

**ENVIRONMENTAL EDUCATION
CLASS – XI
SEMESTER -1**

Time: 2 Hrs

**Theory Marks: 30
CCE : 10
Total Marks:40**

Structure of Question paper

1. There will be one theory paper comprising of 14 questions. All questions will be compulsory.
2. Question No. 1-5 are very short answer type questions carrying 1 mark each. Answer to each question will be in one line or few words only.
3. Question No. 6-9 are short answer type questions carrying 2 marks each. Answer to each question will be in 20-30 words.
4. Question No. 10-13 are short answer type questions carrying 3 marks each. Answer to each question will be in 40-50 words.
5. question No. 14 is long answer type question carrying 5 marks. Answer to this question will be in 80-100 words.

Questions	No. of Ques	Division of Mark	Total Marks
1 - 5	5	$5 \times 1 = 5$	5
6 - 9	4	$4 \times 2 = 8$	8
10 -13	4	$4 \times 3 = 12$	12
14	1	$1 \times 5 = 5$	5
Total	14		30

SEMESTER-1

Unit -1 Man and Environment

1. Environment

- Dimensions of Environment-physical, biological and social .
- Human being as rational and social partner in environmental actions.
- Society and environment in India: Indian traditions, customs and culture in past and present.

2. Population and environment

- Population and Environment

3. Impact of human activities on environment

- Environmental problems of urban and rural areas.
- Natural resources and their depletion
- Stress on civic amenities, supply of water and electricity, waste disposal, transport, health services.
- Vehicular emissions.
- Urbanisation-land use, housing, migrating and floating population.

Unit-II Environment and Development

4. Economic and Social Development

- Economic and social needs as basic considerations for development .
- Agriculture and industry as major sector of development .
- Social factors affecting development-poverty, affluence, education, employment, child marriage and child labour, human health-HIV/AIDS ,social culture and ethical values.

5. Impact of Liberalization and Globalization

- Impact of liberalization and globalization- agriculture and industries, dislocation of manpower and unemployment implications for social harmony.

6. Role of Society in Development and environment

- Role of society in development and environment-public awareness through education, eco-clubs, population education programmes and campaigns, public participation in decision-making.

PROJCT WORK

SMESTER-1

Exemplar projects and activities

The projects and activities given below are only suggestive and not prescriptive.

- To study the changes that have taken place in the given land area of a city/village/locality/market during the last five years in respect of parameters like number of houses, residents and families, food habits, number of household goods in a family, consumption of water, electricity and fuels.
- To study sources of noise(public address system , television, radio and vehicles on the road)
- To study common facilities like number of schools, hospitals, shops, theatres, public convenience, public utilities, public transport, number of factories, industries and/or the facilities for production and processing of goods, loss of water bodies, types and quantity of wastes, their disposal and treatment facilities with a view to discuss the pattern of changes and impact on the environment and quality of life.
- One specific project on these above aspects may be to study the number of houses, residents and land area during the last five years in respect of the number of houses, residents and

families and to prepare a report on their effects on civic amenities like availability of water, electricity and fuels, the drainage system, disposal of wastes including night soil.

- To study the environment profile of a town/locality /village in respect of population density, green cover, educational level of residents, social problems and sources of pollution and their effect on air, water and soil.

**ENVIRONMENTAL EDUCATION
CLASS – XI
SEMESTER –II**

Time: 2 hrs.

**Theory marks :40
CCE :20
Total Marks : 60**

Structure of Question Paper

1. There will be one theory paper comprising of 17 questions. All questions will be compulsory.
2. Question No 1-5 are very short answer type questions carrying 1 mark each. Answer to each question will be in one line or few words only.
3. Question No. 6-10 are short answer type questions carrying 2 marks each. Answer to each question will be in 20-30 words.
4. Question No. 11-15 are short answer type questions carrying 3 marks each. Answer to each question will be in 40-50 words.
5. question No. 16-17 are long answer type questions carrying 5 marks each. Answer to each question will be in 80-100 words.

Questions	No. of Ques	Division of Mark	Total Marks
1 - 5	5	5x 1 = 5	5
6 - 10	5	5x 2 = 10	10
11 - 15	5	5x 3 = 15	15
16 -17	2	2x 5 = 10	10
Total	17		40

Unit-III Environmental Pollution and Global Issues

7. Environmental Pollution

- Air water (fresh and marine), soil pollution-sources and consequences.
- Noise and radiation pollution-sources and consequences.
- Solid, liquid and gaseous pollution

8. Pollution and Diseases

- Handling of hazardous material, process and management of hazardous wastes.
- Pollution related diseases.
- Strategies for reducing pollution and improving the environment.

9. Global Issues and Improvement of Environment

- Ozone Layer depletion and its effects.
- Greenhouse effect, global warming, climate changes and their effects on human society, agriculture, plants and animals.

10. Disaster

- Disaster-natural (earthquakes, droughts, floods, cyclones, landslides) and man made (technological and industrial), their impact on the environment, prevention, control and mitigation.

Unit –IV Energy

11. Energy Consumption

- Changing global pattern of energy consumption-from ancient to modern times.
- Energy consumption as a measure of quality of life.
- Rising demand for energy gap between demand and supply (Indian context).

12. Conventional Sources of Energy.

- Conventional energy sources-fossil fuels and firewood, potential (Indian context) and limitations of each source, methods of harnessing energy and environment consequences of their use.

13. Non-Conventional Source of Energy

- Non-conventional energy sources-type of non-conventional sources (bio-mass, solar, wind, ocean, hydel, geothermal, nuclear), potential (Indian context) and limitations of each source, methods of harnessing and their environmental consequences, need to promote non-conventional energy sources.

14. Conservation of Energy

- Conservation of energy sources-efficiency in production, transportation and utilization of energy.
- Future sources of energy-hydrogen, alcohol, fuel cells.

Unit-V Safe Work Environment and Occupational Hazards

15. Safe Work Environment

- Safe work environment-adequate light, ventilation, cleanliness, good house keeping

16. Safety Laws, Accidents and First-Aid

- Safety awareness management-safety precautions-home and work (laboratory, workshop, work site), safe handling of equipment and material.
- Occupational hazards-physical, chemical, mechanical, electrical, biological, radiational and psychological.
- Accidents and major hazards in industries and occupations-fire, explosion, toxic release.
- First aid measures. .
- Laws and regulations related to occupational health and safety.

PROJECT WORK SEMESTER-II

Exemplar projects and activities

The projects and activities given below are only suggestive and not prescriptive.

- To improvise two models of greenhouse of similar dimensions made from low cost/on cost material, place them in open under identical conditions. Put some potted plants in one of them and note the temperature inside and outside of both the greenhouse models in every two hours from dawn to dusk for two weeks. Explain the reasons of the difference in temperature(if any) between the two green houses.
- To collect data on monthly consumption of electricity and fuels from atleast five families, any two commercial establishments and four public utilities in given locality.
- To plan strategies for educating consumers about the consumption of electricity and fuel by reducing their over-use, misuse and improper use.
- To study the status of sanitary conditions and method of waste disposal of a given locality for about a month vis-à-vis the role of Panchyat , municipality or corporation and to prepare an action plan for making the conditions more environment friendly.
- To investigate the impact of an industry or a large manufacturing unit on the local environment. The parameters could be land use, the ratio of the covered area and the open

space, the raw materials used for production, inputs like electricity and water, the types of waste generated and the modes of waste disposal, use of environment friendly and efficient technology, types of pollutants emitted or discharged , the average healthy status of the employees and residents in the area.

- To collect samples of water from different sources and study their physical characteristics like turbidity, colour, odour, the measures of pH. the nature of suspended impurities/dissolved impurities/ pollutants, the presence of toxic materials like mercury lead, arsenic, fluorine and the presence of living organisms . The help of local laboratory and institution may be taken for testing the presence of toxic materials and living organisms .
- To identify the most polluted sample of water and locate the sources of its pollution. To devise an action plan for mobilizing public opinion for checking the pollution.
- To prepare a status report on the prevalence of child labour in a given area through a simple survey on children engaged as domestic help or workers in farms, commercial establishment and manufacturing unit. The survey may be in respect of age group, education, wages, working hours, working conditions, safety in work place and handling hazardous materials.
- Units/ industries dealing with hazardous materials may be identified and an action plan for mobilizing public opinion against the practice of child labour may be prepared.
- To prepare a flow chart to show different steps involved the supply of tap water from the sources (river, bore well) to houses in the locality. To collect information from the concerned authorities about the quantity of water processed and the amount of energy required for the purpose at each stage. To compute the energy spent for supplying 1 kilolitre of water to the consumer. To plan and execute a campaign to educate the community members about the implications of wastage of water in terms of energy.
- To conduct a survey through observation and interviews about the prevailing work environment of an establishment such as workshop, factory, manufacturing unit, hospital or any other related to a specific vocation and prepare a report highlighting the presence or absence of the desirable environmental conditions.
- To study the practices followed by the workers in handling hazardous chemicals or hazardous processes through observations and interviews and prepare an action plan suggesting some remedial measures.
- To prepare a model action plan for generation of biogas and other useful products from biodegradable wastes on the basis of data collected from a village or locality .
- To study through observation and interviews the extent of adherence to the prescribed norms of safety in the manufacturing units and automobile workshops in the locality and prepare a report thereon.
