

MODULE 1 - CONCEPT OF ENVIRONMENT

OBJECTIVES

After going through this Module the student will be able: -

1. To define the term Environment and to find out its importance in the life of various organisms including Human beings.
2. To give an idea regarding the scope and multidisciplinary approach of the Environment.
3. To develop awareness regarding environment and efforts made in this direction from 1972 till today.

SUMMARY

Environment means everything living as well as non-living, which surrounds man. Ancient human being was more close to the environment. As civilization advanced, man started disturbing the environment due to his selfish attitude. Industrialization, urbanization and pollution have badly disturbed the natural environment.

Poverty, pollution and population explosion are the burning problems of all developing countries like India, China, Sri Lanka and countries of Africa. Environment is a multi-disciplinary subject, having roots in Botany, zoology, Chemistry, Physics, Geography, Geology and Law, while the fruits are protection of nature, including the human being.

Efforts to create awareness regarding the environments started in 1972, when a World Conference was held at Stockholm. Later on several more conferences have been organized at different places. Kyoto Protocol and Montreal Protocol have been signed by several countries to reduce the emission of green house gases (Kyoto Protocol – 1997) and to protect the ozone layer (Montreal Protocol 1987).

Let us hope that various efforts regarding awareness may go a long way to protect the environment and add to the well being of man.

TRANSCRIPTION

Introduction:

Every organism is the outcome of two factors: Heredity and Environment. Heredity is contributed by the parents' while Environment is the contribution of Nature. The importance of Environmental studies was felt in 1970, due to the origin of Pollution problems. It was also realized that Public awareness is necessary regarding the protection of Environment that is why the UGC introduced Environment as a subject not only for the Students of Science, but also for the students of Arts and Commerce

throughout India. The Earth is the only planet where life exists. All organisms along with Earth and Atmosphere form Biosphere. Environment is the base for the origin and evolution of Life. Dinosaurs which dominated the Earth in Mesozoic Era (6 Million years back) were fossilized due to unfavorable Environment.

The word Environment has two parts: Environ= surroundings; ment = result of. It means everything that surrounds an organism. Thus, Environment is the sum total of living and non-living components, influences and events surrounding an Organism. According to Tansley, sum total of all effective factors in which an organism lives is, Environment.

The moment we utter the word Environment, we feel the presence of Soil, water, mountains, ponds, deserts, etc. We are also reminded of Climatic factors like temperatures, Humidity, Rainfall etc. Thus, Environment means the summation of Living (Biotic); Non-living (Abiotic) factors on an organism.

Scope and Importance:

The scope of Environment is very wide. It includes the study of Atmosphere, troposphere and Hydrosphere. Innumerable microbes which are not visible to us are also a part of Environment. Judicious Utilization of natural resources like Soil, water and minerals is also a part of Environment. To avoid destruction in the name of development is also a part of study of the Environment. Natural hazards such as Volcanoes and Earthquake disturb the balance of Nature. Multi disciplinary natured Environmental studies are connected with several other subjects.

Multidisciplinary Nature of Environment:

Green plants are the primary producers. They produce food by using Carbon dioxide and Water. Sunlight is source of energy. Every green leaf is a solar cooker. The process of food manufacture is called Photosynthesis. Oxygen is produced which is vital for all organisms. The food produced by the green plants not only supports the plants, but also the animals. All animals are consumers. The green plants are the basis of the entire living world; hence study of botany is connected with the environment.

Animals are an important component of the Environment. They can be carnivorous or Herbivorous. The balance of Animals in Biosphere is important for the overall balance of the Environment. Man is a omnivorous animal and presently, is considered to be the most dangerous, he has disturbed the balance of Environment. Man cuts the Forests, converts them to Agricultural land, and thereafter, Agricultural land to residential colonies. Multistoried buildings are concrete jungles which are replacing the Natural jungles. It is due to the mistake of man that foreign weeds like Carrot weed have entered from Mexico. Thus study of Environment is connected with Human Activities also.

Chemical structure of Soil, water and gases in air, Acid rains, Ozone layers' depletion, and study of Green House gases is studied under chemistry. This study is also connected with Environment issues.

Light, heat, radioactivity and noise pollution are covered in the discipline of Physics. They also affect the Environment.

Minerals are obtained from the Earth by digging very deep. Digging results in Earthquake, which disturbs the Environment. Hence, Geology and Environment are also inter-disciplinary.

Latitude, longitude, height from Mean Sea level affects the vegetation as well as animals, and ultimately the Environment. Thus, Geography and Environment are also inter related.

Man is becoming the enemy of Environment. To protect the Environment, legislative measures are to be implemented, so law studies get connected to the Environment.

Awareness about the environment:

It is needless to say that the very existence of the man depends upon the balance of Environment industrialization and economic problem have taken place at the cost of degradation of Environment. Poverty, population and pollution are the common problem faced by developing countries like India. Pure air and pure water are luxury for big cities. One has to pay a high price of these kids of nature. It was there to realize by the world to create an awareness regarding the Environment. UNO organized a conference on Environment at stockhome on 5th June, 1972. Smt. Indira Gandhi, the then prime minister of India considered poverty as the biggest pollutant of Environmental balance.

In the memory of this conference 5th June is observed as the World Environment Day every Year. On this day Radio, News papers and Television focus their attention on Environmental problems. Bhopal gas tragedy due to leakage of MIC (Methyl Iso-Cynate) from union carbide resulted the death of 2500 people and about 1 lacks suffering today from chest problems and the eye problems. Justice Krishna Iyer called this tragedy "BHOPOSIMA" on the lines of the atomic bomb explosion in Hiroshima. This is the biggest air pollution tragedy of the world. In 1986 an explosion took place in the nuclear power plant in Chernobyl in Russia, about one million people were affected and this power plant was closed down.

Water of several rivers is polluted due to factory waste. Water of hand pumps contains arsenic and furiods beyond the standards and limits. It has toxic effects. It is therefore necessary to create awareness about the Environmental in common man. Govt. of India started ministry of Environment and also passed forest act in 1972. Govt. of Madhya Pradesh implemented the forest act in 1974. The parliament has added articles 48A and 51A in the constitution.

Article 48A: - It is the duty of the State Government to protect and improve the Environment. The Govt. has to protect the forest and the wildlife.

Article 51A: it is the responsibility of every Indian citizen to protect the natural Environment, which Includes forest, lakes, rivers and wildlife. Every Indian Citizen should have Compassion for living creature.

At world level the following programs have been started by men:

1. International biological Program
2. "Man and biosphere program" started in 1970 by UNESCO.
3. Stockholm conference from 5th to 16th June 1972.
4. International Geo-sphere Biological Program (1986).
5. Earth Summit – Reode jenerio (Brazil) 1992
6. World Conference on Natural Disaster, Yokohame, Japan 1996
7. Kyoto Protocol - Kyoto, Japan – 1997
8. World Conference on sustainable development in Johannesburg, South Affrica, 2001
9. The World Conference on Global Warming, Bali (Indonesia), 2007

Program regarding Environmental Awareness at the level of Governmental and Non-Governmental Organizations: -

1. Animal welfare fortnight form 14th January.
2. World Forest Day - 21 January
3. World Environment Day – 5th June
4. World Animal Day – 3rd October
5. World Habitat Day – 4TH October
6. World Wildlife Week from Monday of the first week of October.
7. The World Conservation Day - 3rd December.

Started by the then minister honovrable K.M. Munshi in India from 1950. In the month of July and February, plantation is done by the Forest department.

Started by Shri Chandi Prasad Bhatt of Tehri Garhwal (Uttaranchal) from 1973 onwards this was followed by Shri Sunderlal Bahuguna of Gopeshwar in Chamli District of Uttaranchal. Whenever any contractor of Govt. agency tries to fall trees, village people hug the trees to save them.

On the lines of Chipko Movement, Shri Pandurang Hegde has started Appiko Movement in South. It is due to this movement that the Silent Valley of Kerela could be saved from the destruction of Natural vegetation.

This program was started in Gujarat in 1974. Its aim is to establish connection between Society and Plantation.

It will not be out of the way to mention a Chinese saying:

If you are planning for one year, grow a rice plant,

If you are planning for ten years, grow a tree, but

If you are planning for hundred years, then create awareness in Man.

GLOSSARY

Environment	:	Surrounding Objects.
Heredity	:	Transmission of Parental Character.
Pollution	:	Act of making Dirty.
Planet	:	Heavenly body revolving around the Sun.
Biosphere	:	Earth atmosphere along with living plants and animals.
Dinosuars	:	Huge animals of Reptile group whichever fossilised.
Hurricane	:	Violent Stream.
Photosynthesis	:	The process of manufacture of food by green plants.
Vital	:	Living.
Herbivore	:	Animals which feed upon vegetation.
Carnivore	:	Flesh eating animals.
Omnivores	:	Which can eat vegetation as well as flesh.
Acid rain	:	Raining of Acidic water.
Degradation	:	Reduction in the quality.
Nuclear Power Plant	:	Power house in which Electricity is obtained from Radioactive U 235.
Compassion	:	Feeling of Pity.
Protocol	:	Treaty.
Hug	:	Cling to.
Sustainable	:	Balanced.

Silent Valley : Natural forest of Kerala which became silent due to the plight of singing birds as the trees were cut.

FAQs

Qus: Out of nine planets around sun, on which planet the life exists?

Ans: Earth.

Qus: Define environment?

Ans: Sumtotal of biotic and abiotic components, influences and events surrounding an organism is called environment.

Qus: What is the scope of environment?

Ans: It deals with the study of atmosphere, visible and invisible organisms, natural resources as well as natural hazards.

Qus: How study of atmosphere is of multidisciplinary in nature?

Ans: Environmental studies involve the study of botany, zoology, physics, chemistry, geology and even law.

Qus: What are three burning problems of developing countries?

Ans: a. population
b. poverty
c. pollution

Qus: List two aspects connected with the evolution of an organism?

Ans: a. heredity
b. environment

Qus: What is biosphere?

Ans: Plants, atmosphere and animals of earth make biosphere.

Qus: Which era is called as the age of dinosaurs?

Ans: Mesozoic.

Qus: List three important components of environment?

Ans: 1. biotic 2. abiotic 3. climatic factors.

Qus: Name 5 natural resources.

Ans: 1. soil 2. water 3. minerals 4. wildlife 5. forest

Qus: List 6 natural hazards.

Ans: 1. earth quacks 2. floods 3. tsunami 4. volcanoes 5. drought 6. slogans

Qus: How environmental studies are multidisciplinary?

Ans: Environmental studies involve the basic knowledge of botany zoology chemistry physics geology and even law.

Qus: What is the name for multi story buildings as for environmental studies?

Ans: Cement concrete jungles.

Qus: List 3 burning problems of world which are disturbing the balance of environment.

Ans: 1. global warming 2. ozone layer depletion 3. acid rains

Qus: At which place the first conference on environment was held?

Ans: At Stockholm on 5th June 1972.

Qus: What was the cause of Bhopal gas tragedy?

Ans: Leakage of MIC (methyl isocyanate) gas from union carbide factory.

Qus: What was the cause of chernobyl disaster?

Ans: Explosion in nuclear power plant.

Qus: When was forest act passed in India?

Ans: 1972

Qus: When was first Earth Summit organized?

Ans: In 1992 at Reo de Jenerio (Brazil).

Qus: Which programme was started by UNESCO regarding the protection of environment?

Ans: M.A.B (man and Biosphere) in 1970.

Qus: What was the aim of Kycto protocol?

Ans: To reduce the emission of green house gases.

Qus: What was the aim of the world conference organised at Johannesburg in 2001?

Ans: sustainable development.

Qus: Where was world conference on global warming held?

Ans: At Bali (indonesia) in 2007.

Qus: Which date is observed as world environment day?

Ans: 5th june every year.

Qus: Who started van mahotsava?

Ans: Honourable minister shri K.M. Munshi.

Qus: Who launched chipko movement in india?

Ans: Shri chandi prasad bhatt followed by shri sunderlal bahuguna.

Qus: Who has launched appiko movement in south india?

Ans: Shri pandurang hegde.

Qus: Where is silent valley situated?

Ans: In kerala.

Qus: When was social forestry programme started in india?

Ans: In 1974.

Qus: Which state in india is leading in social forestry programme?

Ans: Gujrat.