Geographical Perspective on Selected Issues and Problems

Objective Questions

• Multiple Choice Questions

1. Which of the following types of pollution is classified on the basis of medium?
(a) Air pollution (b) Water pollution
(c) Land pollution/degradation
(d) All of the above

Ans. (d)

2. Which of the following natural sources is responsible for water pollution?
(a) Landslides (b) Erosion
(c) Earthquake (d) Both (a) and (b)

Ans. (d) Natural sources which are responsible for water pollution are landslides, erosion, decay and decomposition of plants and animals, etc.

3. Which of these activities are the most significant contributor to water pollution?
(a) Households (b) Farms
(c) Industries (d) Tourism

Ans. (c) Industrial activities are the most significant contributor to water pollution.

4. Industries are source regions of which of the following pollutants?
(a) Polluted wastewater (b) Poisonous gases
(c) Chemical residuals (d) All of these

Ans. (d) Industries are source regions of polluted wastewater, poisonous gases and chemical residuals.

5. Which of the following rivers is highly polluted?
(a) Brahmaputra river (b) Godavari river
(c) Satluj river (d) Yamuna river

Ans. (d) Yamuna is a highly polluted river in India.

6. Which of the following is not a cause of air pollution?
(a) Combustion of fossil fuels (b) Mining activities
(c) Industries (d) Agricultural runoff

Ans. (d) Agricultural runoff is not a cause of air pollution. It is caused by water pollution.

7. Which of the following pairs is not correctly matched?

	Pollutants		Pollution
(a)	Hydro-Carbon	–	Water pollution
(b)	Carbon-monoxide	–	Air pollution
(c)	Alkalinity	–	Land pollution
(d)	Loudspeakers	–	Noise pollution

Ans. (a) Hydro-carbon is a pollutant of air pollution.

8. Which of the following pairs is not correctly matched?

	Sources of Water Pollution		Pollutants
(a)	Industrial sources	–	Sewage
(b)	Agricultural sources	–	Pesticides
(c)	Cultural activities	–	Tourism
(d)	Domestic sources	–	Dumping of garbage

Ans. (a) Industries are sources of a number of undesirable pollutants like industrial wastes, polluted wastewater, poisonous gases etc, which pollute water bodies when dispose into water.

9. Match the following columns

	Column I (Nature of Water Pollution)		Column II (Main Polluters)
A.	Industrial pollution in Ganga river	1.	Kanpur
B.	Domestic waste from urban centres	2.	Delhi
C.	Extraction of water from Yamuna river for irrigation	3.	Uttar Pradesh, Haryana
D.	Domestic and Industrial waste into Yamuna river	4.	Varanasi, Patna, Kolkata

Codes

	A	B	C	D			A	B	C	D
(a)	1	2	3	4		(b)	4	3	2	1
(c)	1	4	3	2		(d)	4	1	2	3

Ans. (c)

10. Match the following and choose the correct answer.

	List I (Pollution)		List II (Effects)
A.	Water Pollution	1.	Smog
B.	Air Pollution	2.	Alkalinity
C.	Land Pollution	3.	Diarrhoea
D.	Noise Pollution	4.	Hypertension

Codes

	A	B	C	D			A	B	C	D
(a)	1	2	3	4		(b)	2	3	1	4
(c)	3	2	1	4		(d)	1	3	2	4

Ans. (b)

11. Consider the following statements and choose the correct option.

I. Quality of water has degraded due to indiscriminate use of water.

II. In India population and industries are increasing day by day.

Options

(a) Only I is correct

(b) Only II is correct

(c) Both the statements are correct and statement II correctly explains the statement I.

(d) Both are incorrect.

Ans. (c) Quality of water has degraded due to indiscriminate use of water. It is due to the fact that population and industries are increasing day by day and thus, demand for water is also increasing.

12. Consider the following statements and choose the correct option.

I. Industries are the most significant contributors in pollution.

II. Industries are a source of a number of undesirable products including industrial wastes, chemical residual, polluted wastewater etc.

Options

(a) Only I is correct

(b) Only II is correct

(c) Both the statements are incorrect

(d) Both statements are correct and statement II correctly explains the statement I

Ans. (d) Industries are the most significant contributors in pollution. It is due to the fact that industries are a source of a number of undesirable products including industrial wastes, chemical residual, polluted wastewater etc.

13. Consider the following statements and choose the correct option.

I. The Union Government has launched the 'Namami Gange Programme'.

II. Due to high pollution in the river Ganga, it requires cleaning by controlling the pollution of its water.

Options

(a) Only I is correct

(b) Both I and II are correct

(c) Only II is correct

(d) Both are incorrect

Ans. (b) Both the statements I and II are correct.

14. Consider the following statements and choose the correct option for the same.

I. A visible cover of smoky fog over the cities called as urban smog is caused by air pollution.

II. The smog has a harmful effect on human health.

Options

(a) Only I is correct

(b) Both I and II are correct

(c) Only II is correct

(d) Both are incorrect

Ans. (b) Both the statements I and II are correct.

15. Arrange the following polluted stretches of Ganga and Yamuna rivers in sequence from North to South direction.

I. Mathura   II. Kanpur

III. Delhi   IV. Varanasi

Codes

(a) I, II, III, IV   (b) III, I, II, IV

(c) IV, I, II, III   (d) I, IV, III, II

Ans. (b) The correct sequence of polluted stretches of Ganga and Yamuna rivers from North to South direction is Delhi, Mathura, Kanpur and Varanasi.

● Case Based MCQs

16. Read the case/source given and answer the questions that follow by choosing the correct option.

Air pollution is taken as addition of contaminants, like dust, fumes, gas, fog, odour, smoke or vapour to the air in substantial proportion and duration that may be harmful to flora and fauna and to property. With increasing use of varieties of fuels as the source of energy, there is a marked increases in emission of toxic gases into the atmosphere resulting in the pollution of air. Combustion of fossil fuels, mining and industries are the main sources of air pollution. These processes release oxides of sulphur and nitrogen, hydrocarbons, carbon dioxide, carbon monoxide, lead and asbestos. Air pollution causes various diseases related to respiratory, nervous and circulatory systems.

Smoky fog over cities called as urban smog is caused by atmospheric pollution. It proves very harmful to human health. Air pollution can also cause acid rains. Rainwater analysis of urban environment has indicated that pH value of the first rain after summer is always lower than the subsequent rains.

(i) The contaminants which pollute our atmosphere are associated with which of the following?
(a) Fog   (b) Fumes
(c) Dust   (d) All of these

Ans. (d) The contaminants which pollute our atmosphere are associated with fog, fumes, dust, smoke, gas and so on.

(ii) Which of the following components is greatly affected by air pollution?
(a) Flora   (b) Fauna
(c) Buildings   (d) All of these

Ans. (d) Flora, fauna, buildings etc are greatly affected by air pollution.

(iii) Which of the following increases in the environment?
(a) Oxides of sulphur   (b) Nitrogen
(c) Carbon dioxide   (d) All of these

Ans. (d) Oxides of Sulphur, nitrogen, carbon dioxide, hydrocarbons, carbon monoxide, lead etc increase toxicity in the environment.

(iv) Air pollution is a phenomenon which is responsible for which of the following?
(a) Acid rain
(b) Urban smog
(c) Diseases related to circulatory systems
(d) All of the above

Ans. (d) Air pollution is a phenomenon which is responsible for acid rain, urban smog and diseases related to respiratory, nervous and circulatory systems.

17. Read the case/source given and answer the questions that follows by choosing the correct option.

The pressure on agricultural land increases not only due to the limited availability but also deterioration of quality of agricultural land. Soil erosion, waterlogging, salinisation and alkalinisation of land lead to land degradation. What happen if land is consistently used without managing its fertility? Land is degraded and productivity declines. Land degradation is generally understood either as a temporary or a permanent decline in productive capacity of the land.

Though all degraded land may not be wasteland, but unchecked process of degradation may lead to the conversion to wasteland.

There are two processes that induce land degradation. These are natural and created by human beings. National Remote Sensing Centre (NRSC) has classified wastelands by using remote sensing techniques and it is possible to categorise these wastelands according to the processes that have created them. There are a few types of wastelands such as gullied/ravinous land, desertic or coastal sands, barren rocky areas, steep sloping land, and glacial areas, which are primarily caused by natural agents. There are other types of degraded land such as water logged and marshy areas, land affected by salinity and alkalinity and land with or without scrub, which have largely been caused by natural as well as human factors.

(i) Which of the following is not a root cause of land degradation?
(a) Water logging
(b) Salinisation
(c) Alkalinisation
(d) Afforestation

Ans. (d) Afforestation is not a root cause of land degradation.

(ii) Gullied/ravine land is a type of wasteland. It is mainly found in which of the following states of India?
(a) Madhya Pradesh
(b) Karnataka
(c) West Bengal
(d) Uttar Pradesh

Ans. (a) Gullied/ravine is mainly found in Madhya Pradesh.

(iii) Which of the following wastelands is formed by both natural and human factors?
(a) Water logged lands
(b) Marshy areas
(c) Land with or without scrub
(d) All of the above

Ans. (d) All the given lands are the wastelands which are formed by both natural and human factors.

(iv) Which of the following wastelands is associated with major economic activities?
(a) Degrated land under plantation crops
(b) Mining wastelands
(c) Industrial wasteland
(d) All of the above

Ans. (d) All the given wastelands are associated with major economic activities.

Subjective Questions

• Short Answer (SA) Type Questions

1. How is environmental pollution caused? Mention the four types of pollution responsible for the environmental degradation. **(Delhi 2015)**

Ans. Pollution of environment is caused by the release of unwanted substances from waste products of human activities. Pollution of environment is the introduction of pollutants that can cause damage to environment and harm to humans or other living species. It is the addition of an undesirable substance or form of energy to the environment at a rate faster than the environment can accommodate it by dispersion, breakdown, recycling etc.

The four types of pollution which are responsible for the environmental degradation are

(i) Water pollution (ii) Air pollution
(iii) Land pollution (iv) Noise pollution

2. How do human beings pollute the water through industrial and agricultural activities? **(All India 2019)**

Or How do industries pollute India's water bodies? Explain with examples. **(Delhi 2015)**

Ans. Human beings pollute India's water bodies through industrial and agricultural activities in the following ways

- Wastewater, poisonous gases, chemical residuals, numerous heavy metals, nitrate and nitrites, chloride, flourides, insecticides, pesticides etc. from industries contribute to water pollution.
- Not all industries have treatment facilities for industrial affluents. Small scale industries cannot afford high investments in pollution control equipment. Thus, these industries release untreated wastewater into the rivers which pollutes them.
- Various type of chemicals that are used in modern agriculture are also pollution generating compounds. For example, inorganic fertilisers, herbicides, etc. These chemicals also infiltrate the soil to reach the groundwater.

3. State the main pollutants that are involved in water pollution.

Ans. Main pollutants which are involved in water pollution are

- Odour, dissolved and suspended solids discharged by industries.
- Ammonia and urea discharged by agricultural activities.
- Nitrate and nitrites caused by industrial activities.
- Chloride, fluoride, carbonates oil and grease discharged by industries.
- Insecticide and pesticide residue discharged by agricultural activities.

- Tannin, coliform MPM (bacterial count) sulphates and sulphides.
- Heavy metals e.g., lead, arsenic, mercury, manganese discharged by industries which disturbs aquatic life badly.
- Radioactive substances discharged by thermal and atomic power plants.

4. What is the difference between pollution and pollutants?

Ans. Differences between pollution and pollutants are

Pollution	Pollutants
Pollution is nothing but the addition of undesirable and harmful elements in our environment in large amount over a long period of time.	Pollutants are those elements that deteriorate the quality of land, air or water by getting mixed with it.
Pollution changes the physical, chemical or biological characteristics of air, land and water that is undesirable and affects human life adversely.	Pollutants occur on land, in air or water in the form of gases, solids or liquids.
Types of pollution are air, water, land, etc.	Examples of pollutants are radioactive elements, carbon monoxide, solid waste, etc.

5. The Ganga and Yamuna rivers are among the most polluted rivers in India. State the sources of pollution of these rivers and also mention their polluted stretches.

Ans. The Ganga and Yamuna rivers are among the most polluted rivers in India.

Sources of pollution of Ganga river are
- Industrial pollution from towns like Kanpur.
- Domestic wastes from urban centres.
- Dumping of carcasses (dead body) in the river.

Polluted Stretches of the Ganga River Downstream of Kanpur, downstream of Varanasi, Farakka Barrage.
Sources of pollution in the Yamuna river are
- Extraction of water by Haryana and Uttar Pradesh for irrigation.
- Agricultural runoff resulting in high levels of micro pollutants into the Yamuna.
- Domestic and industrial waste of Delhi flowing into the river.

Polluted Stretches of the Yamuna River Delhi to confluence with Chambal, Mathura and Agra.

6. Define the term air pollution. Explain any two harmful effects of air pollution. **(Delhi 2015)**

Or Explain any three consequences of air pollution. **(All India 2015)**

Or What are the effects of air pollution on human health? **(NCERT)**

Ans. A larger proportion of pollutants like dust fumes, gas, fog, odour, smoke or vapour in air for a long duration is known as air pollution.

The harmful effects or consequences of air pollution are

- Air pollution is responsible for many diseases that cause harm to our respiratory, nervous and circulatory systems.
- Air pollution is responsible for creating smoky fog over cities which is known as urban smog. It also has negative effects on human health.
- Air pollution is also responsible for acid rains. First rain after summers in urban areas is relatively acidic in nature i.e. it shows lower pH level than the subsequent rains.
- Air pollution may be harmful to flora and fauna and to property.

7. Land degradation caused by human made processes are more harmful than natural processes in India. Analyse the statement with suitable examples.

Ans. Land degradation caused by human processes is more harmful than natural processes in India. Land degradation is generally understood either as a temporary or a permanent decline in productive capacity of the land.

Land is constantly used without managing its fertility, it is degraded and its productivity declines. Deforestation, overgrazing, mining and quarrying too are responsible for land degradation in India.

Man-made degraded wastelands such as degraded shifting cultivation areas, degraded land under plantation crops, degraded forest, mining and industrial wasteland are 5.8% of the total geographical area of the country.

In states such as Jharkhand, Chhattisgarh, Madhya Pradesh and Odisha, deforestation due to mining has caused severe land degradation.

In states such as Gujarat, Rajasthan, Madhya Pradesh and Maharashtra, overgrazing is one of the main reasons for land degradation.

8. Why is the urban waste disposal a serious problem in India? Explain any three problems. **(Delhi 2014)**

Or Analyse three problems arising as a result of urban waste disposal. **(Delhi 2013)**

Ans. Three major problems associated with urban waste disposal in India are

(i) Solid wastes are threat to human health and can cause various diseases. It creates foul smell and it harbours flies and rodents that can cause typhoid, diphtheria, diarrhoea, malaria, cholera and other diseases.

(ii) Solid waste can create inconvenience rapidly if they are not properly handled. Pollutants can spread through rainwater or wind and can cause further problems.

(iii) Industrial solid waste can cause water pollution if it dumped into water bodies. Rivers in which untreated sewage is dumped also results into various health problems.

9. How does migration affect the environment?

Ans. Migration affect or alter the environment in many places whether it is place of destination where a person wants to go to or the place of origin where a person belongs to. Researches from many locations have shown that deforestation and land degradation may occur in destination areas due to migration and alteration of land use patterns by the migrants.

For example, they build new houses by clearing vegetation or forest cover and use water resources and also discharge households and industrial wastes into water.

Displaced people due to conflict lack the most basic necessities and rely on natural resources for their survival. Unsustainable use of natural resources can lead to environmental degradation. Due to large number of migrants, pollutants are released in the environment at large scale in the form of air, water, land and noise pollutions.

10. What is migration? Which factors are responsible for migration? State in brief.

Ans. Movement of people from one place to another is called migration.

Factors which are responsible for migration are

- High demand for labour in urban areas.
- Low job opportunities in rural area.
- Unbalanced pattern of development between urban and rural area.
- Poor people usually prefer to settle in mega cities for their livelihood. The reason for this is that smaller and medium cities and directly come to mega-cities for their livelihood.

11. How can we improve the condition of slum dwellers?

Ans. The condition of slum dwellers can be improved with the help of the government by setting aims such as

- To improve the quality of life of poor people by providing access to clean water, improved sanitation and waste management services, and supporting secure land tenure and affordable housing.
- To strengthen the capacity of local people and their institutions to engage with local authorities and other service providers for the sustainable provision of basic services.
- To support income generation activities and community managed savings and credit schemes that enable households, to secure funds for the improvement of basic facilities.

• Long Answer (LA) Type Questions

1. What measures can be used to minimise air pollution?

Ans. Some of the measures to minimise and control air pollution are
- Old automobiles should be replaced by new ones which should be redesigned in such a way that their emission cause minimum pollution.
- As coal produces poisonous gases that are released into the air, so electric engines should be used instead of steam or diesel engines.
- Industrial areas should be located at a safe distance from the residential areas.
- Newly designed smoke free furnaces should be used.
- Forest fires should be checked. Adequate preventive measures should be adopted to protect the forests.
- In industries, there should be the arrangement for pollution control.
- Replace conventional energy sources with the renewable or non-conventional energy sources. It is due to the reason that, non-convetional energy sources produces less smoke during combustion and are eco-friendly as compared to conventional energy sources.
- Cheap devices for controlling air pollution should be developed.
- Air pollution can be checked only through the joint efforts of the government, non-government organisations and the general public.

2. What is noise pollution? Explain any four sources of noise. **(All India 2015)**

Or Describe three main sources of noise pollution in India. **(All India 2010)**

Ans. Noise pollution refers to a noise that causes a condition which is unbearable and uncomfortable to human beings. The sources of noise pollution are
- (*i*) Factories, mechanised construction and demolition works, aircrafts, automobiles loudspeaker, siren, etc.
- (*ii*) Noise produced by traffic is a major source of noise pollution. It creates a huge inconvenience to the people. Intensity and nature of noise made by traffic is dependent on various factors such as type of vehicle, (aircraft, train, etc.) condition of road and condition of vehicle (in case of automobiles).
- (*iii*) In sea traffic, the noise pollution is limited to the harbour because of loading and unloading activities of containers.
- (*iv*) Noise pollution from industries is also a serious problem, but its intensity varies because of some factors such as types of industry, types of machines and tools, etc.

3. Explain how noise pollution has become hazardous in many big cities of India?

Ans. Noise pollution has become hazardous in many big cities of India such as Delhi and Mumbai in the following ways
- With the increase in population, the volume of traffic and passengers has increased. This has led to more noise pollution due to vehicular noise.
- More people have become prosperous in the cities. As a result of this, the number of private vehicles such as cars have increased significantly.
  This has led to traffic jams during peak hours i.e. in the morning and in the evening when people go to and come from their work places. This has increased noise pollution on the roads.
- Rapid industrialisation in and around the residential colonies has also increased noise pollution due to operation of machinery. Small and cottage industries are operate in the areas near the markets.
- Construction activities have increased to accommodate the ever increasing population in the big cities. These activities generated too much noise.
- Religious activities, social functions, rallies, etc., create noise pollution particularly in the late hours of the day.

4. How can we control noise pollution? Suggest some measures.

Ans. Noise pollution can be effectively controlled in the following ways
- **Suppression of Noise at Source** This is possible if working methods are improved by
  - Designing and fabricating quieter machines to replace the noisy ones.
  - Proper lubrication and better maintenance of machines.
  - Installing noisy machines in sound proof chambers.
  - Covering noise producing machine parts with sound absorbing materials to check noise pollution.
  - Using silencers to control noise from automobiles, ducts, exhausts etc.
- **Planting of Trees** Planting green trees and shrubs along roads, hospitals, educational institutions, etc. help in noise reduction to a considerable extent.
- **Legislative Measures** Strict legislative measures need to be enforced to control the noise pollution such as
  - Minimum use of loudspeakers and amplifiers especially near silent zones.
  - Banning pressure horns in automobiles.
  - Framing a separate Noise Pollution Act.
- **Strict Enforcement** The government agencies should strictly enforce the law to curb noise pollution and impose penalties for violation. Apart from these measures, ear plugs, ear muffs, etc can be provided to reduce exposure to noise pollution.

5. Suggest measures for reduction of land degradation.
(**NCERT**)

Ans. Some measures for reduction of land degradation are

- **Treatment of Industrial Wastewater** Industrial wastewater should be treated properly before discharging into rivers as this river water when used for irrigation may cause land pollution because the toxic elements present in the river water may infiltrate into the soil. After proper treatment, this water can also be used for irrigation.

- **Convert Wastes into Resource** Wastes generated from households and industries should be treated as resource and utilised for generating energy and compost. If this waste is not treated properly and dumped on the land, land gets degraded.

- **Improve Sanitary Conditions** Sanitary conditions can be improved by providing *sulabh shauchalayas* (toilet facilities) in slums and other areas where there is absence of these facilities. Thus, we can minimise land degradation in such areas.

- **Watershed Management Programmes** These programmes acknowledge the linkage between land, water and vegetation and attempts to improve livelihoods of people through natural resource management and community participation. These are helpful in preventing land degradation and improving soil quality.

- **Joint Participation of Community and Government** There is an urgent need for joint participation of both government and community for reduction of land degradation.

6. Describe the problem of slums in India. (**NCERT**)

Or How do slums develop in India? Explain any four miserable conditions of the residents of slums areas.
(**All India 2010**)

Ans. Slums are those area/colonies which develop when migrants were forced to migrate from the rural areas to urban areas/centres in search of livelihood but due to high rent and high cost of land, they could not afford proper housing. Thus, they are forced to live in slums.

Problems of slums in India are

- Slums are environmentally incompatible and degraded areas.

- Slums have dilapidated (broken-down) houses where people are forced to live due to poverty or lesser income.

- People of slums face poor hygenic conditions. Thus, they are prone to many diseases and illness.

- The houses in slums have poor ventilation. So, people residing there face suffocation problems.

- Slums have substandard housing or illegal and inadequate building structures.

- Slums are overcrowed having narrow street pattern which is prone to serious hazards, e.g. Fire hazards because of congested spaces, which increase the chances of its spread.

- Slums lack in basic amenities like drinking water, light and toilet facilities.

- They are marked by unregulated drainage system and open defecation.

- Besides this, most of the slum dwellers engage in low-paid, high risk-prone unorganised sectors of the urban economy. Because of such situation they are undernourished, prone to different types of illness.

- Due to poverty, slum dwellers are unable to give proper education to their children.

- Poverty has also made slum people vulnerable to drug abuse, alcoholism, crime, vandalism, escapism, apathy and ultimately social exclusion.

• Case Based Questions

1. Read the case/source given and answer the following questions.

Indiscriminate use of water by increasing population and industrial expansion has led degradation of the quality of water considerably. Surface water available from rivers, canals, lakes, etc. is never pure.

It contains small quantities of suspended particles, organic and inorganic substances. When concentration of these substances increases, the water becomes polluted, and hence becomes unfit for use. In such a situation, the self-purifying capacity of water is unable to purify the water. Though water pollutants are also created from natural sources (erosion, landslides, decay and decomposition of plants and animals, etc.) pollutants from human activities are the real causes of concern.

Human beings pollute the water through industrial, agricultural and cultural activities. Among these activities, industry is the most significant contributor. Industries produce several undesirable products including industrial wastes, polluted waste water, poisonous gases, chemical residuals, numerous heavy metals, dust, smoke, etc. Most of the industrial wastes are disposed off in running water or lakes. Consequently, poisonous elements reach the reservoirs, rivers and other water bodies, which destroy the bio-system of these waters.

Major water polluting industries are leather, pulp and paper, textiles and chemicals. Various types of chemicals used in modern agriculture such as inorganic fertilisers, pesticides and herbicides are also pollution generating components. These chemicals are washed down to rivers, lakes and tanks. These chemicals also infiltrate the soil to reach the ground water.

(i) Which is the most responsible reason for the decreasing the quality of water?

Ans. Indiscriminate use of water by increasing population and industrial expansion has led to decrease in the quality of water considerably.

(ii) What makes industries the major polluter of water bodies in India? Give examples of these industries.

Ans. Industries are one of the major polluters of water bodies in India as these are the source of a number of undesirable products including industrial wastes, polluted wastewater, poisonous gases, chemical residuals etc.

Examples of major water polluting industries are leather industry, pulp and paper industry, textile and chemical industries etc.

(iii) How modern agricultural practices have become a major cause of water pollution in India? Explain in brief.

Ans. Modern agricultural practices have become a major cause of water pollution in India due to the fact that agriculture has modernised with the use of various types of chemical fertilisers like inorganic fertilisers, pesticides and herbicides, etc. These pollutants are washed down to rivers, lakes, tanks and pollute them. These harmful chemicals also infiltrate the soil from where they reach the groundwater.

2. Read the case/source given and answer the following questions.

Based on the universal law "Polluter pays", effort to restore the ecology and safeguard the human health with people's participation has taken place in Daurala near Meerut. These efforts are now bearing fruits after a span of three years when Meerut based NGO had developed a model for ecological restoration. The meeting of the Daurala Industries officials, NGOs, Government officials and other stakeholders at Meerut has brought out results. The powerful logics, authentic studies and the pressure of people have brought a new lease of life to the twelve thousand residents of this village. It was in the year 2003 that the pitiable condition of Dauralaites drew the attention of the civil society.

The groundwater of this village was contaminated with heavy metals. The reason was that the untreated wastewater of Daurala industries was leaching to the groundwater table. The NGO conducted a door to door survey of the health status of the residents and came out with a report.

The organisation, the village community and people's representatives sat together to find out sustainable solutions to the health problem. The industrialists showed a keen interest towards checking the deteriorating ecology. The overhead water tank's capacity in the village was enhanced and a 900m extra pipeline was laid to supply potable water to the community.

The silted pond of the village was cleaned and recharged by desilting it. Large quantity of silt was removed paving way to large quantity of water so that it recharged the aquifers. Rainwater harvesting structures have been constructed at different places which has helped in diluting the contaminants of the groundwater after the monsoons. 1000 trees have also been planted which have improved the environment.

(i) On what basis people of Daurala took initiative to restore the ecology and safeguard the human health in the region?

Ans. People of Daurala took initiatives to restore the ecology and safeguard the human health on the basis of the universal law 'Polluter pays'.

(ii) What was the major problem of Daurala village? Who put their efforts to overcome this problem?

Ans. The major problem of Daurala village was that Daurala sites were suffering from contaminated groundwater with heavy metals in the year 2003. Its main reason was that the untreated wastewater of Daurala industries was leaching to the groundwater table.

It was a collective participation of Daurala industries officials, NGOs, Government officials, other stateholders, their powerful logics, authentic studies and people of the village who put their efforts to overcome this problem.

(iii) A numbers of measures were taken to improve the condition of Daurala. State any two such measures.

Ans. The measures taken to improve the condition of Daurala are

   (i) The overhead water tank's capacity in the village was enhanced and a 900 metres extra pipeline was laid to supply potable water to the community.

   (ii) Large quantity of silt was removed from the pond which paved the way to large quantity water so that it recharged the aquifers.

3. Read the case/source given and answer the following questions.

Dharavi–Asia's Largest Slum "…. Buses merely skirt the periphery. Autorickshaws cannot go there, Dharavi is part of central Bombay where three wheelers are banned. Only one main road traverses the slum, the miscalled 'ninety-foot road', which has been reduced to less than half of that for most of its length.

Some of the side alleys and lanes are so narrow that not even a bicycle can pass. The whole neighbourhood consists of temporary buildings, two or three storeyed high with rusty iron stairways to the upper part, where a single room is rented by a whole family, sometimes accommodating twelve or more people; it is a kind of tropical version of the industrial dwelling of Victorian London's East End.

But Dharavi is a keeper of more sombre secrets than the revulsion it inspires in the rich; a revulsion, moreover, that is, in direct proportion to the role it serves in the creation of the wealth of Bombay.

In this place of shadowless, treeless sunlight, uncollected garbage, stagnant pools of foul water, where the only non-human creatures are the shining black crows and long grey rats, some of the most beautiful, valuable and useful articles in India are made. From Dharavi come delicate ceramics and pottery, exquisite embroidery and zari work, sophisticated leather goods, high-fashion garments, finely-wrought metalwork, delicate jewellery settings, wood carvings and furniture that would find its way into the richest houses, both in India and abroad… Dharavi was an arm of the sea that was filled by waste, largely produced by the people who have come to live there: Scheduled Castes and poor Muslims. It comprises rambling buildings of corrugated metal, 20 metres high in places, used for the treatment of hides and tanning. There are pleasant parts, but rotting garbage is everywhere…"

(i) Why are three wheelers banned in Dharavi?

Ans. Three wheelers are banned in Dharavi becasue some of the side alleys and lanes are so narrow in Dharavi that not even a bicycle can pass.

(ii) Dharavi slum dwellers live in which type of colony? State their conditions.

Ans. Dharavi slum is a residential area of least choice where people live in the following conditions
  - Dilapidated (broken-down) houses. For example, temporary buildings, two or three storeyed high with rusty iron stairways to the upper part, where a single room is rented by a whole family.
  - It is a place of shadowless, treeless sunlight, uncollected garbage and stagnant pools of foul water.

(iii) Despite of being a slum with least choice, Dharavi is a place where a number of valuable articles are manufactured. Explain in brief.

Ans. It is true that despite of being a slum with least choice, Dharavi is a place where a number of valuable articles are manufactured. For example, people of Dharavi manufacture a many articles like dilicate ceramics and pottery, exquisite embroidery and zari work, sophisticated leather goods, high-fashion garments, finely-wrought metalwork, delicate jewellery settings, wood carvings and furniture. These articles are sold in both Indian and abroad.

Chapter Test

Objective Questions

1. Which of the following is/are consequences of water pollution?
    (a) Rivers are contaiminated   (b) Water-borne diseases
    (c) Degrading quality of groundwater   (d) All of these

2. Noise pollution is location specific and its .... declines with distances.
    (a) quality   (b) intensity
    (c) pitch   (d) frequency

3. Slums in India suffer from which of the following problems?
    (a) Lack of basic amenities   (b) Over crowded streets
    (c) Unregulated drainage system   (d) All of these

4. Which of the following is/are the pollutants of water?
   I. Oil and grease
   II. Insecticides and pesticides
   III. Heavy metals
    Codes
    (a) I and II   (b) I, II and III
    (c) II and III   (d) I and III

5. Consider the following statements and choose the correct option
   I. Poor people usally prefer to settle in mega cities for their livelihood.
   II. Mega cities provide good opportunities for their livelihood.
    Codes
    (a) Only I is correct   (b) Only II is correct
    (c) Both statements are correct   (d) Both statements are incorrect

Short Answer Type Questions

6. What do you understand by noise pollution? Also state its main sources.

7. Describe the effects and measures for air pollution.

8. State the nature of pollution and polluted stretches of the rivers Ganga and Yamuna.

9. What contribution can you give to control the pollution in your locality?

10. What role can we play to uplift the living standard of slum dwellers?

11. Analyse the main problems caused by urban waste disposal.

Long Answer Type Questions

12. Noise pollution is an emerging problem today. Suggest some measures to reduce its effects.

13. How trends of urbanisation by 2050 is going to pressurise the spatial infrastructure and resources of cities? Explain in brief.

14. Explain some methods of reducing land degradation with examples.

15. What are the problems of slums in India? Explain briefly.

Answers

1. (d) All of these   **2.** (b) intensity   **3.** (d) All of these   **4.** (b) I, II and III
5. (c) Both statements are correct