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Q2, In the light of recent spate of protests by farmers, Discuss the major issues faced by farming community in India and suggest suitable measures required to be taken by Government to solve agrarian crisis.

Climate, soil and availability of water mainly determines the distribution of plants in the geographical area. Each soil has its significance and promotes the growth of plant species. For example, wheat is mainly grown in north western region while cotton is grown in Maharashtra and Gujarat region. The summer crops are called Kharif crops and the winter crops are called Rabi crops. Some issues of farming community are,

Inadequency of Capital:-

The capital put in agriculture sector is less than that of other sectors. Since the capital is being locked in their stocks, they need to borrow money for their next production.

Government is trying to reach the farming people directly without any mediators through the Jan Dhan Yojana. Loans to farmers should be made easy and transparent. Discount in loans and insurance for crops could make farming better.

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Poor Storage and Transport facilities :-

There is no storage facility in rural areas and since the products are perishables they must be sold immediately for the low prices. Also, there is lack of cheap and efficient modes of transportation. Still, many roads are not efficient or many villages lack roads to main areas.

For storage, godowns can be set near the rural areas and also the rural storage centres. Food Processing area needs to be concentrated more than just storing. For example, ketchup processing from tomatoes. For transportation instead of farmers reaching markets, the farmers can be reached by the marketers.

Lack of Mechanisation :-

In India, most of the places agriculture is carried out on human hand and with the usage of simple tools inspite of mechanisation in other countries.

Seeds, Fertilizers and Irrigation :-

To increase the productivity and shelf life, hybrid seeds are used. They increase the productivity but because of their cost they are out of reach to marginal farmers. There is also a problem that the seed sowed cannot see next generations.

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The Indian Seed Industry had seen growth in these days and are finding indigenous variety of seeds to make cost effective for farmers.

The importance of manures should be given to the farmers and promote organic farming for healthy soil.

Irrigation to the country is more important, but the water gets wasted more. Only one third of the land is irrigated properly. Over irrigation should be controlled.

Above all, due to the presence of inheritance policy of Indian people, the land gets fragmented which leads to smaller areas affecting the productivity. The solution is to consolidate the lands and if done so the production may be increased.

Q3) Dust storms and thunder storms wreak havoc in north Indian states during summer season. Discuss the factors responsible for development of dust storms and thunderstorms and suggest appropriate measures to minimize their damaging effects.

Dust storm usually occurs when a strong wind blows loose sand and dust from a dry surface. A thunder storm is a storm with thunder and lightening accompanied by heavy rainfall or precipitation.

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Recently a catastrophic disaster happened in northern India affecting the normal lives and claiming to many deaths. There was a collapse of buildings and the trees were uprooted. This devastation happened during the month of May causing both thunderstorms and dust storms.

These storms were said to be originated in the north western parts of India. The high temperature too intensified the storm. While these dust storms moving eastwards they became thunderstorms with heavy rainfall. The reason for the dust storms to change into thunderstorms is due to the bay of Bengal winds bringing moisture when merged with dry winds formed thunderstorms.

It had been found that the prime reason for the dust and thunderstorm is the desertification process of the Indian states. Since the deforestation and urbanisation process all the deserts are formed destroying forests making these storms intense and worse. If this condition prevails there would be more frequent occurrences and draughts will also occur.

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The environment ministry is taking severe steps in the afforestation process. The only way of minimizing these storms is the process of planting trees. Since the winds have barriers in between trees, their velocity will be slowed down leading to less devastating effects. The ~~paper~~^{trees} utilizing industries must be given with strict rules and it should be implemented like even when they use trees, they also should contribute to the environment. This incident in north India can show how man is exploitative towards nature.

Q4) Recently Andhra Pradesh Government decided to promote Zero budget natural farming (ZBNF) in the state. Discuss various components of ZBNF and its significance in mitigating the new challenges emerging due to global warming and climate change.

Zero Budget Natural Farming is an Andhra Pradesh state government initiative which is a successful project in agriculture. This project promotes natural farming without the use of any kind of fertilizers thus reducing the input cost and enhancing the soil fertility.

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Andhra Pradesh falls under the eastern region of India thus having little effect of South west monsoon winds. It is claimed to be the dry state and hence agricultural practices may be tiresome. So as an initiative Andhra Pradesh government projected natural farming. In natural farming, the farming is to be done as coordinating with the nature without the use of fertilizers or any enhancers that affect the fertility of the soil. Even the seed inoculum treatments can be done with the Cow dung or cow urine. One more thing is the yield seemed to be high than the usage of fertilizers and also healthy to eat.

Benefits of ZBNF Scheme:-

- i) The input cost for agriculture will reduce and the profit will be more.
- ii) By natural farming, the fertility of the soil will increase and the environment will be protected.
- iii) The yield and productivity will also be increased considerably.
- iv) The natural crops will be resilient in nature and adjust according to the climatic conditions.
- v) Through natural farming, the foods produced will also be free from chemicals.

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Q5, Indian agriculture needs to stop being "obsessed" with land productivity and instead start worrying about agricultural efficiency. Elucidate.

Indian agriculture decades ago from 1960's to 1990's saw a tremendous change in the pattern of agriculture. The main reason is the green revolution. The aim of green revolution is to provide food supply to all and to reduce the hunger. As a result rice and wheat were concentrated. Green revolution was a success. There are some benefits of green revolution.

Benefits of green revolution:-

- i, The productivity was increased and so the food supplied was increased thus eradicating the food hunger.
- ii, The extra lands are not used since the yield is more and hence the forests are protected.
- iii, Multiple cropping method was introduced. It means the land will be occupied throughout the year with multiple crops growing.
- iv, The use of fertilizers added extra nutrients to the soil, the pesticides prevented the pests and the herbicides killed the weeds.

By the green revolution process the land productivity increased. But the issue going on now is how efficient the agriculture is than the productivity.

Issues regarding the agricultural efficiency:-

It is claimed that even the low developing countries are more forward than India in agriculture.

In case of China more or less 50% they are forward. A study says India has 60% agricultural land and the second largest country in agricultural land. Even though the production is large the efficiency is low.

Some reasons are,

i, The use of chemical fertilizers, pesticides and herbicides. They affect the fertility of the soil and causes pollution thus leading to soil erosion. Also, the consumption is injurious to health.

ii, It was analysed that the farmers using pesticide and fertilizers have DNA damage problems and their drinking water contains more metals and chemicals which obviously leads to many health hazards.

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iii) Only certain crops are grown and the other crops are either grown in small amounts or not grown. For example, rice was grown in northwestern parts and now Punjab and Haryana produces more amount of rice which is alien to that soil.

iv) Lot of water gets wasted in the form of irrigation. The economical usage of water is still not efficient in India.

Thus, the productive phenomenon angle of the Indian agriculture must be stopped and should concentrate towards efficient usage of land and the crops enhancing the environment as it is nature friendly. The situation now is like to shift from food security to farmers' income security.

Q6) According to recent report released by NITI Aayog, India is heading towards unprecedented water catastrophe. Discuss the major risks associated with water crisis and how 'water budgeting' can help solve the crisis.

Earth is almost covered by water. But water suitable for drinking is only a negligible percent compared to the overall percent of water. The water is mainly used for agricultural purposes in irrigation and the government is try to sort out the availability of water in the form of ground water, natural resources and also to sort out the wastage of water.

In irrigation and farm practices. While states like Andhra Pradesh and Gujarat takes steps to conserve water efficiently still some states are low in performance. These are some data like in some metropolitan cities groundwater will run out in the upcoming years. This deficit is due to the ^{use} unwanted excess of water and there is no regulation to control this crisis. Another issue is the untreated water from industries and drains are entering the fresh water resources without any treatment.

The impact of this water crisis is the halt of farming industry causing massive unemployment leading to the loss in GDP and unable to feed the people. With the use of contaminated water serious health issues occur and the development of the country will be a question. Not only humans, the other wildlife species and birds will also be affected.

Counter measures for water crisis:

i) The effective use of the Rainwater harvesting method can recharge the groundwater and it increases the ground water availability.

ii) In Andhra Pradesh as a part of Zero Budget Natural Farming, the farm ponds are constructed near the farming field. The rainwater run off into

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it and can be used for the irrigation purposes

iii), The construction of check dams, the use of some equipments like percolation tanks and farm ponds can effectively control water wastage.

iv), The general awareness should be made to the people from the bottom level. Bottom level means the awareness should start from the children and therefore teaching the adults.

Q7) The process of development and evolution of landforms over the earth surface is systemic and is controlled by multiple factors. Analyse.

Each and every landform in earth has a history of development and changes through time. After weathering processes done their actions the waters on earth start their action in the form of erosion. After erosion, there will be deposition. These two process occurs again and again several times. This causes the changes in landforms of earth.

Each landform has its own physical shape, size and own components. The evolution is of two types one is the transformation of the landmass after formation. Another is the transformation of one landmass into another.

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The erosional part is called the destructional form and the depositional part is called the constuctional form. There are many forms of landforms depending on the folds, joints, faults, fractures etc.

The mountains, hills, plateaus and plains are the four major types of land forms. Tectonic plate movement in the earth can cause the pushing up of mountains and hills. Erosion also plays a main role in the formation of valleys. This may take a long period of time may be millions of years. The highest landform in the earth is Mount Everest. Landforms can also occur under the sea in the form of trenches. The deepest trench is Mariana trench.

The agents like wind and water forms the main geomorphical agents of land formation. The present Himalayas once cover the Tethys sea and due to the movement of tectonic plates they compressed to form Himalayan mountains. The valleys are formed due to the erosion of wind and water. Thus, there are different forms of landforms evolving from the past and still evolving and in future to the go.

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Q.3) The vision of doubling of farmer's income can be realised by establishing India as a hub for the global food processing industry. In the light of this statement, Discuss the scope for food processing industries in India and major challenges faced by the sector.

India has a vast agricultural resources alone creates a huge potential for investments in food processing industry. Food processing can be done in the way of canning, packaging, dairy and food processing, frozen foods and thermo processing industries.

The main motive for bringing food processing industries is to protect the agricultural products produced in abundance and to process them safe which could improve their shelf life and also wastage can be curbed a lot.

Government Initiatives in Food Processing:

i) The barriers have been reduced from reservation only to small scale industries to now even foreign investments are allowed with subsidies and low excise duties.

ii, new schemes like food parks and also the states are actively involving in reforms of the agricultural schemes to make food processing easier.

Benefits to People:

- i, Food Processing Industries provide more employment directly or indirectly acting as a bridge between agriculture sector & manufacturing sector.
- ii, The setup near rural areas can reduce the poverty, unemployment, transportation cost, rural-urban migration and avoid exploitation of farmers.
- iii, Not only concentrating on rice and wheat, other items like vegetables, fruits, poultry, goat, fish and meat can be enhanced thus leading to crop diversification and also farmers don't rely on same thing.

Obstacles in food Processing Industries:-

- i, Since food processing Industries are reserved for small scale only, there are poor economies of scale. High input costs also makes the process tedious.
- ii, The government schemes and subsidies have low ceilings on individuals making big plant impossible and harder to get bank loans.
- iii, Food processing laws are often inconsistent and court cases turn out to be more expensive for small entrepreneurs.
- iv, There are other challenges like high packaging cost, bribery problems, only dry food processing and less efficiency in cold storage.

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Q9) Discuss the growth and distribution of cotton textile industry in India and account for major challenges faced by the sector.

India is best known for its raw cotton and cotton products. The states of Gujarat, Maharashtra, Tamil Nadu contribute more in cotton production. Even before 3000 years India held monopoly in cotton textile production. During the time of British, the Indian industries could not survive because of the industrial revolution.

At present the cotton industry is the largest industry in India. There are many labours engaged in cotton production and the country's GDP is also dependant on cotton production. The cotton is produced in three ways mills, Powerlooms and Handlooms. Mills are the most dominated machine based while powerlooms plays a pivotal role in labour employment while handloom offers only manpower in which many labours are involved.

Now, the contribution of mills have been reduced drastically and the handlooms are contributing a lot. Several factors like raw cotton, transport and market plays a main role in establishing the cotton industry. The cotton industries and the cotton producing centres

Should be nearby. Such places include Nagpur, Indore, Coimbatore etc. Mumbai is also not far away from Gujarat and cotton producing regions of Maharashtra.

Problems of Cotton textile Industry:-

i, India has a large number of cotton mills but there is a scarcity of raw cotton as all the cotton fields separated to Pakistan due to partition. So, raw cotton is imported which makes more expenditure. To solve this, the hinterage should be expanded in cotton production.

ii, The usage of machines is age old. The machines in India are more than 30 years old while other countries are updating till now. Another problem is only 18-20% of mills are automated while some developed countries have 100% automation.

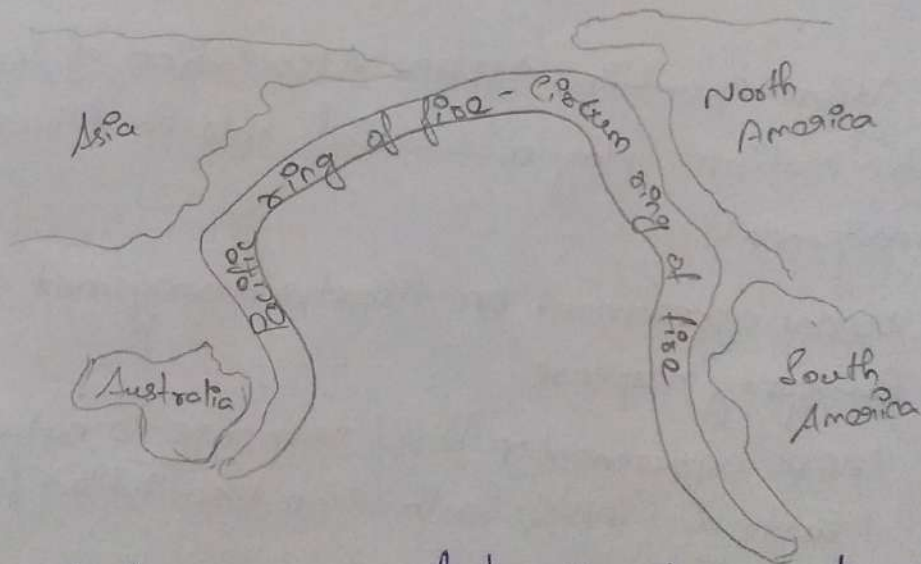
iii, The closing of mills due to low productivity. Many mills are taken and some mills have already been closed.

iv, The other factors also include the stiff competition from power loom and handloom industries and the frequent strikes between the labours also account for the delay in productivity.

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Q10) Why Asia Pacific is often in news for natural disasters like earthquakes and cyclones. Discuss the scope of political ^{cooperation for} mitigation of their impact.

The ring of fire is the area in the basin of the Pacific ocean where many earthquakes and volcanic eruptions occur. It is associated with a continuous series of trenches, volcanic belts. It has the world's most active and dormant volcanoes. It is also known as Circum Pacific belt.



The ring of fire is caused by the movement and collisions of tectonic plates. The Asian countries which are more prone to earthquakes are Russia, Japan, Philippines, Indonesia, New Zealand. These areas are always ~~in~~ exposing to earthquakes and natural disasters. The natural disasters can also cause the negative implications on the economy of the country and hinder the growth of the country.

Although some argue that the natural disasters can bring unity beyond borders it can be said that conflicts can arise between states in the scarce of natural resources. In case of high populated developing countries the impact will be more. Thus disaster recovering efforts should pay greater attention to the earthquake prone areas and political co-operation is also needed in this case.

In Asian countries, ASEAN Association of South East Asian Nations play a crucial role in disaster management.

- i, ASEAN agreement on disaster management and emergency response.
- ii, SAARC agreement on Rapid response to natural disasters. (SAARC - South Asian Association for Regional Co-operation)

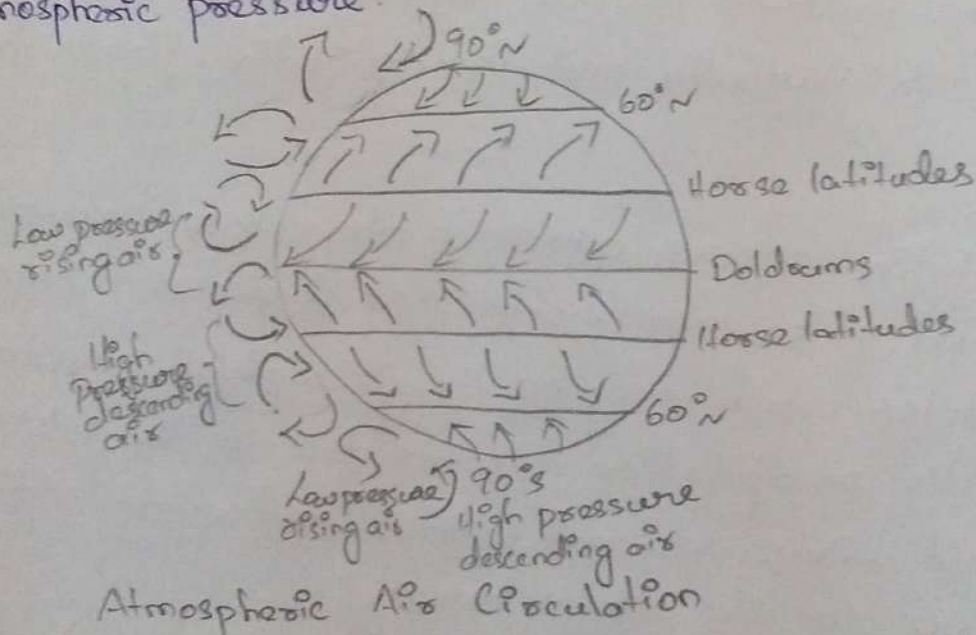
The above said are the binding regulatory actions on humanitarian grounds.

Some non-binding actions includes the United Nations resolution and also there are some voluntary organisations involved with code of conduct guidelines.

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Q11, Account for variations in general atmospheric circulation and its impact on global precipitation patterns.

The air circulation, climate and weather system depend on the distribution of temperature over the surface of the earth. Atmospheric circulation is the movement of air by which heat is distributed on the surface of the earth. It varies due to the variations in the atmospheric pressure.



Air expands when heated and gets compressed when cooled. This results in variations in atmospheric pressure. This causes the air to move from high pressure to low pressure region. Air in horizontal motion is called wind. The wind at the surface experiences friction. The rotation of the earth also affects the wind. This is known as Coriolis force.

Warming and cooling of Pacific ocean is important in general atmospheric circulation. The warm center of central Pacific ocean slowly drifts the Peruvian cold current. This is known as El Niño. This is accompanied by pressure change in central Pacific and Australia. This is called Southern Oscillation. The combined phenomenon is known as ENSO. By this the Southern America receive rainfall, drought occurs in Australia and also in India, floods in China.

Precipitation occurs when the atmosphere becomes saturated with water vapour and condenses to form precipitates which may be drizzles, rainfall, snow, hail etc. This precipitation happens due to the warm and cold winds, seasonal winds, local winds adding moisture to the atmosphere.

Some examples of the moisture bringing winds include South west monsoon winds which bring cool winds associated with the rainfall and causes precipitation.

Q12) Discuss the impact of global warming and climate change on distribution and availability of water resources and associated socioeconomic consequences.

Global warming also said as climate change is the rise in the average temperature of Earth. The influence of global warming is the emission of green house gases such as Carbon dioxide, methane due to human activities. The average temperature rise ranges from 1°C to 3°C after the 20th century.

Economically, there will be loss in the GDP of several tropical regions effected by the loss in agricultural sector due to over rising of temperature. In temperate regions, the productivity will generally increase but with more heating there will be issues. Drought and floods will occur as a result of decrease in agricultural productivity.

Water resources are also to be affected by global warming. The surface run off decreases in some tropical and sub-tropical areas

The waters stored in the form of glaciers and snow will also melt and decline in water resources will occur. The biological activity like algal blooms also increasingly grow in warm water which is risk to human health.

Socially, the human health will be stressed by the spread of infectious diseases. Due to the lack of food production malnutrition occurs and it is a threat to next generation.

Q13) "Global distribution of continents and oceanic basins is dynamic in nature". Explain the statement in the light of plate tectonics theory.

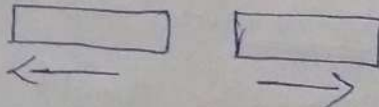
The distribution of continents and oceanic basins are dynamic or moving in nature. This can be proved by three theories. There are three theories like the continental drift theory, sea floor spreading and the plate tectonics theory.

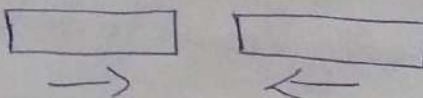
Plate tectonics theory was proposed by WJ Morgan based on continental drift theory and sea floor spreading theories.

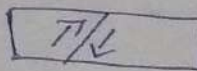
The crust and the upper mantle is divided into plates. Tectonics means the construction or building. The plates are involved in construction of different structures on earth. It may be mountains, trenches and so on. The theory of sea floor spreading conveys the movement of plates and convective cycles in asthenosphere.

The plates are floating on the asthenosphere. Earth is divided into major plates and minor plates. The plate with more continent and less ocean is continental plate which is lighter and the plate with more ocean and less plate is oceanic plate which is denser.

The interaction of plates leads to different structures.

i) Divergent movement - 

ii) Convergent movement - 

iii) Transform movement - 

H.J. Morgan said the world and structure was formed because of the plates. The volcano prediction and structure determination can be undergone through knowing about the boundaries and margins of the plates.

Q14) The intensity of landslides and mudflow has increased in himalayan and western ghats in last few decades. Explain the major reasons behind and suggest suitable mitigation measures to be taken to reverse the trend.

Landslides encompasses all varieties of mass movements consisting of different types of rockfall and debris flow. This occurs due to the slope down movement of surface material. These are suddenly occurring phenomena that cause loss of life, catastrophic damages like infrastructure and facilities. The himalayan area can be more prone to landslides.

The vulnerability in these geological unstable areas are due to the anthropogenic activities like construction works, expansion activities and deforestation process.

Measures to avoid landslides:

- i) Water infiltration should be prevented and thus land covering should be done with impermeable membranes.
- ii) The water sources should be directed away from the slopy areas.
- iii) The irrigation should be minimized in the soil near the landslide areas.
- iv) Afforestation process should be improved and thus the soil will be better.
- v) The foundations of buildings should be properly made near the bedrock.

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Q15) Account for strengths and weakness associated with various modes of transportation in India and discuss the socio economic and political significance of Bharatmala project.

India has three main sectors the agriculture, manufacturing and services sector. The former two sectors need distribution of goods. Therefore transportation process is significant. Since India has large land mass the transportation factor is crucial. The Bharat-mala project will connect the whole India for ease of doing business.

Significance of Bharat mala Project :

i) The union government announced to build more than 80,000 km of roads, highways, greenfield expressways and bridges by 2022 to increase the efficiency of movement of goods. It comes under the Bharat Mala Pari Yojana.

ii) Bharatmala will look to improve connectivity particularly on economic corridors and border areas for the quicker movement of cargo and boosting exports.

iii) This project also aims at consuming for about 10,000 kms in transportation.

iv, It also increases the speed of the vehicles and also decrease the logistics cost impacting exports and investment.

v, The project also aims at providing millions of jobs to people in constructing roads as a result there will be increased economic activity.

Q16) Urbanisation is a fact, a reality. What's the desirability of rapid urbanisation in India? Has Gandhi's vision of rural development lost its relevance in 21st century?

Urbanisation is the process by which towns and cities are formed and becomes extended for the ways to fit the people in. Socially it refers to the population shift from rural to urban residency.

Urbanisation in India began after the independence due to the mixed economic pattern. India conventionally an agrarian society backing on rural grounds transformed slowly to urbanisation.

After the globalization process at 1991, still the urbanisation process begins to flourish and now the major metropolitan areas in India include Delhi, Mumbai, Kolkata and Chennai.

Urbanisation can otherwise mean the development of industries. However, the industrial contribution to India is happening leaving behind the rural areas.

Mahatma Gandhi proposed three principles. It can be seen in Directive Principles of state policy in Indian Constitution. One of the principle is the development of rural areas. It means the villages should be safeguarded as such as it was. Many government policies should imply on developing villages.

But, the view is still in developing the urban areas again and again neglecting the rural areas and still more the rural areas are getting transformed to urban areas.

Q17) The term regionalism has negative connotations attached with it? Why it is so? Do you think nationalism is not possible with regionalism.

Regionalism definitely is negative to nationalism. Nationalism is an unified thought. We all belong to one. Region is a small part in the nation. If regionalism is promoted and enhanced

There is no part for nationalism there. The feelings tend to separate for the two. As the famous saying "There can't be two daggers in a single scabbard" regionalism and nationalism cannot collide. They ^{former} obviously act as a barrier to ~~one another~~.

India post-independence was divided into states based on linguistics. The culture also vary according to it. Since the country is divided based on languages, there is promotion of particular language and culture thus leading to regionalism. Regionalism should not be appreciated as it promotes separatism which shatters the work of our leaders in uniting India and bringing nationalism.

Q18) The age of demographic dividend has forgotten its elderly and children. Discuss the plight of elderly abandoned women and children who die due to government negligence in India. What are the provisions made for welfare of elderly population and children and analyse them.

In India the elderly people and children are being abandoned is often seen in news. Often

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abandoning the children near the dustbin or on the railway tracks. The elderly women are also abandoned by their children and left without home. These abandoned children are the victims of helpless parents and a burdened system that does not provide support to them.

Despite the law against abandonment, the number is rising day by day. While the Juvenile Justice Act is providing various provisions for abandoned children the awareness, is lacking. Of the total number of children, 70% are girls. Government is negligible in these cases and strict action should be involved.

The elderly women are also abandoned in streets or some old age homes and there are not enough funds in old age homes to look after the elderly persons. This is due to the nuclear families where family values get abandoned. This is definitely an injustice to women community and the 21st century which aims at women empowerment and development, these kind of things occur frequently. Instead of celebrating for past we must also be keen about the future of the country.

Q19) The age of imperialism may be over but scholars point towards a phenomenon called cultural imperialism. Is it a myth or reality? What are the possible implications and how to deal with them?

Imperialism refers to the creation of inequality between civilizations favouring the most powerful civilization. Cultural imperialism means the influence of one's culture over the other. Culture definitely involves history and also involves the post colonial era.

Cultural imperialism can be initiated and imposed by one usually dominant in politically and economically developed countries. They may influence their culture on the other parts of the world.

Culture means in the way of change in the customs, traditions, religion, language, social and moral norms leading to the devastation of one culture and the flourishing of the other.

The cultural imperialism did not rise to such importance till 1960's after that it emerged into play. But cultural imperialism can be seen throughout the history of the world.

The European civilization like the Greeks and Romans along with the political administration dominations also imposed their culture on others. Even at the 17th and 18th Century the great Britain kept more than half of the world under their control. They imposed their culture in the form of religion as a result India which is a home to Hinduism, Buddhism and Jainism now following Christianity.

The term imperialism in culture is not a myth but a reality. The world is still evolving and the powerful cultures are influencing as a result many cultures disappeared. This is a threat to developing nations and these nations should be careful about their cultural destruction in the form of invasion.

Q20) Discuss the Importance of Uniform Civil Code as *sine qua non* for secularism in India. Do you find oddity in the current scenario where the so called communal elements are front runners in demand of UCC?

Uniform Civil Code is that the Indian mandate to replace personal laws based on the customs of religious community in India. Uniform Civil Code applies a common set of rules governing every citizen.

Article 14 in directive principles of state policy expects to apply these policies. Apart from being a secular country and a fundamental right to religion, this is the most controversial thing in the constitution.

The issue mainly focusses on the Muslim Personal law, the sharia law permitting the unilateral divorce and allowing polygamy. The famous case is the Shah Bano Case. This case become the means of attacking the specific minority groups and its cultural identity.

This issue continues from the British period in the form of personal law but the British feared to enter into the communal line. The uniform civil code was put forward by the women of the country in case of Hindu remarriages & widow remarriage.

Above all women activists are arguing that this issue is their security and right rather than politicisation. Even though this issue may bring out communal clashes, the women must need their right and security in the country rather than being Hindu, Muslim, different caste and creed etc. Uniform Civil Code should be processed as soon as possible.