

**Civil Services (Mains) Examination**

**2015 Solutions**

**GS PAPER 1**



# GS Ethics Module

by Atul Garg,

Author of Arihant's GS Paper IV Ethics Manual

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

**Answer-** The ancient civilization in the Indian sub-continent differed from those of Egypt, Mesopotamia and Greece. There are many reasons for the continuity in culture and tradition, in the Indian context. Some of these are:

(a) **Geographical factors:**

- (i) **Resource availability**– river valley, Hills, forest etc enabled the population to survive sustainably, in the Indian subcontinent. All these resources were not available at one place in other civilizations. For example, Egypt didn't have forests.
- (ii) **Space for spreading** : Indian civilization had plenty of space in the east and south to spread, and hence live sustainably.
- (iii) **Relative isolation** due to topography – Himalayas in north, Indian ocean in south, Kirthar in west etc acted as barrier from frequent foreign invasions. So these invasions were less as compared to other civilizations. Greece had Aristocracy, which saw frequent battles amongst themselves. This resulted in their decline.

(b) **Social factors:**

- (i) **Resilience** against invasions: our civilization was more resilient to these foreign invasions because of the nature of society. People lived here in harmony with each other. Social bonding was strong.
- (ii) **Fewer wars** between communities – unlike the aristocracy in Greece

(c) **Climatic factors:**

- (i) **Suitable climatic conditions:** It helped in sustainable growth of civilization in Indian subcontinent. Whereas in places like Egypt, extreme climatic conditions, led to decline of civilization.
- (ii) Suited **cultivation of different crops** for sustainable living.

So, these were the main reasons for the continuity of Indian civilization over the ages.

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

**Answer-** according to our experts, **the term 'Mesolithic' is mis-printed in the question. Instead, it should be 'monolithic'.** During Mesolithic period, rocks were used only for making tools for hunting. People lived in rock caves and also painted figures on those rocks. But there was no rock-cut architecture, during Mesolithic period. We are giving answer based on Monolithic rock cut architecture.

Monolithic rock cut architecture reflects the cultural life of people of that time. **For example**, Buddhist **Rock cut architecture**, like Chaityas and Viharas reflect the ascetic lifestyle of Buddhist monks. Similarly, **Hindu Rock cut Architecture**, at Mahabalipuram reflect the life of village. The rathas show the thatched roof like similarity, present in the village huts. Also the **Kailash Nath rock cut temple**, shows the religious nature of society. These rock cut structures, also have many **musical and dancing sculptures** engraved on them, which reflects the significance of music in the life of people.

Presence of rock cut architecture of different religions at one place also reflects that **people lived in harmony**. This is reflected from Ajanta and Ellora sites.

Not only do they reflect the cultural life, but they also reflect their fine aesthetic sense, comparable modern paintings. The emphasis on **'Detailing'** is one such feature. These rock cut structures have been carved so beautifully and with so much detailing, that **it appears as sculpture rather than architecture**. This aspect is also seen in modern day paintings, which emphasizes on detailing. Also, the representation of human life in its various moods, is excellent. It also reflects that the architects **followed certain rules**, similar to that in modern paintings. The techniques were well defined and probably written down.

So, the monolithic rock cut architecture reflected the cultural life of people as well as their fine aesthetic sense.

**3. How different would have been the achievement of Indian independence without Mahatma Gandhi? Discuss.**

**Answer** – Mahatma Gandhi’s contribution to achievement of Indian Independence was invaluable.

He made the freedom struggle a **mass movement**, encouraging participation of every section of society. In Non-cooperation movement, women and youth participation was unprecedented. Peasants and workers also joined the movement after Mahatma Gandhi’s arrival on national scene. Earlier freedom movement was solely restricted to educated upper class.

He also introduced a **new method of peaceful satyagraha**, based on truth and non-violence. Britishers had no idea how to deal with it. If they didn’t do anything, then masses were mobilized against them, and if they used force then also masses condemned them.

Had he not been there, achievement of Independence **would have been more violent**. He conditioned masses for non-violent struggle. For example, in non-cooperation movement this was used on a mass scale for the first time. After the **incident of Chauri – Chaura**, he realized that people were not prepared for such type of peaceful protest. Then he started the **campaign to condition the masses** for peaceful satyagraha.

Further, the freedom movement **would have been restricted to only upper educated class**. It would not have been a mass based movement. In such a situation, it **would have taken longer time** for attaining independence, as the pressure on Britishers would have been lower.

Also, without him, it would **have been independent but fragmented India**. He was the unifying force between different sections of Indian society. People might differ from his views, but still everyone respected him.

So, Mahatma Gandhi’s contribution to the achievement of independence is invaluable, which cannot be enumerated completely in words.

**4. Mahatma Gandhi and Dr. B.R. Ambedkar, despite having divergent approaches and strategies, had a common goal of amelioration of the downtrodden. Elucidate.**

**Answer** – Both Mahatma Gandhi and Dr. B.R. Ambedkar were visionary leaders, who envisaged amelioration of downtrodden. However they had divergent approaches and strategies for achieving this common goal.

On **Varna system**, they had different views. Dr. B.R.Ambedkar saw Varna system as discriminatory. He opposed it, as it was the root cause of emergence of caste system, according to him. However, Mahatma Gandhi supported Varna system, as he interpreted in terms of ‘Duty’. For him, everyone is performing their duty and there should not be any status attached to it.

On **caste system**, also they had different views. Dr. B.R.Ambedkar wanted to remove caste discrimination by eliminating the caste system itself. He has expressed this view in his book – Annihilation of Caste. For him, discrimination will persist till there is caste system. While Mahatma Gandhi wanted to eliminate caste discrimination, but retain caste system.

Their **strategies for eliminating caste discrimination** also differed considerably. Dr. B.R.Ambedkar prescribed **socio-political method** for this. He suggested inter-caste marriage, inter-caste dining, education etc. He also favoured economic and political empowerment of downtrodden. However, Mahatma Gandhi prescribed **moral-spiritual method** for this. For him, everyone performs their duties. We must respect everyone as no duty is superior or inferior. He gave the concept of **‘bread labour’**. We should focus on changing heart of people to eliminate this discrimination.

While, Dr. B.R.Ambedkar adopted a **revolutionary approach** for annihilating caste system, Mahatma Gandhi adopted a **reformatory approach** towards caste system.

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So, both Dr. B.R.Ambedkar and Mahatma Gandhi had same goal of ameliorating downtrodden people they differed considerably in their approaches and strategies.

**5. It would have been difficult for the Constituent Assembly to complete its historic task of drafting the Constitution for Independent India in just three years but for the experience gained with the Government of India Act, 1935. Discuss.**

**Answer** - The foundations of the Indian Constitution are laid on major articles and clauses drawn from Government of India Act, 1935.

GOI Act 1935 gave provision for the establishment of a "**Federation of India**", to be made up of both British India and some or all of the "princely states". This was carried forward by the Indian Constitution where it advocated that India is Union of States. GOI Act 1935 introduced **direct elections**, thus increasing the franchise from seven million to thirty-five million people. This was also incorporated into the Indian Constitution.

**Residuary legislative powers** were with Governor General in 1935 Act. Similarly in the Indian constitution, the residuary powers are with Union Legislature. The 1935 GOI Act established a **Federal Court**, which was continued in the new Indian Constitution after independence. The Governor-General was to administer federal subjects with the assistance and advice of a council of ministers in 1935 Act. These ministers were to be chosen from the federal legislature and were responsible to it. Our constitution of India provides the same mechanism under the President of India. **Provision of lists** was introduced in the Act of 1935. **Separation of power** was made between the centre and provinces. Constitution of India also provide for three lists, dividing power between centre and state Governments.

All these provisions were so important that these cannot be ignored and constitution of India adopted them; though not in whole but some of them. Thus, we can say that the experience gained through Government of India Act, 1935 helped a lot in constitutional development in India after independence.

**6. Why did the industrial revolution first occur in England? Discuss the quality of life of the people there during the industrialization. How does it compare with that in India at present?**

**Answer** – Industrial revolution occurred first of all in England. There were many reasons for this.

The **agriculture revolution** had already taken place. So, it ensured availability of raw material for the factories. Agricultural labourers also migrated to cities to work in the factories. Further, **small size of England population**, also compelled the factory owners to use more of mechanical devices.

**Location of coal and iron mines close to each other** was another big reason favouring industrial revolution. Coal helped in smelting of iron ore and in transportation through steam engines. **Availability of capital** for investment because of the flourishing trade, further gave push to industrial revolution.

**Geographical location** of Britain also insulated her from any foreign interference. **The social and political stability** of Britain also created an atmosphere suitable for growth of industries.

The industrial revolution had profound impact on quality of life off people. Rise of cities were accompanied with **growth of slums**. Workers were compelled to work and live in **sub-standard and sub-human conditions**. Women and children were employed as workforce, as it was more profitable. They were exploited at the hands of Capitalist class.

Workers were vulnerable to **epidemics and diseases**, as they lived in inhuman conditions, without any facilities. It also led to **division of society** into two classes – the capitalist class and working class. Workers were exploited by the capitalist classes. They were forced to work for more than fourteen hours a day. Workers were having **no rights** and no social security.

**Industrialization in India**, has many positive aspects as compared to that of Britain. Workers here **enjoy many rights**, like equal pay for equal work. They also have access to social security measures. **Child labour is prohibited** through legislation. Working conditions are much better here. The inequality in society, as a result of Industrial revolution, is not as stark as the one in Britain. There are **many laws which regulate the working conditions** of workers.

So in this way, quality of life of people in India was very different from that in Britain.

**7. To what extent can Germany be held responsible for causing the two World Wars? Discuss critically.**

**Answer** – European powers held Germany to be responsible for causing the world wars.

**The foreign policy of Kaiser William II** antagonized all the European powers. He reversed the calibrated foreign policy of Bismarck. He was **over ambitious**, as he wanted Germany to play an important role not just in Europe but in whole world. This created suspicion in minds of European powers. His blind support to Austria, in **the Balkan wars**, antagonized Russia. His **emphasis on strengthening navy** was a direct challenge to Britain. Further during the first and second **Moroccan crises**, Germany adopted an aggressive attitude. Due to these reasons, Germany was held responsible for First World War. Similarly, **rise of Nazism** in Germany, was a major event leading to the Second World War. Germany wanted to create a **'Greater German Reich'** of all the German speaking people. They also **rejected the provisions of treaty of Versailles**, and started re-militarization. **German annexation of Austria and Czechoslovakia** in 1938, were major events leading to the Second World War.

**However, it would be wrong to blame only Germany for the two World Wars.** Other European powers were equally responsible for it. **Rise of extreme nationalism**, in Europe after French revolution, was one of the reasons for increased conflicts. This led to **rise of militarism** in Europe. European powers adopted **conscription system**. Deteriorating diplomatic relation between countries further accelerated the militarization.

**Colonial rivalry** among the European powers, created surcharged atmosphere of suspicion and distrust. **Formation of alliances**, paved the path for the World wars. Similarly, the **unjust treaty of Versailles**, sowed seeds for the Second World War. **Policy of Appeasement**, followed by European powers, was the major reason for the rise of Fascism and Nazism. **Ideological conflict** between Capitalists, Nazis, and Socialists, was another factor determining the foreign policy of countries.

So, not only Germany, but all the European powers were responsible for the two World Wars.

#### **8. Describe any four cultural elements of diversity in India and rate their relative significance in building a national identity.**

**Answer** - Unity in diversity is one of the major characteristics of Indian culture which makes it unique. The four main cultural elements of diversity are:

##### **1. Linguistic Diversity:**

A large number of languages and dialects are spoken in our country which has led to the growth of a great variety of literature. Ability and willingness of the government to adapt and recognize the variation that exists in its population has helped in Indian unity. In addition, both officially and privately, much tolerance is shown towards all language groups.

##### **2. Ethnic Diversity:**

The second important reason for the variety in our culture is the intermingling among various ethnic groups. Various ethnic groups like Iranians, Greeks, Kushanas, Shakas, Hunas, Arabs, Turks, Mughals and Europeans also came to India, settled here and intermixed with the local population. Foreign invasions, immigration from other parts of the world and the existence of diverse languages, cultures and religions have made India's culture tolerant, on the one hand, and a unique continuing and living culture with its specificity and historicity on the other.

##### **3. Religious Diversity:**

Hindus, Muslims, Christians, Sikhs, Buddhists, Jains, Parsees and Jews live in India. People belonging to eight great religions of the world co-exist here in a harmonious manner. In principle, different religious groups owe their allegiance to different religious doctrines. However, at the level of rituals and life styles there is a lot of intermingling among followers of different religions.

##### **4. Diverse Art forms:**

The composite nature of our culture is reflected in our music, dance forms, drama and art forms like paintings, sculpture and architecture as well. The classical dances of India are an integral part of Indian culture and represent regional cultural ethos and beliefs. Similarly interest in Indian music transcended caste and communal barriers and a number of Muslim rulers were generous patrons of Hindu musicians.

For building national identity, the linguistic diversity is most important followed by religious diversity, followed by Ethnic diversity and then diversity of art forms. Our ability to accommodate these diversities, is at the root of the idea of Indian society. Our respect for these diversities is the building block of our society and our nation.

**So for us Unity doesn't mean uniformity and diversity doesn't mean fragmentation.** Our idea of unity in diversity is a unique one, which forms our national identity.

**9. Critically examine whether growing population is the cause of poverty OR poverty is the main cause of population increase in India.**

**Answer** - Population and poverty both have a cause and effect relationship. Both form a vicious cycle, where one feeds into the other, in certain cases.

Population growth can actually lead to development if it is transformed into **valuable human resource**. However, if we cannot harness this human resource then it will certainly lead to more poverty. Growing population **puts extra pressure on the limited resources** which are available for the country.

Further, if the economy is unable to create extra employment opportunities for the growing population, then it causes unemployment and poverty. Even urbanization **leads to growth of slums**, in order to accommodate the large population, searching for work and home in cities.

China for example has successfully provided its large population with stimulus like education, skills, infrastructure, finance etc. so that economy can be expanded. On other hand it has also taken steps to control its population growth (one child policy).

On the other hand, poverty also leads to population growth. Because of illiteracy poor people are not aware of the family planning methods. They don't know the consequences of having more children. **They feel that more children mean more working hands**. They can help the family meet their daily requirements. Also, due to poverty they **don't have access to contraceptives**. 'More hands, more money' and 'quantity irrespective of quality' seems to work in this condition.

Therefore, we can argue that poverty does cause population growth and population growth, if not catered well, does cause poverty. It is a vicious cycle, and development is the solution to this problem.

**10. How do you explain the statistics that show that the sex ratio in Tribes in India is more favourable to women than the sex ratio among Scheduled Castes?**

**Answer** – Economic and caste census data has been released recently. It shows certain interesting figures.

**Sex ratio among STs is 990 whereas it is 945 in case of Scheduled Castes** according to Census 2011. Child sex ratio patterns among the scheduled castes follow the pattern among the 'general' or the other castes rather than those among the scheduled tribes. Scheduled tribes constitute 8.6% of the Indian population. **The child sex ratio (girls for every 1000 boys aged 1-6) is 957 for STs and 933 for SCs.**

Better sex ratios among tribals could reflect a combination of positive and negative factors; **cultural gender parity** as well as **lack of access to pre-natal diagnostic technology**. **Equal status** is granted to a woman in the tribal society. The incidences of foeticide as well as infanticide are low in a tribal society when compared with the progressive society of modern India. The sex ratio at birth is also high among tribal families. Women can ask for a divorce, and in many communities, money is paid to the girl's family at the time of marriage. Simultaneously, most tribal communities either do not know of pre-natal sex determination, or do not have access to it. But among **more educated SCs**, those who get government jobs, sex selection has begun.

Scheduled Caste families are increasingly aspiring to higher standards of living at the other end of the class-caste hierarchy, which is driving them closer to general class rituals and customs. **Recent analyses have already drawn attention towards female subordination being a 'precondition' of upward social mobility**. Women in Scheduled castes are held in low regard and because of this, both the survival chances of the girl child as well as the work done by women throughout their lives are considered relatively unimportant.

Similarly, the **female work participation rate** which is considered an indicator of female empowerment is highest among STs, followed by SCs. Higher female workforce participation which had earlier characterized the scheduled castes has come down in the wake of prosperity for the sake of **'status production'**.

So, these are the main factors on the basis of which the sex ratio among scheduled tribes and scheduled castes can be explained.

**11. Discuss the changes in the trends of labour migration within and outside India in the last four decades.**

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**Answer** - India in last 4 decades has seen considerable change in pattern as well as nature of both internal as well as international migration.

**Internal migration:** is at inter and intra state level and is mostly from rural to urban regions. Migrants are mostly unskilled or semi-skilled workers. Earlier pull factors of an urban area were contributing to migration. But now due to lack of employment opportunities in the rural areas, people are pushed to migrate to places where there are more opportunities.

There is also a pattern of inter-state migration. Mostly people migrate from less developed states to more developed ones. The increase in migrant populations in Delhi and Mumbai is a manifestation of this. The states of UP and Bihar are major source of migrants, and Maharashtra and Delhi are the major migrant centers presently.

**Mobility** has increased with labour from southern states migrating to states like Jammu and Kashmir (brick kiln workers). More men are migrating for work than women and women migration is mainly because of marriage. The opportunities available in urban areas, though better than the rural areas, is not very much, leading people to work in informal and unorganized sectors.

Recently, the rise of policies like 'son of the soil' policy in Maharashtra has discouraged people to migrate to a few places. This has slowed down the process of migration to a few places, but migration is still high due to lack opportunities back at home.

**International migration:** though involving a small proportion of workforce has been on the rise and is largely due to economic reasons and not due to political and social reasons which influenced people to migrate before independence. Two distinct streams of migration have been observed in international migration: **(a) people with professional expertise** or technical qualifications migrating to industrialized countries, and **(b) semi-skilled and skilled workers** migrating to the Middle East.

Migrants to industrialized countries have grown steadily. Most migrations have been to US, Canada, UK and Australia. These migrants are mostly those who are educated and migrate when they get good opportunities abroad. Example, the number of Indians in Silicon Valley companies are increasing, and some of them have come to hold important positions in large companies, like Sundar Pichai in Google or Satya Nadella in Microsoft.

Migration to the Middle East has also increased. More than 3 million Indian migrants live in the Gulf countries now. This is the reason that the remittances inflow to India has increased steadily, and now India is placed at number 1 on the inflow of remittances worldwide.

This has impact on the sending region also; example in Kerala migration has recently led to a considerable reduction in unemployment. Thus, international employment is leading to people earning more, earnings are in foreign currency which is helping the country in the economic front, and it is solving the problem of unemployment in India.

Further, migration for higher education is also on the rise, in the last four decades. More students are opting for degree courses in foreign universities, as compared to the situation in 1950-60's.

Thus, the major reason for internal migration is push factors, whereas for international migration push as well as pull factors are both important. In this way the pattern as well as nature of migration is undergoing change.

## 12. Discuss the positive and negative effects of globalization on women in India.

**Answer** - Globalization has both positive and negative impact on the status of women in India.

Globalization which initially arose as merely an economic phenomenon has had a spillover effect on the socio-cultural and even political arenas. Though it has had a milieu of negative effects on society, some of the outcomes have been decidedly positive. The aftermath of globalization has resulted in a relatively better environment for women. Women had more job opportunities, became more active in avenues generally reserved for men and played a more prominent role in society and were not just restricted to the household. For example The Self-Employed Women's Association (SEWA) in India is a union of women laborers willing to work hard and seize any work opportunities they might get.

Globalization has posed a major challenge to the institution of patriarchy in India. As women take up jobs and achieve social mobility, they have also begun to stand up for their rights. As nuclear families have become more common, it has become easier for women to assertively claim their rights and ask for equality in an environment not

stuck in ancient mores. Marrying within the same caste has become less important, and women have in many cases reserved the right to marry whoever they choose irrespective of caste.

As countries come closer, and boundaries disappear in the globalised world, women in India are **inspired by women the world over** to fight for their rights. Of course, there are some notable exceptions to the above generalizations. But, to a large extent, these changes have received a great push from the new era of globalization.

However, Globalization also has many negative impacts on women. Women are now **more vulnerable to various types of crimes**, which were not present to this extent earlier. Their **traditional employment opportunities are lost** due to tough international competition. For example, the traditional handicrafts face tough competition from power looms. **Working in unorganized sector** has further put extra pressure on them. They have to live in sub-standard conditions, near the work site.

In this way Globalization has both positive and negative impact on women in India.

### **13. Debate the issue of whether and how contemporary movements for assertion of Dalit identity work towards annihilation of caste.**

**Answer** – Dr. B.R. Ambedkar laid the foundation of Dalit movement in India; he was committed to annihilation of caste. He argued that the caste system must vanish for the Dalits to attain a respectable position in the society.

The contemporary Dalit movements focus on assertion of Dalit identity, it has been debated whether the strengthening or Dalit identity can lead towards the annihilation of caste. These movements are characterized by:

- (i) Several leaders have electoral ambitions, thus they utilize these movements by strengthening the Dalit identity **for vote bank politics**, thus mobilizing dalits for vote bank politics.
- (ii) The Dalit movements are dominated by their middle class raising issues related to identity and reservations of government jobs and political positions. Thus, Dalit movements **have material benefits as their primary aim**.
- (iii) There is widespread local level assertion against the practice of untouchability and discrimination. Their struggles have brought dalits on the **agenda of mainstream politics**.
- (iv) These movements have **highlighted the problem** if the Dalits and **increased awareness** among the policymakers as well the people about the issues facing them.
- (v) They have also successfully built up a good deal of pressure on the ruling classes. Several scholars and activists feel that dalits have been reduced to **a pressure group** within the mainstream politics. Identity politics provides a much needed intoxication to ignore the infirmities of the real world, thus creating a false sense of power. It obviates the complexity of their goal. These vulnerabilities, in turn, help vested interests to further prop up identities. **The identity cobweb not only clouds the goal of annihilation of caste, but may well negate it altogether.**

In the short term these dalit politicians may benefit but at the same time they will strengthen the system of inherent hierarchy of caste and gender. Further, the essence of caste is not identity but a hierarchy. Under exogenous pressure, caste feigns as identity but once the pressure is removed, it seeks hierarchy within and begins splitting. These movements aim to create a pan Indian identity of the Dalits, but in reality it is difficult to bring all the untouchable together because there are caste groups and hierarchies within them also.

**Thus, though these movements have challenged some of the deepest aspects of oppression and exploitation, but they have failed to show the way to transformation.** These movements have led to improvement in position and status of Dalits, though their impact has been limited to a few sections of the Dalit population.

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



**Answer** - The causes and factors affecting the ocean currents may be divided into two classes: Primary causes, and, Secondary causes. Primary factors are responsible for the origin whereas the secondary factors determine the direction of flow of ocean currents.

1. **Primary causes:**

- (i) Planetary winds: Planetary winds are the principal cause of the origin of ocean currents. Such winds drive surface water along with them.
- (ii) Difference of density and salinity: Difference of density and salinity in ocean water motivates denser waters to sink and move as undercurrents; whereas lighter waters move towards the denser water as surface currents. Such density differences are mainly the result of differences in temperature and salinity of ocean waters.

2. **Secondary causes:**

- (i) **The rotation of the Earth:** The rotation of the Earth, which affects the direction of movement, deflects poleward current eastwards, equator wards currents westwards. It may be pointed out here that the wind induced surface current deflects 45° or less from the wind direction so that the deflection of ocean currents are much more than the deflection of wind caused by Earth's rotation.
- (ii) **The shape of the coastline:** The shape of the coastline of the ocean basins often deflects currents from their direct courses

Ocean currents act much like a conveyer belt, transporting warm water and precipitation from the equator toward the poles and cold water from the poles back to the tropics. Thus, **currents regulate global climate**, helping to counteract the uneven distribution of solar radiation reaching Earth's surface. **Without currents, regional temperatures would be more extreme**—super hot at the equator and frigid toward the poles—and much less of Earth's land would be habitable.

**Places where cold and warm currents meet are ideal for the growth of Plankton.** These are very small organisms, which are food for fish. These regions thus support a great number of fish. They have developed into major fishing grounds of the world. **Newfoundland** on the eastern coast of North America is the meeting point of the Gulf Stream and the Labrador Current. It is one of the major fishing centers of the world.

However, these places **may be dangerous for ships** as the meeting of cold and warm currents gives rise to thick fog, which reduces visibility. Ships sailing with a current, gains speed which helps to **save fuel and time**. Ships moving against a current lose speed. Warm currents keep the Arctic regions free from icebergs, which can be dangerous for ships.

In this way ocean currents have impact on climate, fishing as well as on navigation.

**15. Mumbai, Delhi and Kolkata are the three mega cities of the country but the air pollution is much more serious problem in Delhi as compared to the other two. Why is this so?**

**Answer** - The main reasons for high level of pollution in Delhi as compared to other three cities are:

**The continental climate of Delhi:** In other three cities the land breeze and sea breeze help in mixing of air. This reduces the concentration of pollutants. However, there is nothing as such in Delhi. There is no mixing of air which increases the concentration of pollutants.

Further, **the practice of burning crop residue in the field** in the nearby regions of Punjab and Haryana, adds to the pollution level of Delhi. This is not the case in other three mega cities.

**Presence of unregulated industries**, in the National Capital Region has added to the level of pollution. Since other cities have water bodies on one side, so they have lesser number of industries surrounding them.

Delhi also acts as **transit route** for many vehicles moving across the region. So along with the regular vehicles, these transit vehicles increase the **vehicular emissions** to significantly higher level.

Other reason is **high population density**, not just in Delhi but also in the whole region surrounding it. This adds to the pollution, because of domestic emissions, burning waste in landfill sites, and use of traditional fossil fuel for cooking.

So, these are the major contributing factors, for higher level of pollution in Delhi, as compared to Chennai, Mumbai and Kolkata.

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

**Answer** - Despite of being well endowed with fresh water resources, India still suffers from water scarcity. This crises situation is manmade. The main reasons are as follows.

**Mismanagement** of available water resource, creates scarcity situation. For example, in agriculture sector, in some areas there is wastage of water due to excessive irrigation while others are facing drought like situation. In Northern plains, excessive irrigation is done, while in Deccan area water is scarce.

Similarly, there is **inter-sector variation**. While agriculture sector and industrial sector use considerable amount of water resources, the household sector faces scarcity situation.

**Pollution of water bodies** have further rendered the water resources unfit for use. Sewerage discharge, agricultural runoff, household discharge, industrial effluents etc. are the major cause of water pollution.

Further, **traditional water reservoirs are facing extinction** due to human activities, like urbanization, reclaiming of land for agriculture etc. This has disturbed the natural purification cycle of water. So, the impure water is no more purified naturally.

So, the need of the hour is to manage the available water resources in best possible manner, for its sustainable availability. We need to take concerted steps for this.

We need to **have a regulatory agency**, for managing the water use by different sectors. Further we need to encourage farmers for **use of modern irrigation techniques**, like drip irrigation and sprinkler irrigation. It will help in achieving, **more crop per drop**. Also, steps can be taken for strict implementation of pollution control measures.

People also need to be sensitized regarding conservation of this precious resource. Each and every individual needs to contribute towards this goal for achieving success. Further, we need to **ensure proper implementation of the rules and regulations** governing this area.

In this way we can ensure that the available water resources are utilized in optimum manner.

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

**Answer** - The mountainous region of Jammu and Kashmir and Uttarakhand are ecologically very fragile. Due to tourism in the region, they are reaching their ecological carrying capacity.

Ecological carrying capacity is essentially an attempt to define the level of tolerance or compatibility between tourist activities and demands, and the ecological, social, cultural, and economic support systems of the mountains to meet those demands. Essentially these are divided into three: the biophysical or natural environment, the socioeconomic and cultural environment, and infrastructural facilities.

Modern form of tourism in Himalayan states like Uttarakhand, Himachal Pradesh, and Jammu and Kashmir was totally **unplanned** and had drastic effect on natural and socio-cultural environment. The devastation caused during Uttarakhand and Kashmir floods gave a glimpse of the impact caused by violation of ecological carrying capacity. A well planned tourism development approach must be adopted by Himalayan states.

These states are **facing environmental problems** like acute shortage of water, overcrowded roads, heavy traffic, excessive garbage, unplanned growth and illegal constructions and sanitation problems. The Union Government is discussing modalities for developing the Himalayan Circuit. The Himalayan Circuit has been identified under the new **'Swadesh Darshan'** Scheme of the Union Ministry of Tourism for promoting tourism.

Proper **tourism planning** should be done after consulting local people and tourism related investment and revenue should be used for the benefit of local community. **Alternative tourism strategies** must be designed with the help of local people to reduce negative impacts and increase positive effects of tourism during unfavourable circumstances

73 percent of the Himalayas lie within Indian Territory and tourism contributes foreign exchange in a big way to the exchequer of India and it contributes 6.8 percent of the GDP share in India. The **proper disposal of waste** material especially plastics and providing wayside amenities should draw the attention of the Tourism Ministry.

So we need to take steps to preserve this fragile ecosystem, while allowing tourism in a sustainable manner.

**18. How far do you agree that the behavior of the Indian monsoon has been changing due to humanizing landscapes? Discuss.**

**Answer** - Behaviour of Indian monsoon has been changing drastically due to humanizing landscapes. The main reasons for this are as follows.

Due to humanizing of landscapes, like urbanization, open spaces are not available. This has **affected the albedo**. This has affected the heating pattern of land and water bodies, disturbing the process of monsoon. Further, **traditional water bodies are getting extinct**, due to human activities. Glaciers are shrinking, ponds and rivers are depleting. This has disturbed the water cycle and hence the monsoon.

The behaviour of monsoon is becoming **more erratic**. Unseasonal rainfall or below average rainfall during monsoon is common now. In 2015, hailstorm in the month of March-April, caused widespread loss of crops. While, during monsoon season, rainfall was deficient.

Further, **water runoff process is also affected** due to human intervention. Earlier, water flow to water reservoirs, provided a continuous source of water for formation of clouds. But now the water is not reaching these reservoirs, because of the disturbances in the way.

Humanizing landscape, also **affect the formation of pressure zones**, which are crucial for movement of monsoon. For example, the low pressure in north Indian plains help in attracting the monsoon winds. But if, this low pressure is not intense enough, it will not attract the monsoon winds. Urbanization and other human activities, have resulted in such situation.

So, we need to have greater degree of planning in designing our landscapes, so that it doesn't impact our monsoon.

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

**Answer** - Real India exists in villages, said the Father of the Nation, Mahatma Gandhi. For the success of our Smart cities project, we need smart villages as well.

Smart villages can provide the **skilled manpower**, required for various services in the smart cities. So it will act the raw material base for the cities. It will also **reduce the migration** to cities, as people will get employment opportunities in villages itself. This will reduce the population pressure on the limited resources of the cities.

Urban and rural areas are connected through a broad set of linkages, along a functional dimension. Urban and rural areas can be connected through market services, focusing on **productive complementariness**. Similarly service provision like transportation has impact on social cohesion and accessibility to goods and services of both rural and urban areas.

Moreover, cities like Delhi are facing pollution, and one of the causes of it is crop burning in adjacent areas of Haryana and Punjab. So if agricultural and environmental policies of surrounding rural areas are monitored, then only cities like Delhi can control air pollution. Thus it can be said that now time has come for both rural and urban areas to come together and see how they can be complementary to each other for a better development.

Urban and rural areas enjoy different and often complementary assets, and **better integration** between them is important for socio-economic performance. In order to achieve socio-economic and infrastructural development in rural areas and stem rising rural-urban migration and decongest cities, the Union Government had launched the **Shyama Prasad Mukherji Rurban Mission (SPMRM)** by incorporating best practices of the earlier PURA scheme. It seeks to **develop rural clusters as 'smart villages'** in a time bound manner by providing for economic activities, developing skills, local entrepreneurship and infrastructure development. Guidelines and critical gap funding will be provided to state governments to designate and develop such clusters.

So, success of smart cities is rooted in our ability to develop smart villages.

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

**Answer** - The Arctic region, which crosses several national boundaries including Russia, Alaska, Norway and Greenland, is thought to hold an estimated 166bn barrel of oil equivalent in terms of reserves. It has great economic significance.

The Arctic region has more petroleum and gas reserves than Iran holds and enough to meet the world's entire annual consumption of crude oil for five years at current rates. So availability of fuel from Arctic region will reduce the cost of fossil fuel. It will also help in **reducing cost of production of goods**, as cost of transportation will also reduce. Hence it will give a boost to the industrial sector.

Benefits of industrial sector will **drive growth in other sectors** as well. The oil and gas reserves in the Arctic region should be harnessed, under some International law, in order to bring **benefits for the whole world**. Countries should not claim exclusive rights over these. It is global common resource.

But, the Arctic region is one of the world's most **fragile and pristine** areas. Wetlands make up 60% of the land area of the Arctic and are critical for maintaining the global climate, for supporting local people as well as a great diversity of migratory species ranging around the world. Developments associated with the oil and gas industry have already caused significant damage to these fragile wetlands in several Arctic areas.

The drilling for oil in remote and extreme conditions brings increased levels of risk to the integrity of the environment and consequently livelihoods, both offshore and onshore. It may lead to **melting of Arctic ice**, which will have serious consequences for global climate. Impacts in the Arctic wetlands could be felt far away, as dependencies of migratory bird and marine mammal species connect the Arctic to Africa, South America and southern Pacific. **Oil spills** during extraction will pollute the region, and will have devastating consequences.

Despite the significant environmental concerns surrounding oil companies drilling offshore in the Arctic, demand for energy and the scarcity of similar opportunities elsewhere countries surrounding arctic are increasingly prepared to take the risk accessing the region.



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