interconnected challenges of droughts, floods, and navigation disruption. Northern mountains major sources of perennial rivers. The National Water Development Agency (NWDA) of India has proposed connecting the country's rivers. The interconnection of rivers is made up of two parts: the Himalayan and the Peninsular. All interconnecting schemes strive to transfer water from one river system to another or to elevate water over natural basins. The project will construct 30 linkages and nearly 3000 storage tanks to connect 37 Himalayan and Peninsular rivers, forming a massive South Asian water infrastructure.

Major Benefit of River linking Projects

- Agricultural Crisis: River linking will minimise farmers' reliance on unpredictable monsoon rainfall. It will supply irrigation to a large number of locations. The amount of land irrigated will grow by around 15%. It will result in an additional 35 million hectares of irrigation in the water-stressed western and peninsular areas.
- Interconnecting rivers is a method of transferring excess water from high-rainfall areas to drought-prone areas. It can thus control both floods and droughts.

- Indian agriculture is mostly dependent on the monsoon. When the monsoons behave unpredictably, this causes challenges in agricultural productivity. When irrigation facilities improve, this problem will be solved. The initiative would provide irrigation services in water-stressed areas.
- Perennial Rivers Are Not So Perennial: According to a new analysis of rainfall data, monsoon shortages rise in river basins with abundant water while decreasing in regions with scarcity.

Challenges of River linking Projects

- The project is expected to cost approximately almost Rs.6 lakh crores. There is also the demand for massive constructions. All of this necessitates a high level of engineering ability. As a result, the cost and human requirements are enormous.
- It will result in widespread deforestation and land submergence, resulting in deforestation and soil erosion. (For example, the Ken-Betwa link project threatens over 4,000 hectares of forest land, or 8% of the Panna National Park).
- Domestic and regional geopolitics are crucial in ILR talks. There is currently no mechanism in place to deal with issues relating to inter-basin transfers. Important institutional and legal challenges must also be resolved.
- River interconnection is an expensive project. The project's large expenditures and maintenance costs will result in a massive financial burden. This could cause the government fiscal challenges that are difficult to manage.

The government could instead consider the National Waterways Project (NWP), which “eliminates” conflict between states over river water sharing by using only extra flood water that would otherwise go into the sea.

Account for the huge flooding of million cities in India including the smart ones like Hyderabad and Pune. Suggest lasting remedial measures. (UPSC IAS Mains 2020 General Studies Paper – 1)

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.

India has immense potential of solar energy though there are regional variations in its developments. Elaborate. (UPSC IAS Mains 2020 General Studies Paper – 1)

Solar energy stands as the major component of renewable energy, due to large solar energy availability of 4000 trillion KWh per year in India. It has many advantages over conventional energy sources due to its clean nature, ease of production etc. India's Solar energy potential is tremendous as it stands as a major player in the segment. India's Intended Nationally Determined Contributions (INDC's) commitment includes 100 GW of solar power out of 175 GW of renewable energy by 2022. Currently, it stands at 43 GW.

Regional variations

- Desert areas of Rajasthan and Kutch have barren lands and receive high insolation- favouring Solar energy.
- Himalayan and north east India receives low solar insolation or due to the terrain, generating solar energy is not feasible.
- Rooftop solar panel program has tremendous potential in making the urban cities a net electricity generator.
- States closer to the tropics receive large solar insolation and are considered hotspots.
- Coastal states like Kerala have moderate generation potential due to the long monsoon season compared to heartland states.

Challenges to Solar energy program

- Overproduction leading to very low tariff rates-
- Production and technological barrier: lithium for PV cells is imported mainly from china.
- Poor integration of solar energy with grid
- Land acquisition for solar parks a very perilous task.

The Government of India has propelled the solar energy market with a plethora of initiatives and policies like PM KUSUM, SARAL Index, Floating solar plants in Gujarat, ISA etc. Solar energy with its low carbon footprint can be a potential substitute for conventional energy sources and would help fulfil India's commitments under INDCs and Panchamrit proposals at COP 26, Glasgow.

Examine the status of forest resources of India and its resultant impact on climate change. (UPSC IAS Mains 2020 General Studies Paper - 1)

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.

Is diversity and pluralism in India under threat due to globalization? Justify your answer. (UPSC IAS Mains 2020 General Studies Paper - 1)

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.

**Customs and traditions suppress reason leading to obscurantism. Do you agree?
(UPSC IAS Mains 2020 General Studies Paper – 1)**

- 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 practised 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.

How have digital initiatives in India contributed to the functioning of the education system in the country? Elaborate your answer. (UPSC IAS Mains 2020 General Studies Paper – 1)

- 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 Rs.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.

**“There is a need for simplification of procedure for disqualification of persons found guilty of corrupt practices under the Representation of Peoples Act”.
Comment. (UPSC IAS Mains 2020 General Studies Paper – 2)**

Section 8 of the Representation of People's Act, 1951 deals with the provisions of disqualifications of persons found guilty of corrupt practices in election. These provisions include disqualification on the grounds of election offences, conviction for any offence resulting in the imprisonment for two or more years, failure to give account of election expenses within time, corruption or disloyalty, holding office under Government company, promoting enmity between different groups or offence of bribery and preaching or practising of social crimes like untouchability, dowry, etc.

Need for simplification

- The law does not include provisions for barring individuals who have criminal cases pending against them from contesting elections.
- Due to the slow progress of cases in the judiciary, the judgement takes a long time to get settled and a disqualification based on conviction becomes ineffective.
- Lower rates of conviction in offences in India. According to a report by Association of Democratic Reforms in 2014, 30% of sitting MPs and MLAs were facing criminal proceedings against them, but of that only 0.5% were convicted in a Court of Law.
- There have been instances of political influences by the MPs and MLAs over the witness and the whistleblowers, thereby diluting the cases against them.

Way Forward

- Setting up of fast-track courts to deal with election offences.
- Barring those from contesting elections who have been charged for heinous crimes and corrupt practices.
- Giving protection to the whistleblowers and witnesses during the course of investigation.
- Setting up an independent agency to investigate electoral offences.

“Recent amendments to the Right to Information Act will have a profound impact on the autonomy and independence of the Information Commission”. Discuss. (UPSC IAS Mains 2020 General Studies Paper – 2)

The basic objective behind the Right to Information (RTI) Act was to empower the citizens, promote transparency and accountability in the working of the Government, contain corruption, and make our democracy work for the people in real sense.

The recent amendments to the RTI Act

- The Right to Information (Amendment) Act, 2019 has changed the status, salary and tenure of the Central Information Commissioners (CICs) and State Information Commissioners (SICs).
- The original Act prescribed salaries, allowances and other terms of service of the state CIC as “the same as that of an Election Commissioner”, and the salaries and other terms of service of the State Information Commissioners as “the same as that of the Chief Secretary to the State Government”.
- The amendment says that these “shall be such as may be prescribed by the Central Government”. Thus, the Centre now has the powers to decide the salaries, term, and service conditions of CICs and SICs.

It has been argued that the amendments were necessary to correct certain anomalies. For example, the mandate of Election Commission of India and Central and State Information Commissions are non-identical, so should be their status and service conditions.

However, the amendments have the potential to impact the autonomy and independence of the Information Commissions.

- Independent structures set up to regulate and monitor the government are vital to a democratic state committed to delivering justice and constitutional guarantees.
- The amendment allows the interference of the executive in the functioning of information commissions which are quasi-judicial bodies. This may affect the doctrine of separation of powers, which underscores this independence and is vital to our democratic checks and balances.
- Apart from this, the amendment also affects the constitutional principles of federalism, as now the Central government can change terms of service of state information commission.
- The amendment has the potential to make access to information difficult. Easy and quick access to information is vital to ensure the accountability of the representatives and the state.

The 2nd ARC held that RTI is the master key to governance as it checks the misuse and arbitrariness of power and corrupt governance. Therefore, in the pursuit of good governance, the RTI Act requires strengthening of the provisions.

How far do you think cooperation, competition and confrontation have shaped the nature of federation in India? Cite some recent examples to validate your answer. (UPSC IAS Mains 2020 General Studies Paper – 2)

A federation is a political entity characterized by a union of partially self-governing states or regions united by a central government. Granville Austin describes the Indian federation as an example of cooperative federalism that produces a strong Central government but does not result in weak provincial governments. Such distinctive nature of federalism gives rise to cooperation, competition and sometimes confrontation among the federal units.

Collaboration

- It was seen during the GST reforms when each state agreed to leave some part of their share in the tax pool for the long-term goods.
- Collaboration was also evident during the COVID-19 pandemic when states and the Centre acted as one in the fight against the virus.

Competition

- With the Liberalisation Reforms of 1991, there has been a competition among the states to attract foreign investment and industries.
- Planning Commission was replaced by NITI Aayog to promote competition among states and promote the spirit of cooperative federalism. The NITI Aayog publishes rankings of different states in accordance with Ease of Doing Business and this has led to several states and districts doing reforms at the ground level.
- The Aspirational Districts Programme (ADP) started by the NITI Aayog aims to identify 115 laggard districts in terms of socio-economic outcomes and institute a programme with convergence, collaboration and competition as the core tenets.

Confrontation

- From 1967 to 1990, India had witnessed confrontational federalism due to the emergence of regional parties. The confrontation between States and the Union was due to the role of the governor and the use of Article 356.
- Politically, the rise of coalition politics increased the role of states at national level. This can be seen in the role of West Bengal in River Sharing Agreement with Bangladesh and of Tamil Nadu during India's role in conflict with LTTE in Sri Lanka.

This collaboration, competition and confrontation has shaped the Indian federation. It is visible in following ways:

- The diverse regional aspirations have managed to constantly assert themselves, resulting in the decentralisation of governance in India and the institutionalisation of the Local Self-government under the 73rd and 74th Constitutional Amendment Acts.

- The passing of the Goods and Services Tax (GST) is another such example. By implementing GST the Centre and States have become equal fiscal partners in sharing a common indirect tax base.
- The Union government accepted the 14th Finance Commission recommendation to give the States 42% share of the funds from the central pool.

Cooperative and competitive federalism are complementary ideas that will drive India's growth story in the coming decades. However, it is necessary to avoid confrontations among the units of federalism. Inter-state Council can play an enabling role in bringing the Centre and the States together on contentious policy issues.

The judicial systems in India and the UK seem to be converging as well as diverging in recent times. Highlight the key points of convergence and divergence between the two nations in terms of their judicial practices. (UPSC IAS Mains 2020 General Studies Paper – 2)

Both India and the United Kingdom are democratic countries with parliamentary form of government. Besides, there are differences as well as similarities on how the Executive, Legislature and Judiciary of these countries function.

The Indian Judicial System has its origin in the 'Mayors Courts' established by the East India Company in 1726. During the course of the British Rule, the judicial systems developed imbibing the features like rule of law, and recording judicial precedents.

After Independence India inherited the same judicial system but made changes to suit the peculiar Indian situation.

The points of convergence in the judicial system include:

- Independence of Judiciary: In Britain as well as in India the judges can only be removed from the office for serious misbehavior and with the consent of both the Houses of Parliament.
- Ultra-vires: Courts in both the UK and in India can declare the action of executive as ultra-vires i.e. acting or done beyond one's legal power or authority.
- Interpretation of Constitution: The courts in both India as well as in the UK act as the highest interpreter of the constitution.

The points of divergence in the judicial system include:

- Sovereignty of Parliament: Under the doctrine of Parliamentary sovereignty, the judiciary in the UK lacks the power to strike down an Act of Parliament. However, in India, the courts have been given this power.
- Basic Structure Doctrine: The courts in India have come up with the Doctrine of Basic Structure, which prevents executive from making laws or amendments which alter or deviate from the basic values enshrined in constitution. British system lacks the concept of 'Basic Structure'.
- Unified Three-Tier System: The United Kingdom does not have a single unified legal system, England and Wales have one system, Scotland another, Northern Ireland a third. The Constitution of India has established a unified three-tier system of judiciary, with the Supreme Court at the top.
- Appointment of Judges: In the UK, the Constitutional Reform Act, 2005 has created the Judicial Appointments Commission for appointment of judges. However, in India, the Judges of the Supreme Court, as well as High Courts, are appointed by the President under collegium system.

The British judicial system provided the foundation on which its Indian counterpart was built. But Indian judiciary has evolved and learnt from the best practices around the world to safeguard democracy and rule of law.

'Once a Speaker, Always a Speaker'! Do you think this practice should be adopted to impart objectivity to the office of the Speaker of Lok Sabha? What could be its implications for the robust functioning of parliamentary business in India?. (UPSC IAS Mains 2020 General Studies Paper – 2)

- The Speaker of the House is a key office in parliamentary democracy. The Speaker facilitates the business of the House and maintains decorum in the House. The Speaker has functions to perform in regulatory, administrative and judicial matters.
- However, the Speakers have often been alleged to be working under their respective party affiliations. There have been incidents when the opposition members have been denied chance to raise questions. In a recent case, the demand for recording of votes has been declined by the Speaker and the motion had been passed by voice vote.
- Speakers have also been blamed for harboring political ambitions as the person elected as Speaker are eligible for further appointment. For example, G.S. Dhillon, Speaker of the Lok Sabha (for two terms), stepped down in 1975, and became the Union Minister for Shipping.
- As a revamp in the structure of the office, the UK practice of Once a Speaker always a Speaker is sometimes suggested. In the United Kingdom, once elected,

the Speaker gives up all party affiliations and remains in office until retirement. Political parties do not field candidates from the constituency of the Speaker to ensure his/her re-election to the house. The British Parliament automatically elevates the Speaker to the House of Lords once they demit office.

Implications of adopting UK system of Speaker in India:

- The UK system ensures impartiality, fairness and autonomy of the Office of the Speaker.
- It ensures the freedom from interference and pressures which provide the necessary atmosphere where one can work with absolute commitment to the cause of neutrality as a constitutional value.
- It also ensures security of tenure.
- Nevertheless, uncontested re-election impacts representative democracy at the level of constituency.
- One person at one post for life also prevents bringing new conduct and alternative point of views in the office.
- The level of autonomy this system provides requires establishment of a similar level of accountability mechanism.

Given the need for reform for the office of the Speaker in India, it is necessary to strengthen the office of Speaker in India.

- In Ireland, the position of Speaker is given to someone who has built up credibility by relinquishing his or her political ambitions.
- Speaker can be disallowed from future political office, except that of the President, while being given a pension for life.
- Issues associated with representative disqualification can be determined by a separate tribunal.
- The restrictions can be placed on the discretionary powers of the Speaker. These may include imposing deadlines to deal with the cases of resignation or disqualification or floor tests.

It is time to ensure impartiality and transparency in the office of the Speaker by imposing a deadline and a set of guidelines required to exercise all the entrusted powers. It is only after such changes are put in place that the revered office of the Speaker can truly be called the symbol of India's freedom and liberty

In order to enhance the prospects of social development, sound and adequate health care policies are needed particularly in the fields of geriatric and maternal health care. Discuss.

Poor health constitutes suffering and deprivation of the most fundamental kind. Diseases impact the well being, burden family, weaken societies, and squander potential. Over the years, significant strides have been made in increasing life expectancy and reducing some of the common killers associated with child and maternal mortality.

Linkages between social development and health care:

- In developing countries, breaking the vicious circle of poverty and ill-health is an essential condition for development.
- Health is pertinent for the realization of basic human needs and for a better quality of life. Health is a causative factor that affects a country's aggregate level of economic growth.
- The rising out-of-pocket expenditures on healthcare pushes around 32-39 million Indians below the poverty line annually.
- Women and elderly are one of the most vulnerable sections of society. In this context, access to quality health care and sound health policies are crucial for their healthy development, reducing deprivation, and social empowerment.

Geriatric Health:

- Ageing is a continuous, irreversible, universal process, which starts from conception till the death of an individual.
- However, the age at which one's productive contribution declines and one tends to be economically dependent can probably be treated as the onset of the aged stage of life. National Elderly Policy defines people of 60+ age group as elderly.
- With well-designed and judicious investments, ageing population can help build-up human, social, economic and environmental capital.
- However, this would call for investing in all the phases of life, fostering enabling societies, and creating flexible but vibrant environment for building a society for all ages.
- In order to generate comprehensive data on social, economic and health conditions of the elderly, the Government undertook Longitudinal Aging Study of India.

Other initiatives of the Government of India:

- Integrated Programme for Older Persons (IPOP)
- Rashtriya Vayoshri Yojana (RVY)
- Indira Gandhi National Old Age Pension Scheme (IGNOAPS)
- Varishtha Pension Bima Yojana (VPBY)

Maternal Care:

- Women are strong pillars of any society. Sustainable development in India can only happen through maternal and child care.

- Maternal health is an important aspect of the development in terms of increasing equity and reducing poverty.
- The survival and well being of mothers is not only important in their own right but are also central to solving larger economic, social, and developmental challenges.
- The Sustainable Development Goal 3 pertains to maternal health, where the target is to reduce maternal mortality ratio (MMR) to 70 per 100000 live births.

Institutional deliveries are an important means to achieve maternal health. Key initiatives in this are:

- Janani Suraksha Yojana
- Janani Shishu Suraksha Karyakaram
- Midwifery initiative aims to create a cadre of skilled nurses for providing compassionate women-centred, reproductive, maternal and newborn healthcare.

Healthcare has a major role to play in reducing social exclusion at the local level, due to its impact on employment, working conditions and household income. It can drive forward the implementation of local and national goals for sustainable development.

“Institutional quality is a crucial driver of economic performance”. In this context suggest reforms in the Civil Service for strengthening democracy. (UPSC IAS Mains 2020 General Studies Paper – 2)

Institutional quality in a democracy determines how successful the government machinery adheres to the principles of public service, rule of law, and social justice. One such institution is the Civil Services, which acts as a link between the government and citizenry strengthening democracy and furthering economic objectives such as sustainable growth and development.

Challenges Faced By Civil Services in India

- Status Quoist: As instruments of public service, civil servants have to be ready for change. The common experience, however, is that they resist changes as they are wedded to their privileges and prospects and thereby, have become ends in themselves. For example, the 73rd and 74th Amendments to the Constitution have envisaged democratic decentralization.

- However, due to the reluctance on the part of the civil servants to accept the changes in control and accountability, the intended vision has not been achieved.
- Rule-Book Bureaucracy: It means following the rules and laws, in words and not in spirit, without taking care of the actual needs of the people. Due to rule book bureaucracy, some civil servants have developed the attitude of 'bureaucratic behaviour' which brings issues like red-tapism and poor responses to the needs of the people.
- Political Interference: The political representatives for the sake of fulfilling the populist demand, often influence the functioning of administrative officials. This leads to issues like corruption and arbitrary transfers of honest civil servants, an important reason for inefficient implementation of policies.

Civil Services Reforms

- Prompt Delivery of Services: Every department should seek to simplify their processes to cut administrative delays and ensure participatory feedback mechanisms for efficient service delivery.
- Reducing Discretion & Enhancing Accountability Mechanism: There is an inherent need to set key responsibility/ focus areas and progressively reduce discretionary aspects to evaluate civil servants. Online Smart Performance Appraisal Report Recording Online Window (SPARROW) should be instituted in all central and state cadres.
- Also, as suggested by many committees, there is a need to develop benchmarks to assess the performance of officers and compulsorily retire those deemed unable to meet the benchmarks.
- Incorporation of Code of Ethics: As suggested by 2nd ARC, along with streamlining of code of conduct rules, there is a need to inculcate ethical underpinning in the civil servants by implementing the Code of Ethics. This will sensitize civil servants to the problems of people.

Sardar Patel considered the civil service "the steel frame of government machinery". However, without adequate reforms, this steel frame may start to get corroded and may collapse.

“The emergence of the Fourth Industrial Revolution (Digital Revolution) has initiated e-Governance as an integral part of government”. Discuss. (UPSC IAS Mains 2020 General Studies Paper – 2)

- The Fourth Industrial Revolution is a way of describing the blurring of boundaries between the physical, digital, and biological worlds. It's a fusion of advances in Artificial Intelligence (AI), robotics, the Internet of Things (IoT), quantum computing, and other technologies. It is about more than just technology-driven change; it is an opportunity to help everyone, including government, policy-makers and people to harness converging technologies in order to create an inclusive, human-centred future.
- The recent technological changes have fundamentally altered the way states govern and people respond. The growth of computers, digital technologies and telecommunications has drastically changed the way the state conducts its functions.
- Electronic governance or e-governance is one of them. E-governance is about a process of reform in the way governments work, share information and deliver services. Specifically, e-government harnesses information and communication technologies (ICT) to deliver information and services to citizens and businesses.

Some positive examples of the e-governance that have promoted effectiveness of government at the national level include:

- Digital India: It strives to bring inclusive growth and bridge the digital divide by leveraging technology solutions that are low cost, developmental, transformative and designed to empower ordinary Indians.
- BharatNet: One of the largest digital infrastructures of the world was conceived to connect all the 250,000 gram panchayats by a high-speed optical fibre network.
- India is seeing a dramatic growth in the number of online transactions involving citizens and the government. It proves that citizens are quick to adopt these technologies. The onus lies on the government to provide the relevant infrastructure and policies to enable effective digitization of the economy.
- Umang: It is a platform that enables access to services offered by the Government, such as EPF, Ayushman Bharat, on mobile phone.
- Direct Benefit Transfer (DBT): Under this initiative subsidies and scholarships are directly credited in the bank account of the beneficiary. It has immensely helped in targeted delivery of benefits and reducing corruption.
- Industrial Revolution 4.0 brings with it immense potential to improve governance. Its right use will result in improving accountability, access to services, and strengthening of democracy.

Critically examine the role of WHO in providing global health security during the Covid-19 pandemic. (UPSC IAS Mains 2020 General Studies Paper – 2)

WHO is a specialized agency of UN responsible for international public health. The objective of the Organization is to ensure the attainment by all peoples of the highest possible level of health.

However, the COVID-19 pandemic and the controversies associated with it have raised questions about the credibility of WHO as a global health leader.

WHO: failed to exercise global health leadership

Failed to Challenge sovereignty

- The International Health Regulations (IHR), adopted by WHO member states in 2005, authorizes WHO to collect disease related information for other sources, seek verification from governments about such information.
- WHO failed to act on information it had from other sources. It also failed to share that information with other countries.

Became a tool of Chinese politics

- WHO director praised China for the speed with which it detected the outbreak and lauded China for its transparency.

Confused and delayed initial response

- Initially, the organization opposed travel ban and maintained that masks to be used by only those with symptoms.
- In the mid-January 2020, it reiterated its stand that human-to-human transmission had not been proved.

Failed to ensure a human-rights approach to health

- WHO is the leading guardian in ensuring human-rights approach to health.
- Questions were raised about WHO's silence in the face of the human rights consequences of harsh government responses, such as mandatory quarantine and isolation measures.

WHO: Successfully handled the pandemic

- WHO deployed scientific skills, epidemiological expertise, medical know-how, outbreak-response capacities in the fight against COVID-19.
- The organization's sharing of information and its attempts to counter online misinformation and disinformation have earned widespread praise.
- The medical and public health expertise that WHO offered to countries to combat COVID-19 is appreciated.
- It gathered information, collaborated with laboratories and was successful in devising standard tests and protocols for managing the disease.
- It raised approximately \$175 million to find a cure.
- It created a COVAX facility which ensured a collaborative approach towards vaccine development and its equitable distribution.

Summing up

- WHO is providing its leadership in global health more through its scientific, medical, and public health capabilities than its authority to challenge states politically under the IHR.
- However, the pandemic offers an opportunity to reform the WHO by providing it more financial resources as well as greater autonomy.

'Indian diaspora has a decisive role to play in the politics and economy of America and European Countries'. Comment with examples. (UPSC IAS Mains 2020 General Studies Paper – 2)

According to estimates released by the United Nations, India was the leading country of origin of international migrants in 2019 with a 17.5 million strong diaspora. The diverse profile of India diaspora allows it to actively shape the polity and economy of the host country.

Political Dimensions

- **Electoral Power:** The growing number of Indians in host countries has entrusted them with the ability to influence election results. For instance, Indian-Americans make up around 1% of the electorate, but their votes are crucial in swing states. In 2019, the British House of Commons had 15 MPs of Indian origin.
- **Emerging Leaders:** Many people of Indian origin hold top political positions reflecting their ability to lead. Examples include Kamala Harris - USA's vice president, Rishi Sunak - UK's Finance Minister, António Costa - Portugal's Prime Minister.
- **Lobbying Capacity:** The Indian community's efforts at lobbying the US Congress are seen in the context of diasporic mediations in international relations, like the India-U.S. nuclear deal.
- **Soft Power:** Indian diaspora through Yoga, movies, spirituality, has created tremendous 'soft power' power in host countries. It helps India to build strong diplomatic relations.

Economic Front

- **Technological Prowess:** Indian diaspora is known for their innovative skills and tech-savvy attitude which has contributed in benefiting the host countries. For example, at Silicon Valley, they have significantly contributed towards the

growth of the IT industry. Technological giants like Google, Microsoft are headed by Sundar Pichai and Satya Nadela.

- Indian Industrialists: Indian Industrialists have left their mark on American and European industrial landscape. Indians abroad have made the nation a brand. There are several eminent British industrialists of Indian origin, including Lakshmi Mittal, and Hinduja brothers.
- MNCs: Many Indian MNCs have made their global presence felt by investing heavily and creating employment. For example, Jaguar and Land Rover, which are British car manufacturers, are owned by Tata.
- The Indian diaspora has gained new visibility as their political and financial clout has grown. It contributes by way of remittances, investment, lobbying for India, promoting Indian culture abroad and for building a good image of India by their intelligence and industry.

Indian Constitution exhibits centralising tendencies to maintain unity and integrity of the nation. Elucidate in the perspective of the Epidemic Diseases Act, 1897; The Disaster Management Act, 2005 and recently passed Farm Acts. (UPSC IAS Mains 2020 General Studies Paper – 2)

During the Constituent Assembly debates, the prominent members of the assembly asserted a stronger Union government necessary for India's survival and political stability, given its vast diversity. The Indian Constitution has an inherent bias for the Union government as the central government is the superior authority to the states in various ways.

Centralising Tendencies of the Constitution

- Article 1 describes India as a Union of States. That is, an indestructible Union of destructible States.
- The Union list contains more subjects than the State list and in case of a deadlock between the Union and States over subjects in the concurrent list, the Union law prevails. Further, the residual powers rest with the Union.
- Provisions like single Constitution; single citizenship; all-India public services etc. are others such manifestations of centralising tendencies.
- The application of centralising provisions was recently visible as the Union implemented several Acts to fight the Coronavirus, and to reform the agriculture sector.

Disaster Management Act, 2005

- It was enacted by the Union under the residual powers. The Act proved to be instrumental in combat against the COVID-19 though 'Public health and sanitation' is a subject under Entry 6 of State list.
- Under the Act, irrespective of any law in force, the Center can issue any directions to any authority anywhere in India to facilitate or assist in disaster management.

Epidemic Diseases Act, 1897

- The Act was formulated pre-independence mainly to control plague in the late 1800s.
- Under this Act, State governments have the prerogative to take appropriate measures for arresting the outbreak or spread of a contagious disease.
- During the outbreak of COVID-19, the Union Health Ministry had advised all the states/UTs to invoke provisions of Section 2 of the Act so that all advisories being issued from time to time are enforceable.
- The Act empowers the Central government to take measures for inspecting and detaining persons travelling out of or into the country during the epidemic.

The Three Farm Acts

- The Central government recently introduced major agricultural market reforms through three Acts: The Essential Commodities (Amendment) Act, 2020, The Farming Produce Trade and Commerce (Promotion and Facilitation) Act, 2020, and The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020.
- These have been enacted under Entry 33 of Concurrent List which deals with trade and commerce, and production and supply of foodstuffs – an issue that holds enormous importance for enhancement of farm income.
- However, these three inter-linked Acts constitute the concerted entry of the Centre into the sphere of agriculture, which was designated a State subject in the Constitution.

Thus, a strong Union seems essential for coordinating vital matters of common concern and ensuring peace. Moreover, though there are some centralising tendencies, there also exists some highly federal features like dual polity and bicameral structure of the parliament.

The strength and sustenance of local institutions in India has shifted from their formative phase of 'Functions, Functionaries and Funds' to the contemporary stage of 'Functionality'. Highlight the critical challenges faced by local institutions in terms of their functionality in recent times. (UPSC IAS Mains 2020 General Studies Paper – 2)

“When the panchayat raj is established, public opinion will do what violence can never do.” – Mahatma

Gandhi Local Self Government is the management of local affairs by such local bodies who have been elected by the local people. The history of local institutions in India goes back to 1952 when the Community Development Programme (CDP) was introduced.

Formative Years of Local Institutions

- In the developing phase of the local institutions, the debate was around what functions shall be allotted to these institutions, who will execute these functions and how the funds will be mobilised for their implementation.
- In 1957, Balwant Rai Mehta Committee reviewed the working of the CDP. The committee suggested a three-tier PRIs, namely, Gram Panchayats at the village level, Panchayat Samiti at the block level, and Zilla Parishad at the district level.
- In 1977, Ashok Mehta Committee recommended compulsory power of taxation and in 1985 the GVK Rao Committee recommended assigning an role with respect to planning, implementation and monitoring of rural development programmes.
- The Gadgil Committee in 1988 made comprehensive recommendations on local institutions. Based on its recommendations, 73rd and 74th Constitutional Amendments were passed.
- It provided a three-tier system for local government and assigned them constitutional status.
- Gram Sabha is the foundation of the Panchayati Raj system.
- All members of local bodies shall be directly elected by the people and seats shall be reserved for SC/ST and women at all three levels.
- State Election Commission to supervise elections.
- Endowment of power and functions, such as preparation of plans for economic development and social justice.
- Formation of State Finance Commission every 5 years to review the financial provisions of local bodies.
- The above amendments have been able to address the functions, functionaries and funds debate. However, in recent times strength and sustenance of local bodies are facing functionality related issues.

Functionality related challenges

- Structural Deficiencies: PRIs suffer from structural deficiencies i.e. inadequate secretarial support and lower levels of technical knowledge which restricted the aggregation of bottom-up planning.
- Adhocism: There is a presence of adhocism i.e. lack of clear setting of agenda in Gram Sabha, Gram Samiti meetings and no proper structure.
- Proxy Representation: Though women and SCs/STs have got representation in PRIs through reservation mandated by 73rd amendment, proxy representation, for example, in case of women through Panch-Pati, acts as a major hurdle.
- Overlapping Functions: The issue of ambiguity in the division of functions and funds has allowed concentration of powers with the states and thereby restraining the elective representatives who are more aware and sensitive to the ground level issues to take control.

Local institutions have been able to strengthen democracy at the root level. But as the institutions have evolved, new challenges have emerged. Their rectification will require raising awareness among masses and their representatives, clear demarcation of responsibility and a system of accountability.

Rajya Sabha has been transformed from a 'useless stepney tyre' to the most useful supporting organ in past few decades. Highlight the factors as well as the areas in which this transformation could be visible. (UPSC IAS Mains 2020 General Studies Paper – 2)

The Constituent Assembly favoured Rajya Sabha, as a vast country like India with immense diversities required a platform for the states at Parliament to raise their voices and to check legislation passed in haste. Rajya Sabha shares an unequal status with Lok Sabha in terms of matters like money bill, appropriation bill, no-confidence motion, etc. but its position is special as:

- It can authorise the Parliament to make a law on a subject enumerated in the State List (Article 249).
- Rajya Sabha can authorise the Parliament to create new All-India Services common to both the Centre and States (Article 312).
- It checks hasty, defective, careless and ill-considered legislation made by the Lok Sabha by making provision of revision and thought.
- It maintains the federal equilibrium by protecting the interests of the states against the undue interference of the Centre.

Rajya Sabha has emerged as the most useful supporting organ in the past few decades because of several factors:

- **Cooperative Federalism:** With the strengthening of democracy in India, the spirit of cooperative federalism has pervaded. It has obliged the Government to appropriate the advice of the Rajya Sabha.
- **Rise of Regional Parties:** Since the 1980s, a rise in the popularity of regional parties was witnessed. It allowed regional parties to have a greater share in the membership of Rajya Sabha, thus enhancing the influence of Rajya Sabha while passing a Bill.
- **Coalition Governments:** The 1990s brought a new era in Indian polity, an era of coalition government. It required a wider consensus in the enactment of statutes.
- **Expert or Informed Opinion:** Requirement of expert or informed opinion in matters like Personal Data Protection Bill, Surrogacy Bill, etc. have made the role of Rajya Sabha indispensable.

The transformation can be seen in:

- Abrogation of Article 370, where the support of Rajya Sabha was vital for the benefit of people of Jammu and Kashmir and Ladakh.
- GST reforms was another subject where Rajya Sabha's role was proactive. States' support was essential in the implementation of the reforms.
- The passage of POTA Act in 2002 whereby due to objections of Rajya Sabha joint sitting of Parliament was called under Article 108 to discuss the provisions.

Even though the ups and downs of Indian politics, the Rajya Sabha has remained a vanguard for political and social values, a melting pot of cultural diversity. It has helped in assimilating the aspirations of the people of India and protecting their interests.

Which steps are required for constitutionalization of a Commission? Do you think imparting constitutionality to the National Commission for Women would ensure greater gender justice and empowerment in India? Give reasons. (UPSC IAS Mains 2020 General Studies Paper – 2)

Constitutionalisation involves the attempt to subject governmental action within a designated field to the structures, processes, principles, and values of the 'Constitution'.

Steps to Constitutionalise a Commission

- Constitutionalisation of a Commission will require the passing of a Constitutional Amendment Bill under Article 368.
- The Bill is passed in each House by a majority of the total membership of that House present and voting.
- After receiving the assent of the President the Constitution shall stand amended in accordance with the terms of the Bill.
- Example: 102nd Constitution Amendment Act, 2018 provides constitutional status to the National Commission for Backward Classes (NCBC). The Act inserted new Articles 338 B and 342 A.

Benefits of Imparting Constitutional Status the National Commission for Women (NCW)

- Power of Civil Court: It will provide the National Commission for Women (NCW) with the power of a Civil Court enabling NCW to safeguard women's interest more effectively.
- Mandatory Tabling of Reports: Constitutional status will make the discussion of NCW reports by Parliament binding, thus enhancing the reach of women's voice.
- Autonomy: It will provide NCW greater autonomy to act and regulate its own procedures.

However, if we study the functioning of other Constitutional bodies like NCST or NCBC the reality projects a different picture.

- Advisory Role: Their recommendations are advisory and they cannot issue binding directions or injunction orders and their reports could not be mandatorily enforced and executed.
- Adjudicatory Role: The Commissions are not adjudicatory bodies and their orders are not an alternative to the hierarchical judicial system envisaged under the Constitution.
- Other Constraints: Inadequate funds and manpower, political interference are the limitations that reduce the effectiveness of Commissions.

Granting constitutional status the NCW helps in ensuring greater gender justice and empowerment. But it will also require steps like mandatory execution of injunctions, proper funding and upgrading its status to the adjudicatory body.

“The incidence and intensity of poverty are more important in determining poverty based on income alone”. In this context analyse the latest United Nations Multidimensional Poverty Index Report. (UPSC IAS Mains 2020 General Studies Paper – 2)

- According to the World Bank, Poverty is pronounced deprivation in well-being, and comprises many dimensions. It includes low incomes and the inability to acquire the basic goods and services necessary for survival with dignity.
- A common method used to estimate poverty is based on the income or consumption levels and if the income falls below a given level, then the household is said to be poor. According to the World Bank population living under \$1 income/day is considered poor. Similarly in India, as per the Rangarajan committee (2014), the poverty line is estimated as Monthly Per Capita Expenditure of 1407 Rs. in urban areas and 972 Rs. in rural areas.
- Based on income, incidence of poverty is measured by the poverty ratio, which is the ratio of the number of poor to the total population. But the extent of poverty is not equal among the poor. Intensity of poverty estimates the depth of poverty by considering how far, on average, the poor are from that poverty line.

However, these income based estimates, offer a quantity based assessment by simply counting the poor below the poverty line, and remain limited at the qualitative level.

UN's Multidimensional Poverty Index (MPI)

- MPI is based on the idea that poverty not just depends on income and an individual may lack several basic needs like education, health, etc.
- The UN's MPI presents quantitative as well as qualitative aspects of poverty. It uses three dimensions viz., Education, Health and living standard and gives score between 0-1.
- According to MPI report 2020, around 1.3 billion people are still living in multidimensional poverty.
- In 2019, the burden of multidimensional poverty disproportionately falls on children-half of multidimensionally poor were below 18.
- India was ranked 62nd among 107 countries with an MPI score of 0.123 with 27.9% head count.
- In 2019, around 19.3% of Indian population is vulnerable to multidimensional poverty.
- The report mentions that India lifted as many as 270 million people out of multidimensional poverty between 2005-06 and 2015-16.
- MPI also reflects that COVID-19 is having a profound impact on the development landscape.

The MPI methodology shows aspects in which the poor are deprived and helps to reveal inter connections among those deprivations. Thus enabling policymakers to target resources and design policies more effectively. The MPI methodology can be, and often is, modified to generate national measures of Multidimensional Poverty that reflect local cultural, economic, climatic and other factors.

“Micro-Finance as an anti-poverty vaccine, is aimed at asset creation and income security of the rural poor in India”. Evaluate the role of the Self Help Groups in achieving the twin objectives along with empowering women in rural India. (UPSC IAS Mains 2020 General Studies Paper – 2)

Micro-Finance provides financial services to those who are not served by the conventional formal financial institutions. In rural India, where the credit market has been traditionally dominated by moneylenders, micro-finance becomes important to serve the credit requirement of poor and end the vicious cycle of debt trap through promoting income-generating activities.

Micro-Finance: An Anti-poverty Vaccine

- Microfinance services contribute to the improvement of resource allocation, promotion of markets, and adoption of better technology; thus, microfinance helps to promote economic growth and development.
- It assists the communities of the economically excluded to achieve a greater level of asset creation and income security at the household and community level.
- It aims to dispense access to the capital to small entrepreneurs.
- To promote Micro-Finance, the government launched initiatives like NABARD, MUDRA loans, etc. MUDRA provides refinance support to Banks/NBFCs for lending to micro units having loan requirements up to 10 lakh Rs.

Self-Help Groups (SHGs) and Micro-Finance

- SHGs are informal associations of people who choose to come together to find ways to improve their living conditions. In the last few decades, SHGs have emerged as the most effective mechanism for delivery of microfinance services to the poor in general and women in particular.
- The Genesis of SHG in India can be traced to the formation of Self-Employed Women's Association (SEWA) in 1972.
- The income-generating and asset creating activities supported by SHGs include piggery farming, ginger cultivation, small business, handicraft and weaving, etc.
- They have a multiplier effect in improving women's socio-economic condition and enhancing their self-esteem.
- For instance, Kudumbashree SHG of Kerala has created a three-tier community network which is run by Community Development Societies (CDSs) of poor women.
- One of the successful enterprises of Kudumbashree is Café Kudumbashree, which includes all women-run cafes as well as catering services.
- Kudumbashree women run more than 30,000 enterprises and have an annual turnover of 1090 million Rs.

For equitable and sustainable development in rural India, financial inclusion supported by MFIs plays an important role. It strengthens India's ability to post fast economic growth with a focus on reducing poverty and empowering women.

National Education Policy 2020 is in conformity with the Sustainable Development Goal-4 (2030). It intends to restructure and reorient education system in India. Critically examine the statement. (UPSC IAS Mains 2020 General Studies Paper – 2)

Recently, the Government announced the New Education Policy (NEP) 2020, which will replace the National Policy on Education, 1986. The Sustainable Development Goal (SDG) 4 aims to “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all by 2030”.

Is NEP in tune with SDG 4?

- Promote free primary and secondary education and universal literacy and numeracy (SDG 4.1 and 4.6): NEP aims at universalization of education from preschool to secondary level with 100% Gross Enrolment Ratio (GER) in school education by 2030. The Policy also makes education more inclusive by proposing the extension of the Right to Education (RTE) to all children up to the age of 18.
- Eliminate all discrimination in education (SDG 4.5): NEP focuses on bringing 2 crores out of school children back into the mainstream through an open schooling system.
- Equal access to quality pre-primary education (SDG 4.2): The Policy also recognizes the importance of the crucial early stage for the development of mental faculties of a child by bringing uncovered age group of 3-6 years under school curriculum with three years of Anganwadi/pre-schooling.
- Ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university (SDG 4.3): NEP emphasises on Vocational Education from Class 6 with Internships.
- The Policy overhauls the undergraduate education with a flexible curriculum of 3 or 4 years with multiple exit options and appropriate certification.
- The National Research Foundation will be created for fostering a strong research culture and building research capacity across higher education.
- The National Educational Technology Forum (NETF), will be created to promote free exchange of ideas and technology.
- Substantially increase the supply of qualified teachers in developing countries (SDG 4.C): A common National Professional Standards for Teachers (NPST) will be developed by 2022, in consultation with NCERT, SCERTs, teachers and expert organizations from across levels and regions.

NEP 2020 has the potential to make an overwhelming impact on the socio-economic fabric of society, as expected in SDG-4. However, its effective implementation coupled with sufficient financing may become the defining factor of its success.

Quadrilateral Security Dialogue (Quad) is transforming itself into a trade bloc from a military alliance, in present times Discuss. (UPSC IAS Mains 2020 General Studies Paper – 2)

- Quadrilateral Security Dialogue (Quad) is the informal strategic dialogue between India, the USA, Japan, and Australia. The Quad was established, primarily as a strategic bloc, to counter China's aggressive stance in the South China Sea. However, Quad's shared objective to support a "free, open and prosperous" Indo-Pacific region, is also forming the basis of a trade agreement and turn it into a major trade bloc.

Is Quad Transforming into a Trade Bloc?

- India-Pacific Ocean Initiative (IPOI): The IPOI is an open, non-treaty-based global initiative that aims at practical cooperation in seven thematic areas which also include Maritime Resources; Capacity Building and Resource Sharing; Science, and Trade Connectivity and Maritime Transport. Australia and Japan have agreed to lead IPOI pillars on Maritime Ecology and Connectivity respectively.
- Free and Open Indo Pacific (FOIP): Japan's FOIP builds around 'two continents', Asia and Africa, and 'two oceans', Pacific and Indian. Japanese FOIP endorses cooperation with countries who share the common vision of a free and open Indo-Pacific.
- Blue Dot Network: It is a multi-stakeholder initiative led by the USA along with Japan and Australia to bring together governments, the private sector, and civil society to promote high-quality, trusted standards for global infrastructure development. It could directly counter China's Belt and Road Initiative (BRI).
- Supply Chain Resilience Initiative (SCRI): As COVID-19 and trade tensions between China and the United States threatened global supply chains, Japan mooted the Supply Chain Resilience Initiative (SCRI) as a trilateral approach to trade, with India and Australia as the key-partners. SCRI is a direct response to individual companies and economies concerned about Chinese political behaviour and the disruption that could lead to the supply chain.

Challenges Remain

- Integration: All the trade associated initiative launched by the QUAD nations are independent. There is a need for a joint push in the domain of trade and economy.
- Lack of Cooperation: The Quad nations have so far not been able to iron out their trade-related difference. For example, India still does not have a Free Trade Agreement with Australia and the USA.
- Need for Clear Vision: The Quad nations need to better explain the Indo-Pacific Vision in an overarching framework with the objective of advancing everyone's economic and security interests.
- This will reassure the littoral States that the Quad will be a factor for the regional benefit, and a far cry from Chinese allegations that it is some sort of a military alliance.

Quad member countries agreed that a free, open, prosperous, and inclusive Indo-Pacific region will serve the long-term interests of all countries in the region and of the

world at large. However, there is a need to put the military component and the economic component together.

What is the significance of Indo-US defence deals over Indo-Russian defence deals? Discuss with reference to stability in the Indo-Pacific region. (UPSC IAS Mains 2020 General Studies Paper – 2)

India's relationship with the US on defence and strategic issues has strengthened as reflected in IndoUS proximity in the security architecture of the Indo-Pacific region. In 2014, the US emerged as the top arms supplier to India, pushing Russia to the second position.

Russia: A Traditional Partner

- Russia has been a longstanding and time-tested partner. India has longstanding and wide-ranging cooperation with Russia in the field of defence.
- Military-technical cooperation has evolved to involve the development and production of advanced defence technologies and systems, such as BrahMos.
- However, India desires to diversify its defence imports. There is also dissatisfaction in India with post-sales services and maintenance offered by Russia.

The 21st century has seen the rise of a relentless China. China's assertive, and bullying attitude is most evident in the Indo-Pacific region where it is challenging the sovereignty of ASEAN countries thus also threatening free sea.

An engaging feature of the current global situation is the transformation of the Sino-Russian relationship from enmity to entente. The changed scenario has an impact on India and the USA.

USA: India's New Best Friend?

- India has steadily developed important military ties with the US as their interests in the Indo-Pacific are being threatened by China's expansionist policies.
- The US supports India's desired role as a "net security provider" to preserve maritime transportation routes in the Indo-Pacific region.
- Thus, India and the US have signed a number of defence deals which also includes four foundational agreements viz., LEMOA, COMCASA, BECA, and GSOMIA. They enable interoperability of assets, provide each other logistic support, and allow sale of sensitive weapons.
- The US has also sold weapons like Apache, P-8I aircraft which have enhanced India's defence capabilities.

- QUAD which is an informal strategic forum between US, India, Japan, and Australia has a shared objective to support a “free, open and prosperous” Indo-Pacific region.”
- However, the US support doesn't come without a rider. It has also frowned on the S-400 deal which India has signed with Russia and has also threatened to impose sanctions on India under CAATSA.

In the last two decades, the US and India defence relations have strengthened due to sustained efforts from both the countries to iron out differences and agree on protocols in working together against common threats. But, India needs to balance relations with its two defence partners by considering its concerns associated with China and Pakistan over security issues.

Explain intra-generational and inter-generational issues of equity from the perspective of inclusive growth and sustainable development. (UPSC IAS Mains 2020 General Studies Paper – 3)

Inter-generational (between the present and future people) and intra-generational (between the rich and the poor of the present generation) equity are two hands of the doctrine of sustainable equity.

Inter-generational equity and issues

- Mahatma Gandhi once said, “Earth provides enough to satisfy every man's needs, but not every man's greed”. One of the primary objectives of inter-generational equity is the sustainable use of resources by one generation to enhance economic sustainability for the future generation.
- Inter-generational equity has become crucial in the present times, due to the growing imbalance in the distribution of resources, ongoing degradation of environment and overexploitation of resources.
- This imbalance is more profound between the developed and developing nations or between the Global North and the Global South. Moreover, the developed countries are today unwilling to help developing countries adapt and mitigate climate change impacts.

Intra-generational equity and issues

- Progress of a society should be determined by the state of the most vulnerable and the weakest ones: Mahatma Gandhi
- The concept of intra-generational equity provides rights and duties to every person of a single generation to use and take care of the resources justifiably so that benefits are reaped by every section of society.

- In order to promote intra-generational equity, the concept of social justice is propagated. Welfare schemes like subsidies, reservations, etc. are provided by the governments to help the vulnerable section of society but these are often marred in corruption and inefficient implementation.
- The doctrine of free market demands rollback of state and projects the market as the solution of every problem. However, the pro-market reforms of 1991 have failed to have the trickle-down effect.

The concept of inclusive growth and sustainable development are the key pillars of the global welfare narrative, which can be prompted by ensuring intra-generational and inter-generational equity.

Define potential GDP and explain its determinants. What are the factors that have been inhibiting India from realizing its potential GDP?. (UPSC IAS Mains 2020 General Studies Paper – 3)

Potential GDP is one of the theoretical aspects of national income accounting which assumes that an economy has achieved full employment and that aggregate demand does not exceed aggregate supply. Like other national income accounting methods, potential GDP also represents the market value of all goods and services but rather than capturing the current objective state of a nation's economic activity, it attempts to estimate the highest level of output an economy can sustain over a period.

Determinants of Potential GDP

- **Capital Stock:** In an economy, capital stock is the plant, equipment, and other assets that help with production. The availability of capital stock determines the extent of economic output and potential GDP.
- **Labor Force:** At any given moment in time, the quantities of capital, land, etc., are typically fixed, but the quantity of labor employed varies. Therefore, in the short-run, Potential GDP depends on the quantity of labor employed, which depends on demographic factors and on participation rates.
- **Non-accelerating Inflation Rate of Unemployment:** It is the specific unemployment rate at which the rate of inflation stabilizes – inflation will neither increase nor decrease.
- Other determinants of Potential GDP are the level of labor efficiency, labor market efficiency, production capacity, sufficient liquidity, government fiscal support, etc.

Factors Inhibiting India from Realizing its Potential GDP

- **Negative Output Gap:** A negative output gap occurs when actual output is less than what an economy could produce at full capacity. A negative gap means that there is spare capacity, or slack, in the economy due to weak demand.
- **Fall in Private Consumption:** Private consumption is the prime component of India's GDP as it contributes a significant share to GDP (More than 55%). Indian economy experienced a sharp decline in private consumption expenditure in the past few quarters. Such decline in private consumption de-incentivizes firms in producing more goods, thereby the economy is left with unutilized resources and labor force.
- **Mounting NPAs of Banks:** The Indian banking system is under the huge burden of NPAs (Non-Performing Assets), which has tremendously reduced banks' lending capacity. This has severely affected businesses, production houses and particularly the real estate segment. Such liquidity shortages reduce the productive capacity of the economy.
- **Unemployment:** Huge unemployment in India is also one of the major factors that inhibits India from realizing its Potential GDP.
- **Informal Economic Activities:** Most of the economic activities in India are informal or unorganized and the size of such unorganized sectors is considerably huge but not accounted for in GDP. Therefore, the value of such an economy is not recorded in the national account book and remained unreleased.
- **Other Factors:** Weak intellectual property rights, low expenditure on R&D, contract enforcement issues, etc.

Way Forward

- Need to work more on the policy levels to generate employment, efficient and cost-effective resource mobilization, to promote export and innovation and to enhance the scope of Make in India Programme.
- Better wages must be ensured so as to increase private consumption expenditure.
- The negative output gap in GDP needs to be managed and compensated through various fiscal and monetary policy measures keeping inflation in check.
- The government needs to bring policies that catalyse rural economic growth.

What are the main constraints in transport and marketing of agricultural produce in India?. (UPSC IAS Mains 2020 General Studies Paper – 3)

Agriculture contributes about 17% to India's GDP and it is the primary source of livelihood for more than 55% of India's population. Indian farmer today can sell their produce at the local market, APMC (Agricultural Produce Market Committee) mandis or to the government at the minimum support price (MSP). But still those traditional mechanisms are not improving the farmers' income. So as to double farmers income and to provide sustainable livelihood, effective transportation and marketing of agricultural produce is crucial.

Constraints in Transport

- Poor rural connectivity to markets.
- Poor supply chain development.
- Lack in warehousing and cold storage facilities especially in the rural areas where agricultural commodities are being produced.
- Poor vehicle design or non-availability of cold chain vehicles that transport perishable agricultural produce.

Constraints in Marketing

- High logistical cost.
- Lack of formal agricultural market.
- Lack of packaging, grading and measurement facility.
- Stringent commodity transfer control at the state level
- Lack of national market development
- Lack of technology integration in the market mechanism
- Low marketable surplus for agricultural goods.
- Malpractices in the market and lack of market information.

The problem for transport and marketing of agricultural produce do not only result in wastage of product and loss of efficiency but also have a very large impact on equitable distribution and inclusive growth by depriving by reducing the returns for smaller farmers.

What are the challenges and opportunities of the food processing sector in the country? How can the income of the farmers be substantially increased by encouraging food processing? UPSC IAS Mains 2020 General Studies Paper – 3)

Food processing generally includes the basic preparation of foods, the alteration of a food product into another form, and preservation and packaging techniques. For example, extraction of mango juice from the pulp.

Challenges Faced by Food Processing Industry In India

- **Supply Side Bottlenecks:** Fragmented land holdings result in low farm productivity. Due to this, farmers are left with a small and dispersed marketable surplus.
- **Demand Side Bottlenecks:** The demand for processed food is mainly restricted to urban areas of India and the middle and higher class of population.
- **Infrastructure Bottlenecks:** Lack of mechanization and proper supply chain results in poor access to market. High seasonality and perishability requires cold storage & warehousing facilities and road, rail & port connectivity.
- **Manpower:** There is a shortage of skilled workers. At each level in the value chain, there are strong deficiencies in technical know-how and support.
- **Sanitary and Phytosanitary (SPS) Measure:** The stringent SPS measures applied by developed countries also impedes the exports of processed foods.

Opportunities Associated with Food Processing Industries

- **Employment Generation:** FPI provides vital linkage between the two pillars of the economy – agriculture and industry. Therefore, it provides direct and indirect employment opportunities.
- **Nutritional Security:** Processed foods when fortified with vitamins and minerals can reduce the nutritional gap in the population.
- **Trade and Foreign exchange:** Food export can be an important source of foreign exchange, given the huge demand for nutritious, easy to eat and time-saving food in the evolving busy lifestyle.

Food Processing Industry & Farmers' Income

- **Value Addition:** Processed foods fetch a better price than the raw items. For example, the value of biscuit is higher than flour although the raw item is the same. Thus, FPI can help farmers in getting a favourable price for their products.
- **Demand for Agro-Products:** Urbanization is increasing at a rapid pace in India, which subsequently, increases the demand for processed food. The rise in demand for processed food will, in turn, lead to rise in farmers' income.
- **Combating Rural Unemployment:** Food processing being a labour-intensive industry will provide localized employment opportunities and thus will reduce the push factor in source regions of migration.

Food processing has become an integral part of the food supply chain in the global economy. India being an agrarian dominated country must leverage its potential in the

Food Processing Industry. It will help India in doubling farmers' income by 2022-23.

What do you understand by nanotechnology and how is it helping in health sector? (UPSC IAS Mains 2020 General Studies Paper – 3)

Nanotechnology is the use and the development of techniques to study physical phenomena and develop new material and devices structures in the physical size ranging from 1 to 100 nanometers (nm). Nanotechnology influences almost all areas of our lives, including manufacturing, electronics, computers and information technologies, medicine, the environment and energy storage, chemical and biological technologies, and agriculture.

Contribution of nanotechnology in health sector

- Nanomedicine, the application of nanotechnology in medicine helps in producing precise solutions for disease prevention, diagnosis, and treatment.
- Nanotechnology has broadened itself in the areas of medical tools, knowledge, and therapies currently available to clinicians.
- Better imaging and diagnostic tools enabled by nanotechnology are paving the way for earlier diagnosis, more individualized treatment options, and better therapeutic success rates.
- Nanotechnology in medicine currently being developed involves employing nanoparticles to deliver drugs, heat, light or other substances to specific types of cells (such as cancer cells). This technique reduces damage to healthy cells in the body and allows for earlier detection of disease.
- In contrast to dialysis, which works on the principle of the size related diffusion of solutes and ultrafiltration of fluid across a semi-permeable membrane, the purification with nanoparticles allows specific targeting of substances. Additionally, larger compounds which are commonly not dialyzable can be removed.

Because of their small size, much concern has been expressed about the potential for adverse health effects arising from the ability of nanoparticles to penetrate cell walls and the blood-brain barrier. Therefore, there is a need to identify key gaps in knowledge and areas where further research may be targeted to efficiently exploit the technology.

How is science interwoven deeply with our lives? What are the striking changes in agriculture triggered off by science-based technologies?. (UPSC IAS Mains 2020 General Studies Paper – 3)

After the Industrial Revolution, the separate paths taken by science and technology began to move closer together. Scientific progress has a major effect on people's sense of values, and it is changing the nature of society itself in every aspect of life, be it healthcare, education, agriculture, entertainment, etc.

Science is interwoven deeply in our lives

- Energy technology viz. the daily use of electrical energy from households to industries.
- Manufacturing technology viz. the use of machines for manufacturing of food and other essential products of daily use.
- Environmental technology viz. the management of wastewater and industrial emissions, harnessing of solar energy etc.
- Scientific research brought new knowledge to Humanity.
- Economic Development through the promotion of new research and development.
- Social infrastructure technology like transportation and roads.

Striking changes in agriculture triggered off by science-based technologies

- The Green Revolution increased agricultural production, increased farm productivity, and raised farmer's income.
- Use of agricultural equipment and machinery helped to make farming and other agricultural practices more effective and easier for the farmer.
- Disease control with help from the new varieties of genetically Modified crops which are disease resistant.
- Good roads and modern transport vehicles help in the evacuation of foodstuffs from the hinterland to the urban areas or to other areas where they are needed.
- ICTs (Information and Communication Technologies) and Remote sensing (via satellites), GIS, eNAM, crop and soil health monitoring, and technologies for livestock and farm management aimed at empowerment, enablement, and market expansion.

The technologies including Artificial Intelligence, Big Data Analytics, Blockchain Technology, Internet of Things, etc. are going to change and revolutionize agricultural practices along with incentivizing farmers, but environmental factors need to be taken care of along with advancements.

How does the draft Environment Impact Assessment(EIA)Notification, 2020 differ from the existing EIA Notification, 2006?. (UPSC IAS Mains 2020 General Studies Paper – 3)

Recently, the Ministry of Environment, Forest and Climate Change (MoEFCC) has proposed a draft Environmental Impact Assessment (EIA) notification 2020, that seeks to replace the current notification which goes back to 2006. EIA is an important process for evaluating the likely environmental impact of a proposed project.

Environmental Impact Assessment

- Under the Environment (Protection) Act, 1986, India notified its first EIA norms in 1994, setting in place a legal framework for regulating activities that access, utilise, and affect (pollute) natural resources.
- Every development project has been required to go through the EIA process for obtaining prior environmental clearance ever since.
- It is a process whereby people's views are taken into consideration for granting final approval to any developmental project or activity.

Difference between draft EIA notification, 2020 and 2006

- **Public Consultation Process:** The draft notification provides for a reduction of the period from 30 days to 20 days for the public to submit their responses during a public hearing for any application seeking environmental clearance.
- **Post-facto Approval:** The new draft allows for post-facto approval for projects. It means that the clearances for projects can be awarded even if they have started construction or have been running phase without securing environmental clearances. It was not allowed in the 2006 notification.
- **Compliance Report:** The 2006 notification required that the project proponent submit a report every six months, showing that they are carrying out their activities as per the terms on which permission has been given. However, the new draft requires the promoter to submit a report only once every year.
- **Central Government Powers:** Through the draft notification, the central government gets the power to categorize projects as 'strategic'. Once a project is considered as strategic, the draft notification states that no information related to such projects shall be placed in the public domain.

Major concerns regarding the draft EIA 2020

- Public consultation is exempted in a wide range of areas like modernization of irrigation projects, construction of buildings, standalone flyovers, bridges, national defence, and security projects etc. This provides people a limited scope to be a part of the EIA process.
- The period of public hearing and obtaining objections has been reduced and that poses a grave problem in areas where access to information is difficult and where people are unaware about the EIA process.

The new notification is being brought in order to make the process more transparent and expedient by the implementation of an online system, further delegation, rationalization and standardization of the process. But on the other hand, it is also

evident that the draft seeks the growth of commercial projects at the cost of the environment.

What are the salient features of the Jal Shakti Abhiyan launched by the Government of India for water conservation and water security?. (UPSC IAS Mains 2020 General Studies Paper – 3)

The Jal Shakti Abhiyan is a time-bound, mission-mode campaign for water conservation and water security. It is a mass movement to bring all the stakeholders under one ambit of water conservation drive. The campaign was mainly focused on the water-stressed blocks and districts.

Water Scarcity in India

- India has nearly 17.7% of the world's population which has access to only 4% of the usable water sources. Poor management of resources and lack of government attention has contributed as a major factor for water scarcity in India.
- As per NITI Aayog report released in June 2019, India is facing the worst-ever water crisis in history. Approximately 600 million people or roughly around 45 % of the population in India is facing high to severe water str
- As per the report, several Indian cities will run out of their main source of water e., groundwater by 2020. The report goes on to say that nearly 40% of the population will have absolutely no access to drinking water by 2030 and 6% of India's GDP will be lost by 2050 due to the water crisis.

The salient features of the Jal Shakti Abhiyan

- The Jal Shakti Abhiyan is a campaign for water conservation and water security in the country through a collaborative effort of various ministries of the Government of India and state governmen
- The focus of the campaign is on water stressed districts and block The teams of officers from the central government will visit and work with district administration in water stressed blocks and districts, to ensure five important water conservation interventions.

The important water conservation interventions are:

- Water conservation and rainwater harvesting,
- Renovation of traditional and other water bodies/tanks,
- Reuse of water and recharging of structures,
- Watershed development, and
- Intensive afforesta

- The water conservation interventions will also be supplemented with special interventions including the development of block and district water conservation plans, promotion of efficient water use for irrigation and better choice of crops through Krishi Vigyan Kendra

Following the massive water crisis across India in the summer of 2019, the Central government hurriedly launched the Jal Shakti Abhiyan (JSA). These kind of interventions would ensure water source sustainability in rural areas and would strengthen the ongoing Jal Jeevan Mission being implemented by the Ministry of Jal Shakti.

Discuss different types of cyber crimes and measures required to be taken to fight the menace. (UPSC IAS Mains 2020 General Studies Paper – 3)

Cyber crime is a criminal activity that involves computers or any network devices that target individuals, companies, and governments for direct financial gain or to sabotage or disrupt operations. Cyber crime is a major threat to sectors identified under Critical Information Infrastructure (CII) that include financial systems, air traffic control and telecommunications.

Different types of Cyber crimes

- Malware, short for malicious software, refers to any kind of software that is designed to cause damage to a single computer, server, or computer network. Ransomware, Spyware, Worms, viruses, and Trojans are all varieties of malware.
- Phishing: It is the method of trying to gather personal information using deceptive e-mails and websites.
- Denial of Service attacks: A Denial-of-Service (DoS) attack is an attack meant to shut down a machine or network, making it inaccessible to its intended users. DoS attacks accomplish this by flooding the target with traffic or sending it information that triggers a crash.
- Man-in-the-middle (MitM) attacks, also known as eavesdropping attacks, occur when attackers insert themselves into a two-party transaction. Once the attackers interrupt the traffic, they can filter and steal data.
- Social engineering is an attack that relies on human interaction to trick users into breaking security procedures to gain sensitive information that is typically protected.

Measures to be taken

- Real-time intelligence is required for preventing and containing cyber-attacks.

- Periodical 'Backup of Data' is a solution to ransomware.
- Using Artificial Intelligence (AI) for predicting and accurately identifying attacks.
- Using the knowledge gained from actual attacks that have already taken place in building effective and pragmatic defense.
- Increased awareness about cyber threats for which digital literacy is required first.
- There is a need to secure the computing environment and IoT with current tools, patches, updates and bestknown methods in a timely manner.
- The need of the hour isto develop core skillsin cybersecurity, data integrity and data security fields while also setting stringent cyber security standards to protect banks and financial institutions.

One of the highest numbers of cyber threats have been detected in India, and the country ranks second in terms of targeted attacks. Banking and Telecom are the most attacked sectors, but manufacturing, healthcare, and retail have also faced a significant number of cyber-attacks. Thus, there is an urgent need to take protective measures to tackle this menace.

For effective border area management, discuss the steps required to be taken to deny local support to militants and also suggest ways to manage favourable perception among locals. (UPSC IAS Mains 2020 General Studies Paper – 3)

India shares its border with seven countries, and it occupies a major strategic position in Southern Asia, therefore, it is necessary to manage the borders properly. Governments make a huge investment and provide good support for border security. Still, border management poses major challenges around the world.

Steps required to be taken

- Employment opportunities: Provide employment opportunities to the youth so that they can do away with the militancy and therefore instead of supporting the militants, they will oppose them.
- Grassroot Democracy: Conducting local body elections in re-establishing the grassroot level democracy which results into the extended support from community in development processes.
- Media Facilitation Centers: Setting up of Media Facilitation centers to reduce the trust deficit since these centers provide internet services to the reporters and freelancers.
- Intelligence Grid: Strengthening the technical intelligence grid to track any terror suspect and prevent terrorist attacks with real time data. It will also enhance human intelligence networking.

Way Forward

- Without the development process, there will be no organic end of the causes of discontent and unrest.
- Social empowerment by means of skills, education, employment opportunities, human rights, rule of law have enough potential in tackling the unfavorable perception among the locals.
- Also, controlling the misinterpretation of culture, hate speeches and ignorance will enhance the process of persuasion and cognitive change.

Explain the meaning of investment in an economy in terms of capital formation. Discuss the factors to be considered while designing a concession agreement between a public entity and private entity. (UPSC IAS Mains 2020 General Studies Paper – 3)

In the context of economy, investment refers to the expenditure made for the creation of capital assets or capital goods that are used to generate future income and wealth. Investment is elucidated and defined as an addition to the stockpile of physical capital such as machinery, buildings, equipment, roads etc. Investment is crucial for capital formation as it leads to more capital accumulation thereby increases national economic output.

Economic Impact of Investment

- Investment leads to the addition of capital stock in the economy.
- It enhances the production capacity of the economy.
- More the production, more will be the gross domestic product (GDP).
- In the later stage, it may also encourage domestic savings.
- A concession agreement is a negotiated contract that grants rights to a company by a government, local authority, or other legal entity. It basically means a Public-Private Partnership (PPP) which allows joint development and maintenance of government projects.

Factors that need to be considered while designing a concession agreement

- The time of concession agreement should be very well defined.
- It should be clear about the fees, time period and authority.
- It should be clear about the authority, who will manage, maintain and repair the project in a timely manner.
- It should be clear about timely financing including viability gap funding.

- It should be clear about requirements of environmental impact assessment and requirement of land clearance.

Concession agreements are of fundamental importance for the development of infrastructure in the country. It has reduced the time lags and costs involved in undertaking such agreements. Therefore, a well-designed concession agreement will not only help in performance improvement but also help in reducing contract disputes.

Explain the rationale behind the Goods and Services Tax (Compensation to States) Act of 2017. How has COVID-19 impacted the GST compensation fund and created new federal tensions?.(UPSC IAS Mains 2020 General Studies Paper – 3)

The Goods and Services Tax is a comprehensive, multi-stage, destination-based tax. It is a single domestic indirect tax law which has subsumed many indirect taxes in India such as services tax, VAT, etc. The Goods and Service Tax (Compensation to States) Act, 2017 provides for a mechanism to compensate the States on account of loss of revenue which may arise due to implementation of the Goods and Services Tax.

Rationale behind this Act

- Raising new revenue sources: After the introduction of GST, States have very limited taxation rights as most of the taxes, barring those on petroleum, alcohol, and stamp duty, were subsumed under GST. This deficiency is fulfilled by the Union by compensating them.
- Fixed revenue growth: The compensation is calculated based on the difference between the states' current GST revenue and the protected revenue after estimating an annualized 14% growth rate from the base year of 2015-16. If such a fixed amount is not assured, the Central Government will compensate States for such deficiency.
- Guaranteed compensation: Under the GST (Compensation to States) Act, 2017, states are guaranteed compensation for loss of revenue on account of implementation of GST for a transition period of five years between 2017 and 2022.

Impact of COVID-19 on GST compensation fund and creation of new federal tensions

- The gains of GST have started to quickly erode as the slowdown in the economy, exacerbated by the COVID-19 lockdowns, has thrown all revenue calculations to the wind.
- Due to huge shortfalls in the tax collection under GST the Central government and State Government has come at loggerheads as Centre has shown its incapability to compensate the States as promised under the GST Act 2017.

- The inability of the Government and binding clause in the Act, caused a conflict between federal ideas under the Constitution.
- Many states have concern over the compensation in this hour of need and questioned the Centre to break its federal agreement.

It is time for states to accept the realities and agree to a lower level of compensation, ideally linked to the growth rate of the Indian economy in nominal terms and the Centre must understand that it is their statutory obligation, and they can't abrogate it. GST reforms must not fall victim to the trust deficit engendered by this standoff between the Centre and the States. Both must cooperate and coordinate in this hour of need.

What are the major factors responsible for making the rice-wheat system a success? In spite of this success how has this system become bane in India? (UPSC IAS Mains 2020 General Studies Paper – 3)

The rice-wheat cropping system has remained a predominant cropping pattern in the Indo-Gangetic region since years. The pattern in itself is so robust that three-fourth of the country's annual domestic need for wheat and rice is fulfilled by a handful of states in the region. Indian states that predominantly practice this system are Punjab, Haryana, Bihar, Uttar Pradesh, and Madhya Pradesh.

Factors responsible for making rice-wheat system a success

- The first major reason is the availability of ideal geographical conditions. Cultivation of rice requires a good amount of water for irrigation. Fortunately, in India, especially northern India, a good amount of water is available through annual monsoonal rainfall. Similarly, cultivation of wheat requires cool, moist weather, followed by dry, warm weather with optimum temperature range 20-25 degree Celsius. Fortunately, this condition is available in northern India during November to February every year.
- The second major reason is the support given by the Government of India to wheat and rice producers in the form of Minimum Support Price (MSP) procurement. MSP is declared to give guaranteed price and assured market to the farmers and protect them from price fluctuations and market imperfections. Thus, farmers hardly opt for crops other than wheat and paddy.
- Third major reason is the low input cost and high productivity in case of wheat and rice crops. Also, as per the government policy, the increase in MSPs of these two crops every year is comparatively more than the increase in the cost of production. So, farmers producing these crops generally have an increase in their profits year by year.

The Rice-Wheat system has become bane in India because of following reasons

- Residue management: The straw residue in case of wheat is used in animal husbandry but straw residue in case of rice or paddy cannot be used for animal

husbandry due to high silica content. So, to dispose of the residue from the field and make the land ready for the next wheat crop, farmers burn the straw in open fields. This causes major environmental pollution, especially during the months of November-December in the NCR region.

- **Unchecked water usage:** Paddy has a high-water footprint and therefore leads to large amounts of groundwater extraction for irrigation by farmers. This has declined the underground water table in most parts of northern India. Since artificial recharge of aquifers is still not very feasible in India and groundwater recharge is still dependent on rainfall, the depleting water table is a major issue.
- **Lack of Crop rotation:** Crop rotation helps to maintain soil structure and nutrient levels and to prevent soil borne pests. Continuous plantation of wheat and rice on the same land has degraded the soil structure and nutrition levels in soil. Cereal crops like sorghum, maize, and millet are more nutritious than wheat and rice and so should be given equal importance in the cropping system.
- **MSPs:** Since MSPs on wheat and rice ensures good income to farmers at minimal risks, farmers have increased the production of wheat and rice to such levels that there is glut in the market. The burgeoning stocks of wheat and rice means higher social costs and a higher subsidy bill by the government, putting additional pressure on an already stressed government.

Thus, to sum up, we can say that the rice-wheat system is doing less good for the country and this is the time to do away with this old agricultural practice. There is an urgent need to take necessary steps to implement new and sustainable agricultural policy and rules in this regard.

Suggest measures to improve water storage and irrigation system to make its judicious use under depleting scenario. (UPSC IAS Mains 2020 General Studies Paper – 3)

A continuous wastage or misuse of potable groundwater either in industries, agriculture or households has left a large population of the country facing high water stress conditions today. High wastage of water coupled with burgeoning population in some manner ensures that sooner or later we will be facing scarcity of potable water in the country.

Traditional methods to improve water storage and irrigation

- **Jhalaras:** They are typically rectangular-shaped stepwells that have tiered steps on three or four sides.

- Talabs: These are reservoirs that store water for household consumption and drinking purposes. They may be natural, such as the pokhariya ponds.
- Bawaris: These are unique stepwells that were once a part of the ancient networks of water storage in the cities. The little rain that the region received would be diverted to this man-made tank through canals.
- Taanka: It is a traditional rainwater harvesting technique indigenous to the desert region.
- Ahar Pynes: These are traditional floodwater harvesting systems indigenous to regions frequently prone to floods.
- Johads: These are one of the oldest systems used to conserve and recharge groundwater, which are small earthen check dams that capture and store rainwater. It is constructed in an area with naturally high elevation on three sides.

Modern methods to improve water storage and irrigation

- Rainwater Overhead Tanks: These are the simple tanks placed over the building or on the terrace, collecting water as it comes.
- Rooftop Rainwater Harvesting: A simple structure where the roof is used as a support for installing catchment pipes through which the rainwater flows and is eventually stored in ground level containers.
- Percolation Tanks: The percolation tanks are mostly earthen dams with masonry structure only for spillway. The purpose of these tanks is to recharge the groundwater storage.

Irrigation methods to ensure judicious use of water

- Bamboo Drip Irrigation System: It is an indigenous system in northeast India. In this, the water from perennial springs is diverted to the terrace fields using varying sizes and shapes of bamboo pipes. The system ensures that small drops of water are delivered directly to the roots of the plants.
- Irrigation Scheduling: It is basically smart water management. It deals with when, how often, and how much water needs to be provided to plants. To avoid overwatering of crops and avoid water wastage farmers carefully monitor the weather forecast, understand the soil condition, and use smart meters for water management.
- Dryland Farming: The practice of cultivating crops without irrigation in regions of limited moisture.
- Sprinkler Irrigation: It is a method of applying water to crops which is similar to natural rainfall but in a more judicious manner and spread uniformly over the land surface. It is done using a pump, pipes and nozzle to sprinkle water.

Thus, we see that traditional methods when coupled with modern scientific approaches to conserve water can produce the intended results in the field of water conservation. Hence, the above-mentioned methods should be brought to use holistically to reduce water wastage and ensure availability of potable water to mankind for a longer period of time.

COVID-19 pandemic has caused unprecedented devastation worldwide. However, technological advancements are being availed readily to win over the crisis. Give an account of how technology was sought to aid management of the pandemic. (UPSC IAS Mains 2020 General Studies Paper – 3)

The lockdown imposed worldwide during COVID-19 pandemic brought almost all the world to standstill. It impacted our lives, both personal and professional. However, the advancement in technology helped to manage almost all kinds of stuff even during this pandemic.

Ways in which technology helped during COVID-19 pandemic

- Enabling Distance Learning Features for students: Since educational institutions remained shut during the pandemic, there was a major concern on delivery of education. But the online platforms like websites, YouTube and mobile applications helped students and teachers to interact and ensure education is not interrupted even during this pandemic.
- Online Entertainment: Entertainment is considered very necessary to remove stress. During pandemic, since individuals cannot move out freely for entertainment, therefore, online platforms acted as a major boost for their entertainment. With theatres remaining shut, Over the Top (OTT) platforms such as Amazon Prime Video, Hotstar, Netflix, etc. helped both producers and consumers to run the entertainment industry.
- Contactless Delivery of Essentials: Online shopping which was earlier predominant in urban areas became very common even in rural areas during this pandemic. Easy searching of items on the web, placing of order with ease and timely delivery at doorstep have built consumer confidence in online shopping. Thus, technology ensured delivery of essentials like medicines, electronic items, grocery, etc. via contactless mode during this pandemic.
- Robotics: Doctors and nurses were also feared of getting infected with corona during medical diagnosis or performing normal procedures. Robots have eased their work by cleaning infected areas and by delivering food to quarantined individuals.
- Work from Home (WFH) Facility: The work from home option available to employees has ensured smooth running of business activities. 4G technology, smart phones, better Internet, data privacy security, virtual meetings, cloud conferencing, etc. have assisted professionals in adopting work from the home scenario with ease.
- The Access to COVID-19 Tools (ACT) Accelerator is a pioneering international teamwork to fast-track development, production, and equitable access to COVID-19 tests, treatments, and vaccines.
- 'Aarogya Setu', a mobile app utilizing Bluetooth technology, algorithms and artificial intelligence, was developed to bring the people of India together in a determined fight against COVID-19.
- Co-WIN or the COVID-19 Vaccine Intelligence Network, which is an extension of electronic Vaccine Intelligence Network (eVIN), is a digitalized tech platform for effectively rolling out and scaling up of the COVID Vaccine Distribution System

mechanism at national level to reduce wastage and make the most effective use of vaccine supply and cold chain network.

- AI enabled MyGov Corona Helpdesk helped improve our outreach and engagement during the pandemic and made a marked difference to society.
- The Centre for Augmenting War with COVID-19 Health Crisis (CAWACH) encouraged Bangalore based start-up to bring out a mobile app for detection of possible infection in an asymptomatic individual and risk assessment of COVID 19 infected individuals, called Lyfas COVID score.

Thus, we notice that during the COVID-19 period technology innovations helped in tackling the epidemic in a timely and systematic manner. Technology will not only ease one's life but also generate new opportunities for society and also prove a cornerstone to deal with such pandemics, if any, in near future.

Describe the benefits of deriving electric energy from sunlight in contrast to the conventional energy generation. What are the initiatives offered by our government for this purpose?.(UPSC IAS Mains 2020 General Studies Paper – 3)

India lying in the tropical belt has an advantage of receiving peak solar radiation for 300 days, amounting 2300-3,000 hours of sunshine equivalent to above 5,000 trillion kWh. India's current installed solar power capacity, according to Central Electricity Authority, is 26025.97 MW which is 34% of total renewable energy sources i.e., 75055.92 MW till February 2019.

Benefits of deriving electrical energy from sunlight in contrast to the conventional energy generation

- **Energy Security:** India is dependent on imports to fulfill its energy demands, thereby incurring huge expenditure and uncertainty with regards to energy security. Thus, solar energy being cheap and easily available can fulfill the energy demands.
- **Social Development:** The problem of power cuts and unavailability of electricity, especially in rural areas, leads to improper human development. Mostly energy demands are fulfilled by subsidized kerosene, leading to loss for exchequer.
- **Environment Concern:** India's large part of energy demand is fulfilled by thermal energy largely dependent on fossil fuels which causes environmental pollution. Solar energy is a clean form of energy resource, which can be a substitute.

- In solar power energy overhead wires are not required, so no transmission loss. Solar energy conversion equipment has a longer life and needs lesser maintenance and hence provides higher energy infrastructure security.

Initiatives offered by the government

- National Solar Mission initiative of the Government of India and State Governments promotes ecologically sustainable growth while addressing India's energy security challenge.
- The Indian Renewable Energy Development Agency (IREDA) which provides term loans for renewable energy and energy efficiency projects.
- National Institute of Solar Energy is created as an autonomous institution under MoNRE, which is an apex body for R&D in solar energy.
- Establishment of solar parks and ultra-major solar power projects and enhancing grid connectivity infrastructure.
- Promotion of canal bank and canal tank solar infrastructure.
- Sustainable rooftop implementation of Solar transfiguration of India (SRISTI) scheme to promote rooftop solar power projects in India.
- Suryamitra programme to prepare qualified workforce.
- India also proposed the setting up of International Solar Alliance (ISA), a platform for the collaboration of sunshine countries in the domain of energy security.

With its pollution free nature, virtually inexhaustible supply and global distribution, solar energy is an extremely attractive energy resource. India, with its Intended Nationally Determined Contributions (INDCs) commitment of 100 GW of solar power out of 175 GW renewable energy by 2022, can surely benefit from this energy resource.

What are the key features of the National Clean Air Programme (NCAP) initiated by the government of India?. (UPSC IAS Mains 2020 General Studies Paper – 3)

National Clean Air Programme is a national framework for air quality management with a time-bound reduction target. The NCAP will be a mid-term, five-year action plan with 2019 as the first year.

Features of the National Clean Air Programme (NCAP)

- To achieve a national-level target of 20-30% reduction of PM_{2.5} and PM₁₀ concentration by 2024, keeping 2017 as base year.
- Under NCAP, 122 non-attainment cities have been identified across the country based on the Air Quality data from 2014-2018.

- The city specific action plans have been prepared which, inter-alia, include measures for strengthening the monitoring network, reducing vehicular/industrial emissions, increasing public awareness etc.
- Implementation of the city specific action plans are regularly monitored by Committees at Central and State level namely Steering Committee, Monitoring Committee and Implementation Committee.
- Air quality of cities is monitored by State Pollution Control Boards which publishes their results from time to time. Some Smart Cities have established Integrated Command and Control Centres (ICCCs) which are also connected to Air Quality Monitors (AQMs) for effective monitoring.
- It also proposes state-level plans of e-mobility in the two-wheeler sector along with rapid augmentation of charging infrastructure, stringent implementation of BS-VI norms, boosting public transportation system, and adoption of third-party audits for polluting industries.
- To attain its desired objectives, NCAP follows the approach of Collaborative, Multi-scale and Cross-Sectoral Coordination between relevant Central Ministries, State Government and local bodies.

NCAP is envisaged to be dynamic although the targets appear less ambitious. However, it is expected to evolve based on the additional scientific and technical information.

Discuss the recent measures initiated in disaster management by the Government of India departing from the earlier reactive approach. (UPSC IAS Mains 2020 General Studies Paper – 3)

A disaster is a result of natural or man-made causes that leads to sudden disruption of normal life, causing severe damage to life and property to an extent that the available social and economic protection mechanisms are inadequate to cope. Disaster in India is managed under the Disaster Management Act, 2005.

Recent measures in disaster management are a departure from the erstwhile reactive approach wherein authorities acted after a disaster had occurred. Such an approach used to focus entirely on rescue, rehabilitation and reconstruction. But recent measures, inter alia, also focus on preparedness, mitigation and adaptation.

Recent measures initiated in the disaster management:

- National Disaster Management Services (NDMS) was conceived by NDMA during 2015-16 for setting up of Very Small Aperture Terminal (VSAT) Network connecting MHA, NDMA, NDRF etc. to provide the failsafe communication

infrastructure and technical support for Emergency Operation Centre (EOC) operations across the country.

- NDMA has taken an initiative on Earthquake Disaster Risk Indexing (EDRI) for 50 important cities and 1 district in Seismic Zone IV & V areas.
- NDMA through the Building Materials & Technology Promotion Council (BMTPC) has prepared Upgraded Earthquake Hazard Maps and Atlases for the country for better planning and policies.
- The Aapda Mitra scheme of NDMA has provision for training 6000 community volunteers in disaster response in 30 most flood prone districts (200 volunteers per district) in 25 States.
- The government has set up a National Crisis Management Committee and Crisis Management Group.
- The state governments have set up state crisis management groups headed by chief secretaries, institutes of relief commissioners and state/district contingency plans.
- The disaster management policy of the government stresses on forecasting and warning using advanced technologies, contingency agricultural planning to ensure availability of food grains, and preparedness and mitigation through specific programmes.
- Project on deployment of Mobile Radiation Detection Systems (MRDS) to handle Radiological Hazards in metros/capital cities/big cities in India to detect unclaimed radioactive materials/substances and save the public from its hazardous effects.
- The Disaster Management Act (DMA) 2005 was invoked by the government to deal with the COVID-19 pandemic.

Nevertheless, in India, disaster management is yet to be seen as integral to development planning. The preparedness at various levels is not people-oriented. India's capacity to manage disaster risk is challenged by its size and huge population. A scientifically planned adaptation is needed, which will require the government support.

What are the determinants of left-wing extremism in Eastern part of India? What strategy should the Government of India, civil administration and security forces adopt to counter the threat in the affected areas?.(UPSC IAS Mains 2020 General Studies Paper – 3)

Left Wing Extremism (LWE) organizations are the groups that try to bring change through violent revolution. They are against democratic institutions and use violence to subvert the democratic processes at ground level.

Determinants of Left-Wing Extremism in Eastern Part of India

- India's land reform policy: The land reform policies of India could not be successful in some parts of the nation post-independence, which led to the growth of Maoists and Naxals in India.
- Tribal issues: Tribals face exploitation and harassment from government and corporate bodies to extract resources since eastern region is rich in natural resources including forests, minerals and mines. Also, issues of trafficking of women and girls are mostly seen among tribal groups.
- Development deficit and forced displacement: In this region, people are solely dependent on the primary sector since the region has significant natural resources. Exploitation of the natural resources for economic progress has led to the forceful displacement of tribal which results into the alienation of tribal community.
- Government deficit: Government is unable to provide sufficient education facilities, basic healthcare facilities, employment, etc. in eastern part of India. Also, there are issues related to law and order and grievance redressal. Poor implementation of special laws and mismanagement of schemes like PDS.

Strategies to be taken to counter such menace:

- Innovative measures are required to be employed in preventing IED (Improvised Explosive Device) related incidents which have caused significant casualties in recent years.
- States play a vital role in maintaining law and order. So, emphasis should be laid on the capacity-building and modernization of the local police forces. Local forces can efficiently and effectively neutralize the LWE organizations.
- States should rationalize their surrender policy to bring innocent individuals caught in the trap of LWE in the mainstream.
- Rehabilitation plans for surrendered Naxalites.
- National Policy and Action plan to address LWE.

For the holistic last-mile development of "New India", it is necessary to get rid of the menace of such radicalized groups and the synergized efforts of the Centre and the States are crucial in achieving the same.

Analyze internal security threats and transborder crimes along Myanmar, Bangladesh and Pakistan borders including Line of Control (LoC). Also discuss the role played by various security forces in this regard. (UPSC IAS Mains 2020 General Studies Paper – 3)

India has a large and complex border covering around 15106.7 km, which it shares with Bangladesh, China, Pakistan, Nepal, Myanmar, Bhutan as well as a small portion with Afghanistan.

Challenges in the effective border management particularly to Myanmar, Bangladesh and Pakistan:

- **India-Myanmar Border:** The northeastern states of Arunachal Pradesh, Nagaland, Manipur, and Mizoram share the border with Myanmar. Some of the insurgent groups like the National Socialist Council of Nagaland (NSCN) and the United Liberation Front of Asom (ULFA) operate from Myanmar, which threatens the security of India as well as Myanmar. Porous nature of the border provides safe route to human traffickers, illegal arms dealers, drug smugglers etc.
- **India-Bangladesh Border:** The Indo-Bangladesh Border (4,096 km) passes through West Bengal, Assam, Meghalaya, Tripura, and Mizoram. The entire stretch consists of plains, riverine belts, hills and forests which make illegal migration easy. Illegal migration across this border poses serious security threats and acts as a fertile ground for organizations like the Inter-Services Intelligence of Pakistan to penetrate and expand their activities. Also, the poor law and order situation at the border has led to smuggling of arms and drugs. Supply of arms help in sustaining any conflict.
- **India-Pakistan Border:** Indo-Pakistan Border (3,323 km) runs along the states of Gujarat, Rajasthan, Punjab and Jammu & Kashmir. Direct accessibility of the borders and some technological developments enabling quick passage of information and transfer of funds has changed the focus and tenor of border security. Cross-border terrorism from Pakistan has exacerbated due to non-recognition of boundaries by its terrorist groups and their success in acquiring legitimacy due to religious or ethnic identity.

Role played by various security forces in this regard

- **Assam Rifles:** This force significantly contributed to opening the region to administration and commerce and over time they came to be known as the right arm of the civil and left arm of the military.
- **Border Security Force:** The BSF has air wing, marine wing, an artillery regiment, and commando units. It currently stands as the world's largest border guarding force. BSF has been termed as the First Line of Defence of Indian Territories. It is India's primary border guarding organization on its border with Pakistan and Bangladesh.
- **Sashastra Seema Bal:** The sole objective of this force is achieving 'total security preparedness' in the remote border areas for performing a 'stay-behind' role in

the event of a war. SSB is now spread along the International Border across Uttarakhand, UP, Bihar, West Bengal, Sikkim, Assam, and Arunachal Pradesh. India should endeavor to meaningfully engage with Myanmar, Bangladesh and Pakistan and solicit their cooperation in resolving all outstanding issues and better manage their mutual border.

Hatred is destructive of a person's wisdom and conscience that can poison a nation's spirit. Do you agree with this view? Justify your answer. (UPSC IAS Mains 2020 General Studies Paper – 4)

Hatred is a strong negative emotion or extreme emotional dislike that can drive oneself to extreme behaviors such as violence, murder, and war. It is corrosive of a person's wisdom and a nation's spirit. In the contemporary world, religious violence, communal polarization and intolerance have increased and it is a continuous obstacle in the progress and growth of a country.

One of the characteristics of hatred is the need to devalue the victim more and more. At the end, the object of the hatred loses all moral or human consideration in the eyes of the hater. Hatred severely destructs person's wisdom and conscience as:

- Hatred produces energy for destructive power and the fission that ignites the explosion, which is driven by the intense hostility, fear, anger or sense of injury one feels.
- Hatred reduces an individual's quality of making good judgements or having good experience and knowledge.
- It further reduces an individual's quality of being wise.

Hatred may also lead to:

- Deprivation of Amenities: Victims of intolerance are found to be deprived of facilities and opportunities, thus excluding them from contributing to the overall development of the society and subsequently lose out on self-development too.
- Curbing of Individual Freedom: Any form of illogical intolerance often leads to taking away individual freedom and rights. Constructive criticism and debates over various aspects are absent and dominance of one ideology takes over. Any society plagued by this halts the overall growth and progress of the collective.
- Destruction of Social Harmony: Due to the communal intimidation and hatred being spread, the very fabric of a society is being diminished in the larger sense, rendering a weak and divided social strength. For example: Assimilation with accommodation, stable patterns of pluralism, inequality and integration etc.

constitute the basic fabric of Indian society, which when tainted with communal intolerance get divided and internally threatened.

- Economy: Disturbances caused due to communal intolerance largely impact the local economy due to the disruptive activities like strikes, riots, destruction of public property, etc. against each other, and also disturb the macro-economic outlook of countries on the global sphere as a result of the apprehensions of investors or economic giants of a good work environment.
- Political Instability: At times massive such clashes result in political blame game, interference, and unnecessary measures, projecting an unstable political atmosphere. Welfare of the nation is mainly side-lined, and the representatives are caught in inconsequential issues.

Hatred is a negative emotion and that is irrational and subjective. When hatred becomes all-pervasive in a society it can destroy a nation's spirit and could further hurt social capital and cooperation among citizens. This can be explained as to how the hatred of Hitler for Jews led to the corruption of many German citizens which had devastating effects on the German nation and its conscience. Therefore, hatred is indeed a serious threat to a person's wisdom, wellbeing, and national prosperity.

Discuss the role of ethics and values in enhancing the following three major components of Comprehensive National Power (CNP) viz. human capital, soft power (culture and policies), and social harmony. (UPSC IAS Mains 2020 General Studies Paper – 4)

Comprehensive National Power (CNP) is the comprehensive capability of a country to pursue its strategic objectives by taking the necessary actions internationally. It can also be defined as the degree of ability to mobilize and utilize strategic resources of a country to realize national objectives.

Role of ethics and values in enhancing human capital

- Ethics is all about the choices that an individual makes. People always face many dilemmas and choices that affect the quality of their lives.
- Ethics and values make an individual aware that their choices have consequences, both for themselves and others.
- Thus, ethics and values build credibility, improve decision making, and provide long term gains.

Role of ethics and values in enhancing social harmony

- Ethics and values are about character; the sum of qualities that defines a person. The same principle applies to society.

- Ethics and values develop norms of behaviour that everyone should follow in society. If every person acts with a selfish motive, society might fall into chaos and anarchy.
- There is nothing wrong with pursuing one's interests. However, an ethical person must be willing – at least sometimes – to place collective interests ahead of self-interest.

Role of ethics and values in enhancing soft power

- International relations are largely driven by the ideology of realism, which propagates national interest precedes global interest.
- However, pursuance of national interest must not always be fulfilled with hard power (military power, economic power). The soft power (a country's image due to its culture and values) also secures national interest without compromising others' interest.
- In this regard, ethics and the country's ancient values (for example, the idea of Vasudhaiva Kutumbakam in India) revive national pride and project a country's rightful image.

Each country wants to have a respectful place in the global community. CNP is about pursuing it with the right course and action. Each citizen is a nation-builder, and their ethical righteousness help a country achieve wider acceptability.

What teachings of Buddha are most relevant today and why? Discuss. (UPSC IAS Mains 2020 General Studies Paper – 4)

Buddha's teachings are timeless and continue to be relevant today, as they provide guidance for living a happy and fulfilling life, both individually and collectively.

- The Four Noble Truths: Buddha's teaching of the Four Noble Truths – the truth of suffering, the truth of the cause of suffering, the truth of the end of suffering, and the truth of the path to the end of suffering – provides a framework for understanding the nature of suffering and the path to liberation from it.
- The Eightfold Path: Buddha's teaching of the Eightfold Path – right understanding, right intention, right speech, right action, right livelihood, right effort, right mindfulness, and right concentration – provides a practical guide for living a moral and ethical life.
- Non-violence: Buddha's teachings emphasize non-violence, compassion, and empathy towards all beings.
- Impermanence: Buddha's teaching of impermanence emphasizes the transient nature of all things, and the need to accept and embrace change.

- Mindfulness: Buddha's teachings on mindfulness emphasize the importance of being present in the moment and developing awareness of one's thoughts, emotions, and actions.

In India, the relevance of Buddha's teachings can be seen in various aspects of society, including:

- The practice of mindfulness and meditation, which has gained popularity in recent years and is now widely taught in schools, workplaces, and communities.
- The emphasis on non-violence and compassion towards all beings, which is reflected in India's constitution and its promotion of peace and harmony among diverse communities.
- The importance of social and environmental responsibility, which is reflected in various initiatives aimed at promoting sustainable development, conservation of natural resources, and social welfare.

Buddha's teachings continue to inspire and guide people towards a more fulfilling and compassionate way of life, both in India and around the world.

Distinguish between laws and rules. Discuss the role of ethics in formulating them. (UPSC IAS Mains 2020 General Studies Paper – 4)

Any society is governed by certain sets of laws and rules. Although in common language, these are synonyms yet there is substantial difference between them.

- Laws: These have the backing of legislative bodies. These are enforced by the government and every citizen has to obey them. A person can be punished for violation of laws. For example: Water (Prevention and Control of Pollution) Act, when enforced by the Parliament became a law.
- Rules: These are the set of instructions which are concerned with do's and don'ts. These are flexible in nature and these can be made by any organisation and people. Rules are broader in scope when compared to laws. For example: schools' instructions can be considered as rules.

Role of ethics in formulating Laws and Rules

- For effective governance of the country, laws are made by the parliamentarians. These laws should be guided by ethical standards which the society and nation opt for. Ethics and laws work simultaneously to ensure that citizens act in a certain manner and also make sure that these coordinate efforts protect the health, safety and welfare of the public.
- Ethics is the guiding light that defines sound moral conduct and practices that ought to be followed by the individuals. This calls for framing of rules and regulations on the lines of ethics. For example, several institutions, business

establishments etc. start their day by paying reverence to the almighty, a sort of ethical conduct. Several corporate houses, go beyond the legalised limit of Corporate Social Responsibility (CSR) and work for the disadvantaged sections of society just because their rules have a sound ethical backing.

Ethics helps in framing the code of conduct in a society which is essential to its functioning, for example: the Indian Constitution.

What are the main factors responsible for gender inequality in India? Discuss the contribution of Savitribai Phule in this regard. (UPSC IAS Mains 2020 General Studies Paper – 4)

Gender inequality refers to the unequal treatment or perceptions of individuals based on their gender. It arises from differences in socially constructed gender roles. It is women who have always been at the receiving end.

Gender inequality in contemporary India is the result of multiple factors which can be broadly classified as Cultural, Historical, Social, and Economic.

- Cultural: India has a long evil tradition of favouring boy child over a girl. Several ancient scriptures like Manusmriti justified the preference of boys over girls. It led to a rise in evil practices like femicide which is still prevalent.
- Historical: Frequent invasion of India from the ancient times pushed women downward in the social rank. During the medieval times, “veil” culture came in vogue confining women to walls of the house.
- Social: The culmination of cultural and historical factors has a long term effect on the mindset of the society. In Indian society, females are being considered as a secondary gender. It stigmatised women and they were regarded as mentally and physically weak.
- Women were not allowed to study and get an education.
- Speaking of women in public is still considered a taboo.
- The chastity and purity of women are considered as a matter of dignity and honour.
- Economic: The inadequate economic growth and widespread poverty has always prevented women from breaking social barriers. They were not allowed to work and left dependent on their male counterpart and nothing empowers a woman more than her financial independence.

Savitri Bai Phule was the social reformer of the 19th century who worked in the field of women empowerment. To understand the gravity of her contribution, It is important to know the milieu in which the young Savitri grew up. Public education was yet to

emerge and there were only a few missionary schools which were “open to all”. Brahmins were the only caste group that received an education and could take a lead in setting up schools.

- In 1848, she with her husband Jyotirao Phule started their school at Bhide Wada (Maharashtra). It was India's first girls' school.
- She also initiated two educational trusts – The Native Female School, Pune and The Society for Promoting the Education of Mahars, Mangs and Etceteras – which came to have many schools under them.
- In 1852, Savitribai started the Mahila Seva Mandal to raise awareness about women's rights.
- She published Kavya Phule (1854) and Bavan Kashi Subodh Ratnakar in 1892. In her poem, Go, Get Education, she urges the oppressed communities to get an education and break free from the chains of oppression.
- The Phule couple started a home for the prevention of infanticide in their own house, for the safety of pregnant, exploited Brahman widows and to nurture their children.
- In 1890 when Jyaotirao passed away. Defying all social norms, she lit his funeral pyre.
- She initiated the first Satyashodhak marriage – a marriage without a dowry, Brahmin priests or Brahmanical rituals in 1873.

Savitribai was always at the vanguard of women social reforms. Her achievements were diverse and numerous, but they had a singular effect – posing a brave and pioneering challenge to the caste system and patriarchy.

What do each of the following quotations mean to you? (a) “Condemn none: if you can stretch out a helping hand, do so. If not, fold your hands, bless your brothers, and let them go their own way.” – Swami Vivekanand. (b) “The best way to find yourself is to lose yourself in service of others.” Mahatma Gandhi (150 words). (UPSC IAS Mains 2020 General Studies Paper – 4)

(a) The idea in this quote relates to the humanitarian aspect where one shall help people and not create hurdles for them. Whenever someone is in need one ought to help him/her if the capabilities of providing the support permit. If one cannot stretch the helping hand at the time of need, its better to stay away rather than interfering by means of wrong advice and acting under the influence of anger, jealousy or revenge to make the life worse.

The statement holds significance not only in day to day personal life but also in professional duties of, say, civil servants. A clerk at a pension sanctioning office can either help an old widowed lady get her rightful monthly pension or he can refuse her

application for want of proper documents and worse off talk to her rudely and make her run from pillar to post for some forms and documents.

Thus, in the truest sense, the society can be more tolerant and flourishing if the actions of people are directed by humanity and acceptance.

(b) A person is not interested in 'the I' if it is not his or hers, which shows that 'the I' is personal to the extent of self-centredness. That means inner happiness and real honour do not reside in 'the I', and, if so, it is better to put one's heart and mind into serving people and contributing to their upliftment. There is no more desirable, satisfactory and effective way to employ one's focus, energy and time. Community service helps us realise the core values of passion, hard work and commitment. When a person feels his actions bring about the good of others and result in relieving even a little of widespread human suffering, he or she becomes conscious of the true sense of achievement and its realisation. This is the highest involvement which leads to the greatest achievement followed by happiness, satisfaction and peace everywhere. With this essence of being, you find yourself knowing what you really wanted to be, but now what you have and what you are.