

4. ENVIRONMENT AND ETHICS

The Prayer "Sarvatra Sukhinah Santu Sarve Santu Niramayah;" 'Let all be happy here and let all enjoy full health' of Vedic Sages echoed universal welfare.

Gandhiji said "There's enough on this planet for everyone's needs but not for everyone's greed."

Industrial and technological development has provided us with material prosperity but has also created unique environmental threats to us and to future generations.

The extent of the environmental damage produced by present generation and projected industrial technology in future makes one wonder how long this kind of development would be sustainable. ^(=maintained)

Q.No.1. What is meant by 'Sustainable Development'? State the special responsibilities of the industries that are based on natural resources. How the adoption of Green Accounting System helps in avoiding policy decisions which are non-sustainable for the country? (Or)

The Industries that are based on natural resources, like minerals, timber, fiber and foodstuffs, have some special responsibility for making "environment-friendly products". Examine this statement and also explain in brief the concept of Green Accounting System. (A) (PM, M07 - 5M, N12 - 2.5M, M15 - 4M, M16 - 5M)

SUSTAINABLE DEVELOPMENT: The concept of sustainable ^(=continue, maintain) development was brought into focus by Brundtland Report, which stated that economic growth has to be environmentally sustainable. Literally sustainable development refers to maintaining development over time.

- It may be defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- A nation or society should satisfy its requirements – social, economic and others – without jeopardizing ^(= putting into risk) the interests of future generations.

SPECIAL RESPONSIBILITIES OF INDUSTRIES BASED ON NATURAL RESOURCES:

Industries that are based on natural resources, like minerals, timber, fibre, and foodstuffs etc. have a special responsibility for:

- Adopting practices that have built - in environmental consideration.
- Introducing processes that minimize the use of natural resources and energy, reduce waste and prevent pollution.
- Making products that are '**environment - friendly**', with minimum adverse impact on people and ecosystem.

GREEN ACCOUNTING SYSTEM:

- Conventional accounts may result in policy decisions which are non-sustainable for the country. On the other hand **Green accounting** focuses on addressing such deficiencies.
- If the environmental costs are charged in the prices paid for goods and services then companies and ultimately the consumer would change market behaviour in a way that would reduce damage to environment, pollution and waste production.
- Such measures would facilitate the approach of '**polluter pays principle**'.
- Removing subsidies that encourage environmental damage is another measure.
- If public opinion moves towards accountable socio-economic structures then ethical and eco - friendly business practices will become a standard corporate norm.

SIMILAR QUESTIONS:

1. How Green accounting system is helpful for sustainable development?
- A. Refer the Green accounting system side heading in the above question.

Q.No.2. Write short note on 'Business and Environment Ethics'. (C) (PM)

1. Few decades ago, the corporate world, which was engaged in the use of natural resources or environmental services was mainly concerned with good business only, in economic sense. (= in monetary terms)
2. Concern for environment and resource depletion was not on their agenda (= plan). But now, due to various global changes, the focus has turned to environmental ethics.
3. Environmental ethics is a larger issue that concerns ethical behaviour of all types of organisations ranging from International bodies, national governments, opinion makers, media, Intelligentsia (= thinkers), public and private enterprises and NGOs.
4. In India many companies have come to realize that ethical practices make good business sense especially the organizations engaged in exports.

**Q.No.3. Write about main forms of Pollution and Resource Depletion. (A)
(N07 - 5M, N08 - 2.5M, N15 - 4M)**

POLLUTION: It refers to the undesirable and unintended contamination of the environment by the manufacture or use of commodities.

RESOURCE DEPLETION: It refers to the consumption of finite or scarce resources. In a certain sense, pollution is also a type of resource depletion because contamination of air, water, or land diminishes their beneficial qualities.

MAIN FORMS OF POLLUTION:**1. Air pollution:**

- a) Air pollution has increased exponentially as industrialization expanded.
- b) The most prevalent forms of air pollution are the gases and particulates spewed out (=sent out) by autos and industrial processes.

2. Global warming:

- a) The industrial and other human activities have released substantially more greenhouse gases into the atmosphere raising temperatures around the globe.
- b) The increase in levels of greenhouse gases need to be reduced by 60 to 70 percent. But, that much amount of reduction would seriously damage the economies of the world.

3. Ozone depletion:

- a) A layer of ozone in the lower stratosphere screens (=protects) all life on earth from harmful ultraviolet radiation.
- b) This ozone layer, however, is destroyed by CFC gases, which have been used in aerosol cans, refrigerators, air conditioners, industrial solvents, and industrial foam blow across the seas.

4. Acid rain:

- a) Like global warming, acid rain is a threat to the environment that is closely related to the combustion (=burning) of fossil fuels (oil, coal, and natural gas).
- b) When these gases are carried into the air, nitric acid and sulphuric acid are formed. These acids are then carried down in rain.

5. Water pollution:

- a) Although water is essential to human life as well as to industrial growth and development, the world's per capita supplies of water are shrinking, number of factors have contributed to this.
- b) An increase in population and economic activity particularly in urban areas has resulted in increased demands for water and water pollution.

6. Land pollution:

- a) People living in cities produce tons of solid wastes every year.
- b) City garbage dumps are significant sources of pollution, containing toxic (=poisonous) substances such as cadmium (from rechargeable batteries), mercury, lead etc.,

7. Depletion of fossil fuels:

- a) Fossil fuels depletion at an exponentially rising rate results in the loss of forest habitats.
- b) Combined with the effects of pollution it has led to the extinction of a phenomenal (=extra ordinary) number of species and the danger of many existing species disappearing forever.

Q.No.4. Write a short note on ozone layer depletion. (Or) Depletion of ozone layer will have adverse effects on human beings and not on vegetation - comment. (C)
(PM, N 07 - 5M, M 08 - 2.5M)

1. **OZONE LAYER:** A layer of Ozone is present in the lower stratosphere. It filters the sunrays and prevents Ultra Violet rays and Infra red rays from reaching the surface of the earth.
2. **OZONE LAYER DEPLETION:** This layer is destroyed by the CFC gases. These gases are used in Refrigerators, Air-Conditioners, and Industrial Solvents etc.
3. **EFFECTS:**
 - a) Depletion of Ozone layer allows UV rays and IR rays to reach the Earth.
 - b) This raises the rate of skin cancer cases, through out the world.
 - c) About 75% of the major crops of the world are sensitive to UV rays. All these crops will be damaged.
4. **MEASURES:**
 - a) But ozone depletion has been minimized with adoption of Vienna Convention on ozone depletion in the year 1985 and Montreal Protocol on substances that deplete the ozone layer in the year 1989.
 - b) India has signed this Protocol.



Q.No.5. What do you understand by the term “Acid Rain”? How does it adversely affect the environment? (B)
(PM, N07 - 5M, M14 - 4M)

1. Like a Global Warming, “Acid Rain” is a threat to the environment that is closely related to the combustion of fossil fuels (oil, coal and natural gases). They are heavily used by utilities to produce electricity.
2. Burning fossil fuels, particularly coal, containing high levels of sulphur, releases large quantities of sulphur oxides and nitrogen oxides into the atmosphere. When these gases are carried into the air, they combine with water vapour in clouds to form nitric acid and sulphuric acid.

3. These acids are then carried down in rain, which often falls hundreds of miles away from the original sources of the oxides raising the acidity of the water sources.
4. *Numerous studies have shown that many fish populations and other aquatic organisms are unable to survive in lakes and rivers that have become highly acidic due to acid rain.*
5. *Other studies have shown that acid rain directly damages forests and indirectly destroys the wildlife and species that depend on forests for food and breeding.*
6. *Acidic rain water can also contaminate drinking water.*
7. *Acid rain can corrode^(=rust, decay) and damage buildings, statues and other objects, particularly those made of iron, lime stone and marble thereby causing great threat to life and property over a long period of time.*

Q.No.6. Write about Air pollution. (C)

(SM)

1. Air pollution has increased exponentially as industrialization expanded.
2. The most prevalent forms of air pollution are the gases and particulates spewed ^(=send out) out by autos and industrial processes, which affect the quality of the air we breathe.
3. *One of the worst industrial disasters of all time occurred in Union Carbide's plant in Bhopal on the night of December 3, 1984. The accidental release of methyl - isocyanate in the congested, low-income district of Old Bhopal killed 3,000 people and left many thousand more with chronic disabilities leading to premature deaths.*
4. Air pollutants also affect vegetation decreasing agricultural yields, deteriorate exposed Construction materials through corrosion, discoloration, and rot, are hazardous to health and life and threaten disastrous global damage, in the form of global warming, destruction of the stratospheric ozone layer and acid rains.

Q.No.7. Write about water pollution. (C)

(SM)

1. Water is essential to human life as well as to industrial growth and development
2. The world's per capita supplies of water are shrinking and are now 30 percent smaller than 25 years ago.
3. A number of factors have contributed to this. An increase in population and economic activity particularly in urban areas, has resulted in increased demands for water.
4. *To meet these demands, water is being increasingly diverted from agricultural irrigation to provide water for cities.*
5. *In the past, the oceans have been used as disposal sites for intermediate and low - level radioactive wastes.*
6. *Oceanographers have found traces of plutonium, cesium, and other radioactive materials in seawater that have apparently leaked from the sealed drums in which radioactive wastes are disposed.*

Q.No.8. Write about land pollution.(C)

(SM)

1. **SOLID WASTES:** Each year people living in cities produce tons of solid wastes. City garbage dumps are significant sources of pollution, containing toxic substances such as cadmium (from rechargeable batteries), mercury, lead (from car batteries and TV picture tubes), vanadium, copper, zinc.
2. **HAZARDOUS OR TOXIC SUBSTANCES:** are those that can cause increase in mortality rates or irreversible or incapacitating illness or those that have other seriously adverse health or environmental effects.

3. Benzene is a common industrial toxic chemical used in plastics, dyes, nylon, food additives, detergents, drugs, fungicides, and gasoline.
4. Benzene workers are several times more likely than the general population to get leukemia. *Vinyl chloride is another common industrial chemical used in the production of plastics, which is released in small amounts when plastic products deteriorate, causes liver damage; birth anomalies; liver, respiratory, brain, and lymph cancers, and bone damage.*

Q.No.9. Write about global warming. (C)

(SM)

1. Greenhouse gases - carbon dioxide, nitrous oxide, methane, and chlorofluorocarbons, occur naturally in the atmosphere to absorb and hold heat from the sun, preventing it from escaping back into space, to keep the earth's temperature about 33°C warmer than it would otherwise be, so that life can evolve and flourish.
2. *This rising heat will expand the world's deserts; melt the polar ice caps, causing sea levels to rise; make several species of plants and animals extinct; disrupt farming; and increase the distribution and severity of diseases.*
3. The increase in levels of greenhouse gases would require reducing current emissions of greenhouse gases by 60 to 70 percent-an amount that would seriously damage the economies of both developed and developing nations.

Q.No.10. Write a note on ecological ethics. (B)

(PM, RTP - N16)

ECOLOGICAL ETHICS:

1. The problem of pollution and other environmental issues can best be framed in terms of our duty to recognize and preserve the ecological systems within which we live.
2. An ecological system is an interrelated and interdependent set of organisms and environments. For example consider a lake, in which the fish depend on small aquatic organisms, which in turn live on decaying plant and fish waste products.
3. Since the various parts of an ecological system are interrelated, the activities of one of its parts will affect all other parts.
4. Business and all social firms are parts of a larger ecological system.
5. Business firms depend on nature for their energy, material resources, waste disposal and environment in turn is affected by the commercial activities of business firms.
Unless business recognize this interrelationship and interdependence and unless they ensure that their activities will not seriously injure these systems, one cannot deal with the problem of pollution.
6. Ecological ethics is based on the idea that environment should be protected not only for the sake of human beings but also for its own sake.
7. *The issue of environmental ethics goes beyond the problem relating to protection of environment or nature in terms of pollution, resource utilisation or waste disposal.*
8. *The issue of exploitive human nature and attitudes should be addressed in a rational way. Problems like global warming, ozone depletion and disposal of hazardous waste that concern the entire world, require international cooperation and have to be tackled at the global level.*

SIMILAR QUESTIONS:

1. Business is a part of the larger ecological system - Elaborate. **(RTP - M15)**
- A. Refer the above.

Q.No.11. What is meant by 'Environmental ethics'? How does its non - adoption lead to 3 P's Viz. Polluter Pays and Principles? Explain (A)
(PM, RTP N15, M16, N07 - 5M, N16 – 5M)

1. Ecological ethics is based on the idea that the environment should be protected not only for the sake of human beings but also for its own sake.
2. The issue of environmental ethics goes beyond the problems relating to protection of environment or nature in terms of pollution, resource utilization or waste disposal.
3. Business and Industry are closely linked with environment and resource utilization.
4. *Production process and strategy for eco-friendly technologies throughout the product life cycle and minimization of waste play major role in protecting the environment and conservation of resources.*
5. *Business, Industry and multinational corporations have to recognize environmental management as the priority area and a key determinant to sustainable development.*
6. Sound management of wastes is among the major environmental issues for maintaining the quality of Earth's environment and achieving sustainable development.
7. *If the environmental costs are properly reflected in the prices paid for goods and services then companies and the consumer would adjust market behaviour in such a way that would reduce damage to environment, pollution and waste production.*
8. Price signal will also influence the behaviour to avoid exploitation or excessive utilization of natural resources. Such measures would facilitate the approach of "Polluter Pays Principle".
9. Removing subsidies that encourage environmental damage is another measure.

SIMILAR QUESTIONS:

1. Explain the concept of 'Environmental Ethics'.
- A. Refer the above.

APPLICATION ORIENTED QUESTIONS

Q.No.12. Answer whether the statement is correct or incorrect with brief reasons.
There is no economic growth without ecological costs'. (A) (PM)

Correct.

1. Economic growth has to be environmentally sustainable. There is no economic growth without ecological costs.
2. Industrialization and rapid development have affected the environment. Everybody should realize that such development is related to environmental damage and resource depletion.
3. Sustainable development refers to maintaining development over time. Sustainable development is development that meets the needs of the present without comprising the ability of future generations to meet their own needs.
4. A nation or society should satisfy its social, economic and other requirement without jeopardizing the interest of future generations.

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**Q.No.13. State with reason whether the following statement is correct or incorrect:
Creation of proper ethical environment requires a proper understanding of the reasons
which lead to an unethical behavior. (C) (PM)**

Correct: A creation of a proper ethical environment requires a proper understanding of the reasons which lead to an unethical behavior. The reasons may be summarized as follows:

- a) Emphasis on short term results
- b) Ignoring small unethical issues
- c) Economic Cycles
- d) Change in accounting rules.

**Q.No.14. State with reason whether the following statement is correct or incorrect:
A nation should satisfy its social and economic requirements without damaging the
interest of future generations. (A) (PM)**

Correct: An element of resource regeneration and positive approach to environment has to be incorporated in developmental programmes. Sustainable development is necessary because it meets the needs of the present without compromising the ability of future generations to meet their own needs.

**Q.No.15. Answer whether the statement is correct or incorrect with brief reason:
Depletion of Ozone layer will have adverse effect on human beings and not on
vegetation. (c) (PM)**

Incorrect: Ozone depletion results in the increase of ultraviolet rays. Experts believe that this could cause several hundred thousands of new cases of skin cancer and could also lead to considerable destruction of 75% of the world's major crops that are sensitive to ultraviolet light.

**Q.No.16. Answer whether the statement is correct or incorrect with brief reason: (PM)
Water pollution is also a kind of resource depletion. (C)**

Correct: For explanation refer to "write about Water pollution " question

**Q.No.17. Answer whether the statement is correct or incorrect with brief reason:
Business does not sub-serve environmental ethics'. (A) (PM, N08 - 2.5M, N14 - 2M)**

Incorrect:

- a) Previously the business concerns were mainly concerned with only good business in economic sense. The conservation of natural resources was a motive of more economic gains.
- b) But now due to awareness of social responsibility and ethical norms the motive of business is not only concerned with business interest of the shareholders but also a general concern for the community. Now the business houses have realized that environmental ethics make good business sense.

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Q.No.18. Answer whether the statement is correct or incorrect with brief reason: (C)
'Good environmental practice improves corporate performance' (PM, M 09, 10 – 2.5M)

Correct:

- a) Environmental considerations have become a part of corporate strategy, which means incorporating environmental issues in the process of developing a product, in new investments and in the organizational set up.
- b) A good environmental practice improves corporate performance. In many industries it has been found that environmental friendly practices have resulted in more saving; for example the process of recycling the waste.

Q.No.19. State with reason whether the following statement is correct or incorrect: (C)
'Business and industry are closely linked with environment and resource utilization'. (PM)

Correct:

- a) Business and industry are closely linked with environment and resource utilization.
- b) Production process and strategy for eco-friendly technologies throughout the product life cycle and minimization of waste play a major role in the protection of the environment and conservation of resources.
- c) Business, industry and multinational corporations have to recognize environmental management as the priority area and a key determinant to sustainable development.

QUESTIONS FOR ACADEMIC INTEREST – FOR STUDENT SELF STUDY

Q.No.20. What are the Developments in India regarding environmental ethics. (C) (SM)

The Chipko movement in India is a proof of people's concern about balance in ecosystem .In India especially the big cities are having the problem of air pollution on account of concentration of industries and power plants. Also the automobiles are proving to be the greatest challenge for abatement of air pollution.

In pursuant to the Stockholm Conference, India passed the Air (Control and Prevention of Pollution) Act 1981, the Factories Act, 1948 as amended by the Act of 1987 contains provisions for preventing pollution.

Under the Motor Vehicles Act, 1988 and Rules framed there under stringent measures are stipulated to prevent air pollution, earlier also air-pollution measures were enacted through:

1. The Factories Act, 1948.
2. The Industries (Development and Regulation) Act, 1951.
3. Mines and Minerals (Regulation and Development) Act, 1957.

TEST YOUR KNOWLEDGE

1. How can you introduce the concept of Sustainable development in your organization?
2. Which environmental standard protects environment?
3. Acid rain damages buildings, statues and other objects. But it doesn't damage Iron, Limestone and Marble severely. Do you agree with this statement?
4. The companies, which follow ecofriendly business practices, are eligible for carbon credits. Then who grants carbon credits?

5. which report recognized the concept that “economic growth has to be environmentally sustainable”
6. Everybody in this world has to satisfy his/her present needs, without affecting the interests of future generations. What is the name of this development?
7. LMN Company created undesirable and unintended contamination of the environment with its activities. How can you call this undesirable contamination?
8. What is the effect of green accounting system on organization and environment?
9. “Conservation looks primarily at the present.” Do you agree with this statement?

THE END

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