

Role of Community and Environmental Protection Acts

Unit: V

Subject Name
Environmental science
ANC 0302

Faculty Name
Dr. Chhaya Agarwal
Department of Biotechnology

Course Details
Semester –III



Noida Institute of Engineering and Technology, Greater Noida

Faculty introduction



Faculty Name

Dr. Chhaya Agarwal

MSc,M.Phil,PGDEM,Ph.D

Department of Biotechnology

Teaching and Research experience-16+ years



Evaluation Scheme

Sl. No.	Subject Codes	Subject Name	Periods			Evaluation Schemes				End Semester		Total	Credit
			L	T	P	CT	TA	TOTAL	PS	TE	PE		
WEEKS COMPULSORY INDUCTION PROGRAM													
1	AAS0303	Statistics and Probability	3	1	0	30	20	50		100		150	4
2	ACSE0306	Discrete Structures	3	0	0	30	20	50		100		150	3
3	ACSE0305	Computer Organization & Architecture	3	0	0	30	20	50		100		150	3
4	ACSE0302	Object Oriented Techniques using Java	3	0	0	30	20	50		100		150	3
5	ACSE0301	Data Structures	3	1	0	30	20	50		100		150	4
6	ACSAI0301	Introduction to Artificial Intelligence	3	0	0	30	20	50		100		150	3
7	ACSE0352	Object Oriented Techniques using Java Lab	0	0	2				25		25	50	1
8	ACSE0351	Data Structures Lab	0	0	2				25		25	50	1
9	ACSAI0351	Introduction to Artificial Intelligence Lab	0	0	2				25		25	50	1
10	ACSE0359	Internship Assessment-I	0	0	2				50			50	1
11	ANC0301 / ANC0302	Cyber Security * / Environmental Science *(Non Credit)	2	0	0	30	20	50		50		100	0
12		MOOCs (For B.Tech. Hons. Degree)											
		GRAND TOTAL										1100	24



- **UNIT-I (Basic Principle of ecology)**
- Definition, Scope and basic principles of ecology and environment.
Ecosystem: Basic concepts, components of ecosystem.
- Food chains and food webs. Ecological pyramids, Energy flow in ecological systems, Characteristics of different ecosystems.
- **Biogeochemical Cycles:** Importance, gaseous and sedimentary cycles. Carbon, Nitrogen, Phosphorus and Sulphur Cycles.
- Basic concepts of sustainable development, SDGs, Ecosystem services, UN Decade for Eco restoration.

- **UNIT-II (Natural Resources and Associated Problems)**
- Natural resources and associated problems.
- **Forest resources:** Use and over-exploitation, deforestation. Timber extraction, mining, dams and their effects on forest and tribal people.
- Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.
- **Food resources:** World food problems, changes caused by agriculture and over-grazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity.....

- **Land resources:** Land as a resource, land degradation, man induced landslides. Equitable use of resources for sustainable lifestyles.
- **Non Renewable Energy Resources:** Fossil fuels and their reserves, Nuclear energy, types, uses and effects,
- **Renewable Energy Resources:** hydropower, Solar energy, geothermal, tidal and wind energy, Biomass energy, biogas and its advantages.

- **UNIT-III (Biodiversity Succession)**
- Biodiversity and their importance, Threats to biodiversity, major causes, extinction's, vulnerability of species to extinction, IUCN threat categories, Red data book.
- Strategies for biodiversity conservation, principles of biodiversity conservation in-situ and ex-situ conservation strategies, Mega diversity zones and Hot spots, concepts, distribution and importance.
- **Succession:** Concepts of succession, Types of Succession. Trends in succession. Climax and stability.

- **UNIT-IV (Pollution and Solid Waste Management)**
- **Air pollution:** sources of air pollution, Primary and secondary air pollutants. Origin and effects of SO_x , NO_x , CO_x , CFC's, Hydrocarbon,, control of air pollution.
- **Water pollution:** sources and types of water pollution, Effects of water pollution, Eutrophication,
- **Soil pollution:** Causes of soil pollution, Effects of soil pollution
- **Noise Pollution:** Major sources of and effects of noise pollution on health,
- **Radioactive and thermal pollution:** sources and their effects on surrounding environment.
- Solid waste disposal and its effects on surrounding environment
- Climate change, global warming, acid rain, ozone layer depletion,

- **UNIT-V (Role of Community and Environmental Protection Acts)**
- Role of community, women and NGOs in environmental protection, Bioindicators and their role, Natural hazards, Chemical accidents and disasters risk management,
- Environmental Impact Assessment (EIA)
- **Salient features of following Acts:**
 - a. Environmental Protection Act, 1986, Wildlife (Protection) Act, 1972.
 - b. Water (Prevention and control of pollution) Act, 1974.
 - c. Air (Prevention and control of pollution) Act, 1981. Forest (Conservation) Act, 1980.
 - d. Wetlands (Conservation and Management) Rules, 2017;
 - e. Chemical safety and Disaster Management law.
 - f. District Environmental Action Plan. Climate action plans.

Applications for Emerging Technology

- Environmental engineering is the application of science and engineering principles to improve the environment (air, water, and/or land resources), to provide healthful water, air, and land for human habitation and for other organisms, and to remediate polluted sites.

Course Objectives

- **To help the students in realizing the inter-relationship between man and environment and help the students in acquiring basic knowledge about environment.**
- To develop the sense of awareness among the students about environment and its various problems.
- To create positive attitude about environment among the student.
- To develop proper skill required for the fulfillment of the aims of environmental education and educational evaluations
- To develop the capability of using skills to fulfill the required aims, to realize and solve environmental problems through social, political, cultural and educational processes

Course Outcome

CO 1	Understand the basic principles of ecology and environment. Ecosystem: Basic concepts, components of ecosystem, food chains and food webs. Ecological pyramids	K1,K2
CO 2	Understand the different types of natural resources like food, forest, Minerals and energy and their conservation	K1,K2
CO 3	Understand the importance of biodiversity, Threats of biodiversity and different methods of biodiversity conservation.	K1,K2
CO 4	Understand the different types of pollution, pollutants, their sources, effects and their control methods.	K1,K2,K3
CO 5	Understand the basic concepts of sustainable development, Environmental Impact Assessment (EIA) and different acts related to environment	K1,K2,K3

Topic mapping with CO

Topic	Topic outcome	CO Map	Extend of mapping
Environment and its segment	Students understand the meaning of environment	CO1	1
Segment of atmosphere Multidisciplinary nature of EVS Scope and importance of evs	.Students understand different segment of atmosphere Students understand the basic knowledge of basic science Students understand the scope of environmental SC.	CO1	1
Food chain and food web	Students understand the definition and types of food chain	CO1	2
Ecological pyramid	Students understand the graphical representation of food chain	CO1	1
Ecosystem and its types	Students understand the interaction between the biotic and abiotic Components .along its types	CO1	1
Components of ecosystem	Students understand the living and non living components	CO1	1

1. Engineering Knowledge,
2. Problem Analysis
3. Design/development of solutions,
4. Conduct investigations of complex Problems,
5. Modern tool usage,
6. The engineer and society,
7. Environment and sustainability,
8. Ethics,
9. Individual and team work,
10. Communication,
11. Project management and finance,
12. Life-long learning

CO-PO Mapping

CO	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12
CO1	2	2	1	1	-	2	3	2	2	2	-	2
CO2	2	2	1	1	-	2	3	2	2	2	-	2
CO3	2	2	1	1	-	2	3	2	2	2	-	2
CO4	2	2	1	1	-	2	3	2	2	2	-	2
CO5	2	2	1	1	-	2	3	2	2	2	-	2
Mean	2	2	1	-	-	1	3	2	2	2	-	2

Program Specific Outcome (PSO's)

PSO1: To apply the knowledge of basic science and biotechnological techniques.

PSO2: To design optimize ,analyze and scale up bioprocess to develop useful product with social consideration .

PSO3:to generate ,analyze and interpret biological data using insilico and other relevant approach

COs and PSOs Mapping

CO	PSO-1	PSO-2	PSO-3
CO1	1	1	2
CO2	1	1	2
CO3	1	1	2
CO4	1	1	2
CO5	1	1	2
Mean	1	1	2

Program Educational Objectives (PEOs)

PEO1	To acquire knowledge and develop understanding by providing high quality education through andragogical tools
PEO2	To develop industry aligned skills in order to minimize the gap between industry and academia
PEO3	To inculcate the students with the social ethics for becoming a responsible citizen

Result Analysis

Result Analysis					
No. Of Students Registered	52				
No. Of Students Appeared	52	52	52	52	
No. Of Students Passed	52	52	52	52	
No. Of Students Failed	0	0	0	0	
No. Of Students Absent	0	0	0	0	
Pass Percentage(%)	100	100	100	100	
UFM Cases	0	0	0	0	
Average Internal Marks	36.42				
Average External Marks	38.58				
Maximum Marks Obtained	50	42	90		
Minimum Marks Obtained	21	32	59		
No Of Students Having Grade A+	1				
No Of Students Having Grade A	14				
No Of Students Having Grade B+	22				
No Of Students Having Grade B	14				
No Of Students Having Grade C	1				
No Of Students Having Grade D	0				
No Of Students Having Grade E	0				
No Of Students Having Grade F	0				

End Semester Question Paper Templates

Printed page:

Subject Code: ABT0305

Roll No:

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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B. Tech - Biotechnology

Semester: III

THEORY EXAMINATION (2021-2022)

Subject: Environment science

Time: 03:00 Hours

Max. Marks: 50

General Instructions:

1. The question paper comprises three sections, A, B, and C. You are expected to answer them as directed
2. Section A- Question No- 1 is marks & Question No. 2 carries 2 marks each.
3. Section B- Question No- 3 is based on external choice carrying 6 marks each.
4. Section C- Question No- 4-8 are within unit choice questions carrying 10 marks each.
5. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked

SECTION A

5 X 1 = 5

5 X 2 = 10

SECTION B

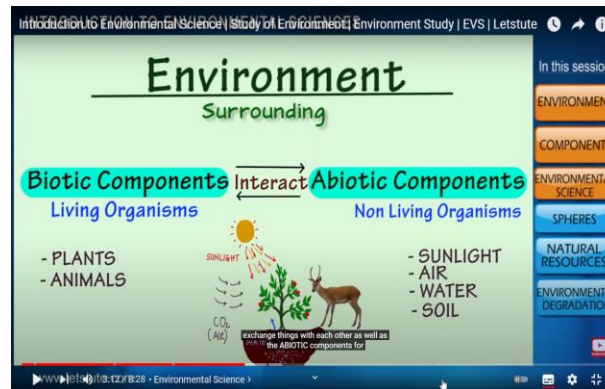
5 X 3 = 15

SECTION C

5 X 4 = 20

Brief Introduction about the Subject

- Environmental studies are the study of human interaction with the environment and in the interests of solving complex problems.
- Environment includes which we are directly or indirectly dependent for our survival, whether it is living component like animals, plants or non living component like soil, air and water.
- The biologist Jacob Van Uerkal (1864-1944) introduced the term ‘environment’
- Video: https://www.youtube.com/watch?v=7G3eXI_DPn8



Unit: V

- **UNIT-V (Role of Community and Environmental Protection Acts)**
- Role of community, women and NGOs in environmental protection, Bioindicators and their role, Natural hazards, Chemical accidents and disasters risk management,
- Environmental Impact Assessment (EIA)
- **Salient features of following Acts:**
 - a. Environmental Protection Act, 1986, Wildlife (Protection) Act, 1972.
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 - f. District Environmental Action Plan. Climate action plans.

- Introduction
- Sustainable development
- Women education
- Role of NGO
- Bioindicators and their types
- Disasters and their management
- EIA and EIS
- Different environmental acts

Course Objective(CO5)

- To develop the capability of using skills to fulfill the required aims, to realize and solve environmental problems through social, political, cultural and educational processes

Course Outcome

	COORSE OUTCOME	
CO 1	Understand the basic principles of ecology and environment. Ecosystem: Basic concepts, components of ecosystem, food chains and food webs. Ecological pyramids	K1,K2
CO 2	Understand the different types of natural recourses like food, forest, Minerals and energy and their conservation	K1.K2
CO 3	Understand the importance of biodiversity, Threats of biodiversity and different methods of biodiversity conservation.	K1,K2
CO 4	Understand the different types of pollution, pollutants, their sources, effects and their control methods.	K1,K2,K3
CO 5	Understand the basic concepts of sustainable development, Environmental Impact Assessment (EIA) and different acts related to environment	K1,K2,K3

Topic wise mapping(CO5)

No	Topic	Topic outcome- Students will be able to	CO mapping	Extend of mapping
1	Sustainable development	Definition.objectives,pillars of sustainable development	CO 5	1
2	Women education	Role of women education regarding en.v protection, schemes for women empowerment	CO5	1
3	Role of NGO	Full form of NGO, Role of NGO,Name of indian and international NGO	CO5	2
4	Bioindicators and their types	Name and role of bioindicators regarding environmental	CO5	1

Prerequisite and Recap

- Basic knowledge of nature

Sustainable development(CO5..)

- Sustainable Development Goals
- To promote the kind of development that minimises environmental problems.
- To meet the needs of the existing generation without compromising with the quality of the environment for future generations.

Sustainable development(CO5..)

- Sustainable development can be achieved if we follow the following points:
- It can be achieved by restricting human activities.
- Technological development should be input effective and not input utilizing.
- The rate of consumption should not surpass the rate of salvation.
- For renewable resources, the rate of consumption should not surpass the rate of production of renewable substitutes.
- All types of pollution should be minimized.
- It can be achieved by sensible use of natural resources.

Examples of Sustainable Development(CO5)

- Examples of Sustainable Development
- Wind energy
- Solar energy
- Crop rotation
- Sustainable construction
- Efficient water fixtures
- Green space
- Sustainable forestry

Environmental Crisis(CO5)

- Environmental crisis refers to a situation when an environment fails to perform its vital function of life sustenance. The environment becomes suitable as soon as the following happens:
- Resource extraction remains below the rate of resource generation.
- Generation of waste remains within the absorption capacity of the environment.

Reasons for Environmental Crisis(CO5)

- Reasons for Environmental Crisis

(1) Population explosion

- The high rate of growth of population adversely affects the environment.
- It increases the demand for environmental resources, but their supply is limited.
- This results in overuse and misuse of resources.

(2) Rise in economic activity

- The rise in economic growth results in affluent consumption and production of goods and services.
- It generates wastes that are beyond the absorptive capacity of the environment.

(3) Rapid industrialization

- Rapid industrialization has led to deforestation, and depletion of natural resources.
- It leads to contamination of water[3] due to the accumulation of increasing quantity of toxic substances and industrial wastes in the water bodies.

Reasons for Environmental Crisis(CO5)

- **Urbanisation**

- A large migration of population from rural to urban areas results in the fast growth of slum areas.
- It leads to the excess burden on the existing infrastructural activities.

(5) Deforestation

- Deforestation refers to cutting down of trees, clearing forest, etc.
- It adversely affects the environment and causes other problems.

(6) Increased use of insecticides, pesticides, and chemical fertilizers

- Farmers and workers suffer health problems due to the increased use of poisonous insecticides, pesticides, and chemical fertilizers.
- The crop generated also contains chemical elements in it.

Women's Education in India(CO5)

- Women's Education in India is a long-standing necessity.
- Women are often stereotypically viewed as the caretakers of the house. However, in the modern age, women's rights are being recognized; most importantly, their right to receive an education.
- Women need to be given equal opportunities as men, especially when it comes to education.
- Women's education will help to eradicate the discrimination and stigma that women face today. Educated women in India can also contribute to India's developing economy as well as making India a more socially developed country as well.
- There are many schemes in India to help women receive education, which would empower women.

Women's Education in India(CO5)

- Women's education is essential in urban and rural areas.
- The education of women will help to remove the social stigma that surrounds it.
- It is the key to eliminating social evils such as female infanticide, dowry, child marriage, harassment, etc.
- This will not just help the women of today but of the future generations who can live in a world where gender equality exists.

Women's Education in India(CO5)

- A better social status and gaining the respect of their families and peers is another reason why they must be educated.
- Through education, they become aware of their rights. They can contribute to the household financially and have a higher standard of living.
- Educating women makes them aware on taking care of their health and hygiene. Women can add to the workforce, and this contribution will reflect on the country's economy. Empowering women helps in the development of the nation

- NGO's play a significant role in bringing social change in society and development of society. In different parts of the world, it has proven that these organizations have many sides. To be a member of it people need to be educated, enthusiastic and inspired.
- society since its inception and never enjoyed benefits that government has facilitated them with. Such as women's education, STs, and SCs.
- NGO's have given and are still giving their best in eliminating the gender inequality which has also been a practice since earlier times.
- Girls face many problems no right to education, forcefully making them marry, not letting them work outside the houses.
- Therefore, NGO's try to eliminate this evil ideology of some societies

- NGO's Are the reason why women are not able to move out of the four walls of the houses and participate in politics, business, social activities.now women have witnessed a whole new world due to the efforts of NGO's and academic institutions.
- We have seen incensement in the number of women workers.
- There are many foundations such as Agrani foundation, Eklavya, Sewa and Environmental Action Group etc. Day by day women are seeing new opportunities for themselves due to the help of NGO's.

- The use of technology, level of production, a pattern of utilization is almost same all over the world whereas the world is destroying natural resources to achieve their goals and selfish reasons.
- That is why NGO's take birth to keep eyes on such activities.
- There have been many health issues due to the overutilization of natural resources causing pollution which later cause health problems and calamities. In this case,
- NGO's deserve an appreciation as they have done a lot to work for such causes.

- CLASSIFICATION OF BIOINDICATORS

1) BASED ON THE AIM OF INDICATORS

- COMPLIANCE INDICATORS – For e.g. fish population attributes are measured at the population, community or ecosystem levels and are focussed on issues such as the sustainability of population.
- DIAGNOSTIC INDICATORS – They are used to measure on the individual or sub organism (biomarker)

CLASSIFICATION OF BIOINDICATOR(CO5)

- **EARLY WARNING INDICATORS** – They focus on rapid and sensitive response to environmental changes.
- **ACCUMULATION INDICATORS** – They are distinguished for toxic effects bioindicator, with the effects being studied on different biological organisation level e.g. lichens , mussels etc.

- BASED ON THE APPLICATIONS OF INDICATORS
- ENVIRONMENTAL INDICATORS – This is a species or group of species responding predictably to environmental disturbances or change (e.g. sentinels, detector, exploiters, accumulators, bioassay organisms). An environmental indicators system is an act set of indicators aiming at diagnosing the state of the environment for environmental policy making.

ECOLOGICAL INDICATORS – This is a species that is known to be sensitive to pollution, habitat fragmentation or other stresses. The response of the indicator is representative for the community.

CLASSIFICATION OF BIOINDICATOR(CO5)

- **BIODIVERSITY INDICATORS** –indicator for species richness of a community. However, the definition has been broadened to measurable parameter of biodiversity including e.g species richness, endemism, genetic parameter, population-specific parameter and landscape parameter

- A disaster is a destructive event that occurs suddenly and involves loss of life and property.

Disasters can be of two types, natural and man-made. It is a sudden accident or a natural catastrophe that causes great damage or loss of life.

- **NATURAL DISASTERS**
- Earthquakes, volcanic activity, tsunamis, floods, cyclones, landslides, avalanches and droughts are natural disasters and man has no control over them. They are a result of natural activities and hence known as natural disasters .

- **MAN MADE DISASTERS**

- The man-made disasters are triggered by human beings.
- Some of the man-made disasters are: bomb explosions, terrorism, war or civil war, leakage of poisonous chemicals, breach in dams, air or water pollution, industrial accidents and epidemics. They are known as man made disasters because they occur due to human actions and not natural forces.

EARTHQUAKES(CO5)

- An earthquake is a sudden tremor or movement of the earth's crust, which usually originates at or below the surface. The outer layer of the earth is solid and is divided into many sections known as plates. The point of origin of the earthquake within the crust or mantle is called the seismic focus. Since the focus is often deep below the surface, the location of the earthquake is often referred to as the point on the surface of the earth, vertically above the seismic focus. This point is called the epicentre.

- PROTECTION AGAINST EARTHQUAKES
- The information about earthquakes and their intensity should be shared with the public through radio, television and newspapers
- Construction of buildings based on earthquake-resistant techniques .
- Construct buildings over pillars made of concrete and iron that are built deep in the ground
- Water, ration, first-aid kits, radios, flash lights, battery, blankets, jackets and fire extinguishers should be stored in safe places.
- If inside a building or a house, take cover under a solid surface like a table, or stand in the doorway

- A flood is an overflow of a large amount of water beyond its normal limits, especially over what is normally dry land. Flooding may occur as an overflow of water from water bodies, such as a river , lake, or ocean, in which the water overtops or breaks levees , resulting in some of that water escaping its usual boundaries



EFFECTS OF DROUGHTS(CO5)

- EFFECTS OF DROUGHTS
- Diminished crop growth or yield productions and carrying capacity for livestock
- Dust bowls, themselves a sign of erosion, which further erode the landscape
- Dust storms, when drought hits an area suffering from desertification and erosion
- Famine due to lack of water for irrigation
- Habitat damage, affecting both terrestrial and aquatic wildlife
- Hunger, drought provides too little water to support food crops.
- Malnutrition, dehydration and related diseases

Chemical disaster (CO5)

- Chemical disasters may be traumatic in their impacts on human beings and have resulted in huge casualties and also large-scale damage to nature and property. The elements which are at highest risks due to chemical disaster primarily include the industrial plant, its employees & workers, hazardous chemicals vehicles, the residents of nearby settlements, adjacent buildings, occupants and surrounding community.

Chemical disaster (CO5)

- Factors Causing Chemical Disasters
- Ageing of process plants, defects in design and inadequate steps to pace with modern technologies in the Indian chemical industry has increased vulnerability to chemical disasters.
- Organic solvents are the most common source of fires and explosions in the chemical industry.

Chemical disaster (CO5)

- A majority of the industrial accidents occur due to human error as a result of non-compliance of Standard Operating Procedures (SOPs). Piper alpha accident is a classic example of how human error can lead to chemical disasters, wherein a worker accidentally activates a pump under maintenance without a safety valve in place that leads to a gas leak and subsequent explosion.
- There is an increased threat due to terrorist activities and sabotages. Natural disasters such as floods and earthquakes have also caused a major disaster in the chemical industry.

Chemical disaster (CO5)

- Legal Safeguards against Chemical Disasters in India
- The government passed a series of laws regulating the environment and prescribing and specifying safeguards and penalties. Some of these laws are as follows:
 - 1. Bhopal Gas Leak (Processing of Claims) Act, 1985, which gives powers to the central government to secure the claims arising out of or connected with the Bhopal gas tragedy. Under the provisions of this Act, such claims are dealt with speedily and equitably.

Chemical disaster (CO5)

- The National Environment Appellate Authority Act, 1997, under which the National Environment Appellate Authority can hear appeals regarding the restriction of areas in which any industries, operations or processes or class of industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards under the Environment (Protection) Act, 1986.
- To know more about other Tribunals in India, visit the linked article.
- The National Green Tribunal 2010, provides for the establishment of a National Green Tribunal for effective and expeditious disposal of cases related to environmental protection and conservation of forests.

Chemical disaster (CO5)

- How can Chemical Disasters be Prevented?
- Prevention of chemical disaster is to eliminate the possibility of chemical accidents and thereby preventing its harmful effects. Some of the preventive measures that can be deployed are through making use of in-built safety measures, having standard operating procedures (SOP), rigorous operational safety procedures and providing necessary training and periodic retraining in it.

Chemical disaster (CO5)

- What are the effects of Chemical Disaster?
- Chemical Disaster can cause immediate health effects like eye irritation, skin burns, poisoning. The long term health effects of chemical disaster could be development of asthma, allergies; negatively affects the mental, physical and intellectual development of children; weakening of the immune system, birth defects, cancer etc.

Chemical disaster (CO5)

- What are the 5 types of Hazards?
- The 5 types of hazards are Biological Hazard
 - caused by viruses, bacteria, animals etc
- Chemical Hazard (caused by hazardous chemical substances),
- Physical Hazards (caused by radiation, noise, pressure etc),
- Ergonomic Hazard (caused by poor posture, poor workstation etc),
- Safety Hazard (caused by unsafe working conditions).

Climate action plan (CO5)

- **Climate Action Plan**
- A detailed and strategic framework for measuring, planning, and reducing greenhouse gas (GHG) emissions and related climatic impacts.
- Municipalities design and utilize climate action plans as customized roadmaps for making informed decisions and understanding where and how to achieve the largest and most cost-effective emissions reductions that are in alignment with other municipal goals.
- Climate action plans, at a minimum, include an inventory of existing emissions, reduction goals or targets, and analyzed and prioritized reduction actions. Ideally, a climate action plan also includes an implementation strategy that identifies required resources and funding mechanisms

Climate action plan (CO5)



BIOLOGICAL DISASTER(CO5)

- An important type of man-made disaster is biological disaster. Such disasters are caused by microorganisms that cause epidemics. These have spread due to man-made conditions. Most of these have been infectious diseases such as malaria, plague, diphtheria, tuberculosis and influenza.
- People can control the spread of these diseases by ensuring hygienic conditions and taking preventive measures. The government has taken a number of steps to contain the spread of these diseases such as fumigation to control the spread of the malarial mosquito

BIOLOGICAL DISASTER(CO5)



CHEMICAL



BIOHAZARD



RADIATION



NUCLEAR

PROTECTION AGAINST BIOLOGICAL AND CHEMICAL DISASTERS(CO5)

- People can control the spread of these diseases by ensuring hygienic conditions and taking preventive measures. The government has taken a number of steps to contain the spread of these diseases such as fumigation to control the spread of the malarial mosquito.
- Protective clothing: Clothing reduces the risk of mosquito biting if the cloth is sufficiently thick or loosely fitting. Long sleeves and trousers with stockings may protect the arms and legs, the preferred sites for mosquito bites. Schoolchildren should adhere to these practices whenever possible.

PROTECTION AGAINST BIOLOGICAL AND CHEMICAL DISASTERS(CO5)

- Mats, coils and aerosols: Household insecticidal products, namely mosquito coils, pyrethrum space spray and aerosols have been used extensively for personal protection against mosquitoes.
- Electric vaporizer mats and liquid vaporizers are more recent additions which are marketed in practically all urban areas.

COMMON TECHNIQUES OF DISASTER MANAGEMENT(CO5)

- Youth of the country should be encouraged to learn and practise techniques of disaster management .
- Education about disaster management should be imparted in schools and colleges
- Disaster evacuation drills should be practised in schools and offices
- Prepare a first aid box which would be handy in times of disasters .
- Details of disaster management squad should be shared through media at every corner of the country.

Environmental assessment stages(CO5)

- There are eight guiding principles that govern the entire EIA process: The principles of EIA:
- Participation – appropriate/timely access for interested parties
- Transparency – open and accessible assessment decisions
- Certainty – process/timing agreed in advance
- Accountability – decision makers responsible for their actions and decisions

Environmental assessment stages(CO5)

- Credibility – undertaken with professionalism/objectivity
- Cost effectiveness – environmental protection at the least cost to society
- Flexibility – adaptable to deal efficiently with any proposal and decision situation
- Practicality – information/outputs readily usable in decision making and planning

India's Air (Prevention and Control of Pollution) Act, 1981

- The Air (Prevention and Control of Pollution) Act, 1981 came soon after the the Water Act of 1974 and sought to provide a rounded legislation for the major environmental aspects of the India.
- **The objective** : The Air Act 1981 is to prevent, control and reduce air pollution including noise pollution.
- Under provisions of this Act, no person shall, without previous consent of the SPCB, establish or operate any industrial plant in air pollution control area the investor has to apply to the SPCB/Pollution Control Committee (PCB) to consent.
- No person operating any industrial plant shall emit any air pollution in excess of the standards laid down by the SPCB and have to comply with the stipulated co

THE ENVIRONMENT (PROTECTION) ACT, 1986(CO5)

- Aims and Objectives of the EPA
- The chief aims and objectives of the Environment Protection Act, 1986 are listed below.
- Implementing the decisions made at the United Nations Conference on Human Environment held in Stockholm.
- Creation of a government authority to regulate industry that can issue direct orders including closure orders.
- Coordinating activities of different agencies that are operating under the existing laws.
- Enacting regular laws for the protection of the environment.

THE ENVIRONMENT (PROTECTION) ACT, 1986(CO5)

- Imposing punishments and penalties on those who endanger the environment, safety and health. For each failure or contravention, the punishment includes a prison term of up to five years or a fine of up to Rs. 1 lakh, or both. This can also be extended for up to seven years in cases.
- Engaging in the sustainable development of the environment.
- Attaining protection of the right to life under Article 21 of the Constitution.

THE ENVIRONMENT (PROTECTION) ACT, 1986(CO5)

- Main Provisions of Environment Protection Act
- The EPA empowers the Centre to “take all such measures as it deems necessary” in the domain of environmental protection.
- Under the law, it can coordinate and execute nationwide programmes and plans to further environmental protection.
- It can mandate environmental quality standards, particularly those concerning the emission or discharge of environmental pollutants.
- This law can impose restrictions on the location of industries.
- The law gives the government the power of entry for examination, testing of equipment and other purposes and power to analyse the sample of air, water, soil or any other substance from any place.

THE ENVIRONMENT (PROTECTION) ACT, 1986(CO5)

- The EPA explicitly bars the discharge of environmental pollutants in excess of prescribed regulatory standards.
- There is also in place a specific provision for handling hazardous substances, which is prohibited unless in compliance with regulatory requirements.
- The Act empowers any person, apart from authorised government officers, to file a complaint in a court regarding any contravention of the provisions of the Act.

THE ENVIRONMENT (PROTECTION) ACT, 1986(CO5)

- What is the main provisions of the Environment Protection Act of 1986?
- The Act covers all forms of pollution; air, water, soil and noise. It provides the safe standards for the presence of various pollutants in the environment. It prohibits the use of hazardous material unless prior permission is taken from the Central Government.
- What is objective of Environmental Protection Act 1986?
- The objective of EPA is to protect and improve the environment and environmental conditions. It also implements the decisions made at the UN Conference on Human Environment that was held in Stockholm in the year 1972. To take strict actions against all those who harm the environment.

- Wildlife Protection Act, 1972
- This Act provides for the protection of the country's wild animals, birds, and plant species, in order to ensure environmental and ecological security.
- Among other things, the Act lays down restrictions on hunting many animal species.
- The Act was last amended in the year 2006.
- An Amendment bill was introduced in the Rajya Sabha in 2013 and referred to a Standing Committee, but it was withdrawn in 2015.

- **Constitutional Provisions for the Wildlife Act**
- **Article 48A** of the Constitution of India directs the State to protect and improve the environment and safeguard wildlife and forests. This article was added to the Constitution by the 42nd Amendment in 1976.
- **Article 51A** imposes certain fundamental duties for the people of India. One of them is to protect and improve the natural environment including forests, lakes, rivers, and wildlife and to have compassion for living creatures

- **History of wildlife protection legislation in India**
- The first such law was passed by the British Indian Government in 1887 called the Wild Birds Protection Act, 1887. The law sought to prohibit the possession and sale of specified wild birds that were either killed or captured during a breeding session.
- A second law was enacted in 1912 called the Wild Birds and Animals Protection Act. This was amended in 1935 when the Wild Birds and Animals Protection (Amendment) Act 1935 was passed.
- During the British Raj, wildlife protection was not accorded a priority. It was only in 1960 that the issue of protection of wildlife and the prevention of certain species from becoming extinct came into the fore.

- Protected Areas under the Wildlife Protection Act
- There are five types of protected areas as provided under the Act. They are described below.

1. Sanctuaries: “Sanctuary is a place of refuge where injured, abandoned, and abused wildlife is allowed to live in peace in their natural environment without any human intervention.”

2. National Parks: “National Parks are the areas that are set by the government to conserve the natural environment.”

Examples: Bandipur National Park in Karnataka; Hemis National Park in Jammu & Kashmir; Kaziranga National Park in Assam.

3. Conservation Reserves: The State government may declare an area (particularly those adjacent to sanctuaries or parks) as conservation reserves after consulting with local communities.

Forest conservation act(CO5)

- Objectives of the Forest Conservation Act 1980
- The aim of the Forest is to preserve the forest ecosystem of India by fulfilling the following objectives:
- Protect the forest along with its flora, fauna and other diverse ecological components while preserving the integrity and territory of the forests.
- Arrest the loss of forest biodiversity
- Prevent forest lands being converted into agricultural, grazing or for any other commercial purposes and intentions.

Forest conservation act(CO5)

- The Forest Conservation Act of 1980 come with the following features:
- The Act restricts the state government and other authorities to take decisions first without permission from the central government.
- The Forest Conservation Act gives complete authority to the Central government to carry out the objectives of the act.
- The Act levies penalties in case of violations of the provisions of FCA.
- The Forest Conservation Act will have an advisory committee which will help the Central government with regard to forest conservation.

Forest conservation act(CO5)

- Important Sections of the Forest Conservation Act, 1980
- **Section 1: Title and scope**
- The law applies to the whole of India except for Jammu and Kashmir. However, when Article 370 was removed, it meant all laws at the central level became applicable. But only 37 laws apply to Jammu and Kashmir at the moment and the Forest Conservation Act of 1980 is not one of them

Forest conservation act(CO5)

- **Section 2: Restriction of forests being used for non-forest purposes.**
- The section lists restrictions where state authorities cannot make laws regarding forest without the permissions of the Central Government. The emphasis is on ‘non forest purposes’ which means that clearing forest land for the planting of:
 - Tea
 - Coffee
 - Spices
 - Rubber
 - Palms
 - Oil-bearing
 - Medicinal plants

Forest conservation act(CO5)

- **Section 3: Advisory committee**
- As per Section 3 of this Act, the Central government has the power to constitute an advisory committee to advice on matters related to advising the central government on the preservation of forests

Forest conservation act(CO5)

- Amendments to the Forest Conservation Act, 1980
- In order to balance economic and ecological concerns regarding the Forest Conservation Act, 1980 several amendments were proposed by the Union Ministry of Environment, Forest and Climate Change in March 2021. Some amendments were as follows:
- The proposed new ‘section 1A’ created provision which exempts survey and exploration for underground oil and natural gas. In other words, such activities will no longer be classified as a ‘non-forest activity’ and will not require permission from the government,

Forest conservation act(CO5)

- However, there will be certain conditions laid by the Central Government to carry out such activities, one of which being, survey and drilling activities will not be carried out within the proximity of wildlife sanctuaries.
- Land acquired for railway networks will not be applicable to FCA and be exempt. Of course, certain guidelines will be laid down by the Central government, which will include planting trees to compensate for the loss of forest lands.

Forest conservation act(CO5)

- Section 2 of the FCA requires government approval for leasing forest lands not owned by the central government for any commercial purposes to private entities.
- This clause has been deleted in the proposed amendment. This will enable state governments to lease forest lands without the Central government's approval.
- A new explanation to Section 2 proposes to exempt plantation of native species of palm and oil-bearing trees from the definition of “non-forest purpose”.
- The government will only impose conditions for compensatory afforestation and payment of other levies and compensations.

Forest conservation act(CO5)

- The proposed amendments to FCA add to the list of non-forestry purposes activities such as building checkpoints, fence boundary, and communication infrastructure.
- It may also add ecotourism facilities approved under the Forest Working Plan or Working Scheme approved by the central government.

Forest conservation act(CO5)

- What is the main purpose of the Forest Conservation Act 1980?
- The purpose of this Act is to foster recognition of the forest as a common heritage and promote sustainable forest development in order to meet the economic, environmental and social needs of present and future generations while giving proper consideration to other potential uses of the territory.
- How can the laws under FCA be carried out?
- Section 4 of the Forest Conservation Act empowers the Central government to carry out the laws described under the act. It is done through an officially notified gazette. Until the formation of a new rule it should be presented before the parliament within thirty days.

Water pollution (prevention and control act)CO5

- After the Stockholm conference on Human Environment on June, 1972, it was considered appropriate to have uniform law all over country for broad Environment problems endangering the health and safety of our people as well as of our flora and fauna.
- The Water (Prevention & Control of Pollution) Act, 1974 is the first enactment by the Parliament in this direction. This is also the first specific and comprehensive legislation institutionalizing simultaneously the regulatory agencies for controlling water pollution. The Pollution Control Board at the Centre and in the State came into being in terms of this Act.

Water pollution (prevention and control act)CO5

- The other functions of the board are;
- To lay down the standards for a stream or well, and in consultation with the State Government concerned modify or annul those standards.
- Plan and cause to be executed a nationwide programme for the prevention, control and abatement of water pollution;
- Preparation of manuals, codes or guides related to treatment and disposal of sewage and trade effluents. Also, collection, compilation and publication of technical and statistical data related to water pollution and the measures devised for its effective prevention and control.

Water pollution (prevention and control act)CO5

- Advise the Central Government on any matter concerning the prevention and control of water pollution; Providing technical assistance and guidance to the SPCBs and coordinating their activities
- Control and abatement of water pollution through investigation and research related to problems related to water pollution.
- The functions of State Pollution Control Boards are similar to those of Central Pollution Control Board but they are to be executed at state level, and these are governed by the directions of CPCB.

Water pollution (prevention and control act)CO5

- The board advises the state govt. the location of any industry that might pollute a stream or a well.
- The board is authorized to take samples from industrial streams, well or trade effluent or sewage and it lays down standards for effluents.

Water pollution (prevention and control act)CO5

- The board is licensed to take legal samples of trade effluents in accordance with the prescriptions in the act. In the presence of the occupier or his agent, the collected sample is divided into two parts, sealed, signed by both parties, then it is sent for analysis to some recognized lab. If the samples cross maximum permissible limits, then consent is refused to the unit.

Water pollution (prevention and control act)CO5

- Industries has to apply for consent from the board in a prescribed format, providing all technical details, along with a prescribed fee. After application analysis of the effluent is carried out and consent is provided for a fixed duration.
- The board suggests efficient methods for utilization, treatment and disposal of trade effluents.

What are Wetlands?

- Wetlands are ecosystems saturated with water, either seasonally or permanently. They include mangroves, marshes, rivers, lakes, deltas, floodplains and flooded forests, rice fields, coral reefs, marine areas no deeper than 6 metres at low tide, as well as human-made wetlands such as waste-water treatment ponds and reservoirs.
- India has approximately 4.6% of its land as wetlands, covering an area of 15.26 million hectares and has 42 sites designated as Wetlands of International Importance (Ramsar Sites), with a surface area of 1.08 million hectares. India is a signatory to the Ramsar convention.

Threats to Wetlands

1. Wetlands are the most threatened ecosystem as per the IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services)'s
2. Major threats to wetlands are due to reclamation and degradation activities like drainage and landfill, pollution, hydrological alteration, over-exploitation resulting in loss of biodiversity and disruption in ecosystem services provided by them.
3. According to UNESCO, the threat to wetlands will have an adverse impact on 40% of the world's flora and fauna that live or breed in wetlands.

- **Importance of Centre for Wetland Conservation and Management (CWCM)**
- The centre is aimed to work towards the conservation, restoration and management of India's wetlands.
- The dedicated Centre would help in addressing specific research needs and knowledge gaps.

Wetland Conservation and Management Rules 2017

CO5

- Following the notification of draft Wetland Rules in 2016, the Ministry of Environment Forest and Climate Change (MoEFCC) notified the Wetland (Conservation and Management) Rules, 2017 in order to prohibit a range of activities in wetlands. The updated rules will supersede the 2010 rules.
- **Latest Context related to Wetland Conservation and Management Rules** –On the occasion of World Wetland Day celebrated every year on the 2nd of February, the Minister of State for Environment, Forest and Climate Change announced the establishment of a Centre for Wetland Conservation and Management (CWCM), as a part of the National Centre for Sustainable Coastal Management (NCSCM).

- The year 2021 also commemorates the 50th anniversary of the Convention on Wetlands signed on 2nd February 1971 in the Iranian city of Ramsar. Aspirants can check the list of Ramsar sites in India on the linked page.
 - The theme for 2021 is ‘Wetlands and Water’.
 - It was first celebrated in 1997.

- District Environment Plan (Data Templates for DEP) Introduction Hon'ble National Green Tribunal vide order dated 26/09/2019 , filed by Shree Nath Sharma Vs Union of India and Others directed that CPCB.
- To facilitate the District Magistrates in preparation of District Environmental Plan by placing Model plan on its website.
- This model plan may be adopted as per local requirements by all Districts under supervision of District Magistrate.
- The said Order also directs that Department of Environment in respective States / UTs should collect district plans to prepare State Environment Plan, which shall be monitored by respective Chief Secretaries of State/UT by 15/12/2019.

District environmental action plan....CO5

- The model District Environment Plan (DEP) is envisaged to bring the scope of
- environmental management to local governments and administration, so as to set their own goals and targets to achieve desired environmental quality.
- The DEP is intended as a quick reference to the personnel of District Administration to
- (i) identify key environmental issues within the district boundary,
- (ii) prioritize the required projects,
- (iii) strategize and plan for implementation and
- (iv) Outline tentative timelines for completion of projects.

District environmental action plan....CO5

- This report will also help regulators to monitor compliance and is structured to allow updates and monitoring at State level.
- CPCB has prepared Data templates for preparation of DEPs. Data templates have been circulated to all Districts to capture information related to key parameters essential for preparing environment management plan.

District environmental action planCO5

- As identified by Hon'ble National Green Tribunal in Original Application No. 360 of 2018, the scope of DEP will be based on 7 thematic areas unless there is any other specific environmental factor in the district that needs to be covered as part of DEP. The scope of work is outlined in following areas:

1. Waste Management Plan

i. Solid Waste Management Plan

ii. Plastic Waste Management

iii. C&D Waste Management

iv. Biomedical Waste Management

v. Hazardous Waste Management

vi. E-Waste Waste Management

Environmental Standards(CO5)

- ISO 14000 - Environmental management Standards
- That exists to help organizations
 - a) Minimize how their operations (processes etc.) negatively affect the environment (i.e. cause adverse changes to air, water, or land);
 - b) Comply with applicable laws, regulations, and other environmentally oriented requirements, and c) Continually improve in the above.
- It does not state requirements for environmental performance, but maps out a framework that a company or organization can follow to set up an effective environmental management system.
- It can be used by any organization that wants to improve resource efficiency, reduce waste and drive down costs

Faculty Video Links, Youtube & NPTEL Video Links and Online Courses Details

- Youtube/other Video Links
- <https://www.youtube.com/watch?v=ad9KhgGw5iA>, <https://www.youtube.com/watch?v=nW5g83NSH9M>, <https://www.youtube.com/watch?v=xqSZL4Ka8xo>, <https://www.youtube.com/watch?v=WAl-hPRoBqs>, <https://www.youtube.com/watch?v=o-WpeyGlV9Y>, <https://www.youtube.com/watch?v=EDmtawhADnY>

Q.1 Any adulterated elements leak into the ground, filtration, and are carried into a groundwater reservoir is known as _____ .

- A) Land contamination
- B) Noise pollution
- C) Water pollution
- D) Air pollution

Answer: C

Q.2 South Africa is a leading exporter of which mineral?

- A) Copper
- B) Diamond
- C) Silver
- D) Gold

Answer: D

Q.3 In which year did the word ‘sustainable development’ come into existence?

- A) 1992
- B) 1978
- C) 1980
- D) 1987

Answer: C

Q.4 In which year was the United Nations Commission on Sustainable Development (CSD) started by the UN General Assembly?

- A) 1995
- B) 1994
- C) 1993
- D) 1992

Answer: D

Q.5 Mercury and lead are toxic elements that cause _____ .

- A) Noise pollution
- B) Air pollution
- C) Water pollution
- D) Land contamination

Answer: D

Q.6 What is the other word for landscaping?

- A) Reduction
- B) Restoration
- C) Removing topsoil
- D) Restore

Answer: B

Q.7 _____development meets the needs of the present generation without compromising the ability of the future generation.

- (a) Sustainable
- (b) Original
- (c) Balanced
- (d) None of the above

Answer a

Q.8 Which of the following is the feature of Sustainable Development?

- (a) Raises per capita income
- (b) Rational use of Natural Resources
- (c) No increase in Pollution
- (d) All of the above

Answer---d

Q. 9 _____development promotes the kind of development that minimizes environmental problems.(a) Sustainable (b) Original (c) Balanced (d) None of the above

Answer ----d

10. Following is (are) the element(s) of sustainable agriculture

- (A) permaculture
- (B) agro forestry
- (C) mixed farming
- (D) all of the above**

Answer-----D

1.Name the online platform launched by the Ministry of Women and Child Development to support women entrepreneurs?

- A. Digital India
- B. Mahila E-haat
- C. One Stop Centre Scheme
- D. None of the above

Ans. B

2.The Central Social Welfare Board was established in....

- A. 1950
- B. 1951
- C. 1952
- D. 1953

Ans. D

3. Indira Gandhi Matritva Sahyog Yojana was launched in...

A. 2008 B. 2010 C. 2012 D. 2015

Ans. B

4. National Mission for Empowerment of Women was launched on:

- A. 15 August, 2010
- B. 15 August, 2011
- C. 15 October, 2010
- D. 15 October, 2011

Ans. B

5. Which scheme promotes community participation through involvement of Students Volunteers for empowerment of rural women?

- A. NAND-GHAR YOJANA
- B. eSamvad Portal
- C. Pradhan Mantri Mahila Shakti Kendra scheme
- D. She-Box Portal

Ans. C

6.Name the online platform launched by the Ministry of Women and Child Development to support women entrepreneurs?

- A. Digital India
- B. Mahila E-haat
- C. One Stop Centre Scheme
- D. None of the above

Ans. B

7.The Central Social Welfare Board was established in....

- A. 1950
- B. 1951
- C. 1952
- D. 1953

Ans. D

8-The United Nations Conference on Sustainable Development (UNCSD) is also known as

- (A) Rio 2010
- (B) Rio 2011
- (C) Rio 2012**
- (D) Rio 2013

Answer---C

9 Which of the following options is correct when we only accomplish two out of three pillars of sustainable development?

- A) Economic + Environmental sustainability = Viable
- B) Social + Environmental sustainability = Bearable
- C) Social + Economic sustainability = Equitable
- D) All of the above**

Answer-----D

10 In which year did the word ‘sustainable development’ come into existence?

A) 1992

B) 1978

C) 1980

D) 1987

Answer-----C

Ques 1. Fill in the blanks

a) 1988 b) 1981 c) 1974 d) 1970 e) 1980

1) In India, environmental protection was not much of an issue till the mid-.....'s.

2) That is, environmental protection as a whole was never seriously considered. The government did enact various legislation pertaining to the environment in the..... and 80's:

3) The water act,

4) Air Act

5) Indian forest policy..... But it took two major pushes, one from the international community and one from the national community, to create the Environment Protection Act..

Ques 2 Fill in the blanks

a) 1972 b) legislation c) **Bhopal Gas Tragedy** d) lack

1)The international impetus came in the form of the **Stockholm conference** in....., to discuss Humans and their role in the Environment.

2) Thiswas a way to implement India's promises for protecting the environment.

3) The process received a major push when the..... happened in 1984, leading to thousands of deaths overnight in a gas leak that happened in Bhopal.

4)Theof legislation pertaining to such accidents was the reason the perpetrators as well as the company went scott-free. India was furious, spurring the government into action.

Ques 3. Fill in the blanks

- a)the Environment Protection Act, b)pollution pollutants c)hazardous material
d)jurisdictions

1)Salient features of1986

2)The Act covers all forms of.....; air, water, soil and noise.

3)It provides the safe standards for the presence of various..... in the environment.

4)It prohibits the use of..... unless prior permission is taken from the Central Government.

5)It allows the central government to assign authorities in various..... to carry out the laws of this Act.

Ques 4 Fill in the blanks

a)Entry b) inspect c)the duties d)industrial plan

1)Powers of..... and Inspection allows any person appointed by the central government the right to enter, within reasonable hours, at any place to-

2).....

3)perform..... entrusted to him/her.

4) examine and test any equipment,, record, register or document.

Ques 5 Fill in the blanks

a) Samples b) appointed c) evidence d) labs e) testing

1) Section 11 provides power to take.....and and procedure to be followed in connection therewith.

2) The samples can be collected by theauthority.

3) The results of such testing can be submitted as..... during an investigation.

4) Section 12 allows the central government to establish environmental or declare existing labs as environmental labs.

5) Such labs carry out all the..... of samples pertaining to any investigation under this Act. They also act as the official environmental referrers, for the central government.

Ques 6 Match the following:

Set I

- a. Narmada Bachao Andolan (NBA)
- b. Silent Valley Movement
- c. Appiko Movement
- d. Jungle Bachao Andola

Set II

- 1. Medha Patkar, Baba Amte, Adivasis, farmers, environmentalists and human rights activists
- 2. Kerala Sastra Sahitya Parishad (KSSP) an NGO, and the poet activist Sughathakumari
- 3. Uttara Kannada and Shimoga districts of Karnataka State
- 4. Against government's decision to replace the natural sal forest with Teak

Glossary question CO5.....

- Code:
- a b c d
- A. 1 2 3 4
- B. 4 2 3 1
- C. 3 4 1 2
- D. 1 4 2 3
- **Ans: A**

Explanation:

- **Narmada Bachao Andolan (NBA):** Medha Patkar, Baba Amte, Adivasis, farmers, environmentalists and human rights activists.
- **Silent Valley Movement:** Kerala Sastra Sahitya Parishad (KSSP) an NGO, and the poet activist Sughathakumari
- **Appiko Movement:** Uttara Kannada and Shimoga districts of Karnataka State
- **Jungle Bachao Andola:** Against government's decision to replace the natural sal forest with Teak.

Ques 7

Consider the following statement (s).

I. The major objections include the seismic sensitivity of the region, submergence of forest areas along with Tehri town etc.

II. Medha Patkar has been the leader of this aandalan who got support from the Arundhati Roy, Baba Amte and Aamir Khan.

Which of above statement (s) is/are correct about Tehri Dam Conflict?

A. Only I

B. Only II

C. Both I and II

D. Neither I nor II

Ans: A

Explanation: Tehri Dam conflict was started by the local people around 1980s and 1990s because the dam project would constructed in the seismic sensitive region and people think that it causes submergence of forest areas along with Tehri town. Despite of protest, the construction of the dam is being carried out with police protection as Sunderlal Bahuguna is sitting on fast unto death. After assurance from the government to review the project, Bahuguna ended his fast but construction goes on, though at a slower pace. Hence, A is the correct option.

Ques 8 Match the following

Set I

- a. Bishnoi Movement
- b. Appiko Movement
- C. Tehri Dam Conflict
- d. Save Silent Valley Movement

Set II

- 1. 1978
- 2. 1990's
- 3. 1983
- 4. 1700s

Code:

a b c d

- A. 1 2 3 4
- B. 4 3 2 1
- C. 1 4 3 2
- D. 3 2 1 4

Ans: BBishnoi Movement- This movement was started in the year of 1700s.

Appiko Movement- It was started in 1983.

Tehri Dam Conflict- It was started in the year of 1990s

Save Silent Valley Movement- This movement was started in 1978

Ques 9

Which of the following is the correct chronology?

- a. Jungle Bachao Andola
- b. Narmada Bachao Movement
- c. Appiko Movement
- d. Chipko Movement

Code:

- A. a, b, c, d
- B. d, b, a, c
- C. d, c, a, b
- D. a, b, c, d

Ans: C

Explanation: Jungle Bachao Andola started in 1982. Narmada Bachao Movement was started in 1985. Appiko Movement was started in 1983. Chipko Movement was started in 1973. Hence, C is the correct option.

Ques 10. Consider the following statement (s) is/are related to the Chipko Movement.

- I. It was launched from Gopeshwar in Chamoli district, Uttarakhand in 1973.
- II. The movement was to prevent illegal cutting of trees in the Himalayan region (Uttarakhand).

Code:

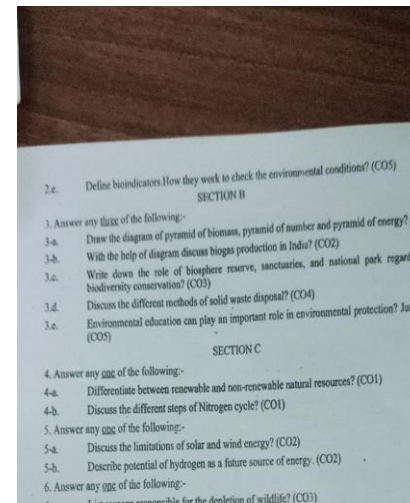
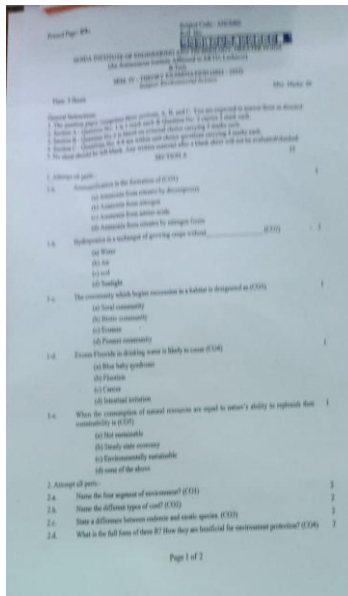
- A. Only I
- B. Only II
- C. Both I and II
- D. Neither I nor II

Ans: C

- **Explanation:** Chipko movement, also called Chipko andolan, nonviolent social and ecological movement by rural villagers, particularly women, in India with an objective of protecting trees and forests slated for government-backed logging. The movement originated in the Himalayan region of Uttar Pradesh (later Uttarakhand) in 1973 and quickly spread throughout the Indian Himalayas.

Old Question Papers

- NEW SYLLABUS AUTONOMUS



Summary(CO5)

- Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development has continued to evolve as that of protecting the world's resources while its true agenda is to control the world's resources
- Women's Education in India is a long-standing necessity.
- Women are often stereotypically viewed as the caretakers of the house. However, in the modern age, women's rights are being recognized; most importantly, their right to receive an education.
- NGO's play a significant role in bringing social change in society and development of society. In different parts of the world, it has proven that these organizations have many sides. To be a member of it people need to be educated, enthusiastic and inspired.society since its inception and never enjoyed benefits that government has facilitated them with. Such as women's education, STs, and SCs.

- Biological indicators are species :used by observers to determine how various conditions in an environment have changed over time. used to monitor the health of an environment or ecosystem.
- That can tell us about the cumulative effects of different pollutants in the ecosystem and about how long a problem may have been present, which physical and chemical testing cannot.
- A disaster is a destructive event that occurs suddenly and involves loss of life and property.
- Disasters can be of two types, natural and man-made. It is a sudden accident or a natural catastrophe that causes great damage or loss of life.

The man-made disasters are triggered by human beings. Some of the man-made disasters are: bomb explosions, terrorism, war or civil war, leakage of poisonous chemicals, breach in dams, air or water pollution, industrial accidents and epidemics. They are known as man made disasters because they occur due to human actions and not natural forces.

1. Environmental studies and Environmental engineering –By Dr. H.H.Singh 2019
2. A Text Book of environmental Science By Shashi Chawala 2020
3. Environmental Studies By Dr B.S.Chauhan 2017
4. K.M.Gupta Pragati Prakashan 2017

Thank You