UNIT 5 : PROGRAMMES OF ENVIRONMENTAL EDUCATION

UNIT STRUCTURE

5.1 Learning Objectives

5.2 Introduction

5.3 Objectives of Environmental Education Programme

5.4 Environmental Education Programme: Characteristics

5.5 Importance of Environmental Education Programme

5.6 Formal and Non-Formal Environmental Education Programme

5.7 Programmes of Environmental Education at Different Levels of Education

- 5.7.1 Programmes of Environmental Education at Primary level
- 5.7.2 Programmes of Environmental Education at Secondary level
- 5.7.3 Programmes of Environmental Education at College Education level
- 5.7.4 Programmes of Environmental Education at University Education level

5.8 Let s Sum up

5.9 Further Reading

5.10 Answers to Check your Progress

5.11 Possible Questions

5.1 LEARNING OBJECTIVES

After going through this unit, you will be able to -

- describe the concept and importance of Environmental Education Programme
- explain the formal and non-formal of Environmental Education Programme
- discuss the different programmes of Environmental education at primary, secondary, college and university level.

5.2 INTRODUCTION

You have learnt about the concept and importance of environmental education and related issues in previous units. In this unit you are going to get acquainted with the different environmental education programmes at various levels of education. You may be aware of the inclusion of Environmental Education as a subject of study at different levels of curriculum from the primary to university level. Following the directives issued by the Hon'ble Supreme Court of India, the MHRD and State Departments of HRD have included environmental education as a separate and compulsory subject in the NCERT education curricula at all levels of formal education, that is, primary, secondary, senior secondary, and college levels. SCERT, Assam has also developed the theme-based curriculum of Environmental Education in the light of NCF 2005. This unit will cover in depth the different environmental education programmes with its importance at different levels of education.

5.3 OBJECTIVES OF ENVIRONMENTAL EDUCATION PROGRAMME

Before going to discuss about environmental education programmes at various levels of education, it is important to know the objectives of environmental education programme. These are as follows:

- To provide children with knowledge, attitudes and skills on environment sustainability through hands-on experience in their immediate environment.
- To create awareness among the younger generation about various environmental issues and make them aware of their responsibilities towards nation.
- To expose students to the real-life world in which they live, both natural and social; to enable them to analyse and make conclusions regarding the environmental problems and concerns.
- To gain a better understanding of the 3 R's of waste management: reduce, reuse, and recycle.



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The curriculum may be based on:

- Learning about the environment (Knowledge)
- Learning through the environment (Resources)
- Learning for the environment (Values, Attitudes)

5.4 ENVIRONMENTAL EDUCATION PROGRAMME: CHARACTERISTICS

The chief characteristics as suggested by Ritz (1978) for an environmental education programme are as follows:

- **Basic Science-** The programme should cover basic science when needed, but it should not be dominated by science.
- **Appropriate for teachers-** The programme should be appropriate for teachers with a diverse range of experiences and interests.
- **Training in methods and contents-** There should be training in the methods as well as contents of environmental education.
- **Motivational impact-** The programme should have a major impact on the participants' motivation.
- **Encouragement to teachers-** The programme should encourage teachers to incorporate environmental stewardship into their teaching.
- **Involvement of teachers-**The programme should bring teachers into direct involvement with the actual environment.
- **Stimulation for teachers-** It should awaken teachers to engage themselves in exploring their personal assumptions, values, and sentiments about society and self, as well as their relationship to the natural environment.

5.5 IMPORTANCE OF ENVIRONMENTAL EDUCATION PROGRAMME

Environmental education programmes are important for educating people about sustainability. It is intended to equip people with the knowledge

and skills necessary to live an ecologically balanced life and sustain a society. These programmes demonstrate leadership in promoting sustainability and also contribute to the effort being made in the education sector to deliver learning programmes.

It is vital to educate people effectively about their relationship with the environment. It is important to assist each individual in developing a complete understanding of the environment, the issues that arise from the society's interaction with its surroundings, and the means accessible to the individual to effectively handle environmental problems. Environmental literacy guides students to develop environmental knowledge, attitudes, and behaviours. Therefore, environmental education programmes should be designed to instil knowledge, foster positive attitudes about the environment, and help individuals to develop their skills. Thus, an effective and precise environmental education programme will encompass a variety of perspectives and multidisciplinary issues.

5.6 FORMAL AND NON-FORMAL ENVIRONMENTAL EDUCATION PROGRAMME

A. **Formal Environmental Education Programme:** Environmental mechanisms are introduced at all levels of education, from school to university level with a well-defined and systematic curriculum. The medium of imparting environmental education programme is not only through books but also through first hand experiences.

B. **Non-Formal Environmental Education Programme:** The non-formal Environmental Education Programme is experience-based and involves environmental problem-solving exercises. Non-formal Environmental Education programmes engage students in the natural process of inquiring, exploring, and analysing environmental issues in their immediate area. In India, organisations such as the Centre for Environmental Education (CEE), the World-Wide Fund for Nature (WWF), and others are working to develop and promote educational programmes in schools in order to instil effective learning for environmental conservation.

Various Non-Formal Environmental Education Programme are as follows-

a. Eco school programme.
b. The National green corps.
c. Environmental awareness campaign
d. Workshop, Seminars, exhibitions, puppet show, street play, panel discussion etc.

5.7 PROGRAMMES OF ENVIRONMENTAL EDUCATION AT DIFFERENT LEVELS OF EDUCATION

The Education Commission (1964-66) and other committees proposed that various programmes of Environmental Education be included at various levels of education in the formal system of education. Children in primary school should be taught about plants, natural habitats, as well as how to reuse and recycle used materials. At advance levels awareness regarding bio-diversity conservation, environment conservation should be incorporated. At the university level, it is necessary to generate new information through research and development. Participating in environmental education programmes raises awareness of human-environment interactions and has the ability to safeguard the environment. Various campaigns (excursions, seminars, conferences, and workshops) must be planned on a local, regional, and national level with the aim of increasing student and teacher participation for the cause of sustainable development.

5.7.1 Programmes of Environmental Education at Primary Level

Formal Environmental Education Programme: At the lower Primary level, focus should be placed on cleanliness, the formation of health habits, and the development of observational skills. Environmental topics have been incorporated into the NCERT textbooks for science, social science and language. SCERT, Assam has also developed the theme-based curriculum of Environmental

Education and contents on environmental education integrated in subjects like- general science, social science and language for elementary level in Assam.

At lower primary level of education, emphasis should be given on the senses, colours, shapes, counting etc. Nature walks is important for primary school students. Nature walks are interactive, encouraging and helps in building confidence among students. Different activities should be organised at the primary level of education to help students become aware of their environment. They should be educated about how to take care of their own bodies, personal hygiene, sanitation etc. Primary school students should participate in programmes that promote hygiene and environmental awareness.

At Primary level, attempt should be made to sensitize the child about environment. Emphasis must be mostly on awareness building (75%), followed by real life situations (20%) and conservation (5%). Teaching about the environment must be done through audio-visual aids and field visits.

Following programmes can be imparted to the students.

a) Environmental Awareness Programmes:

- **Environmental Games:** Environmental education can be imparted effectively to the students with the help of environmental games. Games like 'Web of Life' help in inter-relating various aspects of nature and visually communicate the concept of 'Web of Life'.



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ENVIRONMENTAL GAME: 'WEB OF LIFE'

In this game, learners each represent a different organism in an environment. They build a web during the activity, and discover how all the players in an ecosystem depend on each other. As they play, learners will understand with the connections between different species and their environments.

- **Environmental Songs & Poems:** Songs and poems about nature, environment, living beings help to develop environmental awareness among students of primary schools.
- **Environmental Competitions:** Drawing & painting competitions, essay writing competition, debate competition, and poster competitions are various interesting and entertaining means of providing environmental education to students. Competitions help in realizing the desired objectives of environmental education.
- **Film Shows and Exhibitions:** Film shows and exhibitions are also active means of environmental awareness among students.

Non-Formal Environmental Education Programme: Different programmes offered by the Centre for Environment Education, under the Ministry of Environment Forests and Climate Change are discussed below

b) Eco Schools Programme: Eco schools is a global initiative aimed at encouraging environmental education and raising knowledge about sustainable development. This initiative was officially started in India in 2015. The Programme is based on a seven-step methodology and is being implemented at the primary level (classes 1-5). Eco-Schools offer an excellent opportunity for children to develop an understanding of environmental issues affecting their schools and communities. The programme is open for schools from any streams — state board, CBSE, ICSE and international schools. Registered schools receive a kit of resources and training to do action projects centred on five local environmental issues: biodiversity, waste, energy, healthy living, and water. The Programme encourages schools to use project-based learning to qualitatively increase their learning and to share their experiences.

c) Paryavaran Mitra Programme: Paryavaran Mitra is a national

programme that aims to develop a network of young leaders from around the country who possess the awareness, knowledge, dedication, and capability to address the challenges of environmental sustainability in their respective domains of influence. The Paryavaran Mitra programme is primarily targeted at students from classes 6–8. (age group 11-15). The programme provides schools with resources to do action projects concentrating on local environmental challenges within the five programmatic areas of water and sanitation, biodiversity and greening, energy and waste management, and culture and heritage.

d) Eco Club Programme : National Green Corps is a significant initiative launched in 2001-02 by the Ministry of Environment, Forest and Climate Change (MOEFCC) to raise environmental awareness. It intends to develop cadre of young children committed to environmental conservation and sustainable development. This curriculum exposes students to extensive field experiences and provides opportunity for them to put their ideas into action. The primary aim of Eco-Clubs is to promote and implement programmes aimed at educating youngsters about their immediate environment and fostering an understanding of the eco-system and its interdependence.

Activities under Eco Club Programme-

- Organize environmental seminars, debates, lectures and popular talks on environmental issues in the school.
- Organize rallies, marches, human chains and street theatre at public places to raise environmental awareness.
- Take up activities like tree plantation, cleanliness drives both within and outside the school campus.
- To make people aware of the need of maintaining public places like parks, gardens both within and outside the school campus.

e) **National Nature Camping Programme:** The National Nature Camps Programme aimed at creating greater awareness, understanding and empathy of children with and for the environment. It is hoped that every child in middle school (classes VI to VIII) will get at least one opportunity for a 2–3-day camping experience during these years. The 'Nature experience' for children has huge potential to arouse their sensitivity towards nature appreciation and conservation, leading to positive environmental actions.

f) **Nature Conservation Programme:** Activities such as massive plantation, cleaning of water bodies, conservation of natural resources can help in developing the spirit of Environmental awareness among students.



CHECK YOUR PROGRESS

Q 1: Write two objectives of Programmes of Environmental Education.

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Q 2: Write three activities of Eco Club programme.

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Q 3: What are the activities included in Nature Conservation Programme?

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5.7.2 Programmes of Environmental Education at Secondary Level

Formal Environmental Education Programme: Secondary school students must explore the diverse ways of interacting with the environment. They must observe the immediate surroundings in order to understand how living things are inter-related and are dependent upon each other. Through environmental Education Programme, the secondary school students will be motivated to develop the value of environment by conserving neighbourhood resources, civilizing environmental health etc. Students should receive training through environmental programmes in order to understand the behaviours of individuals and group to develop the environment. The environmental Education programmes encourage students to investigate their local environment, develop positive attitudes towards it and actively participate in its preservation**.**

At secondary level emphasis must be given in involving children in out-of-school activities, problem solving and community activities related to environmental problems. At this level objective must be real life experience, awareness and problem identification. The contents must be supplemented with general science. Teaching, practical and field visits must be part of the course content. At higher secondary stage emphasis must be on environmental protection, management, conservation, assimilation of knowledge, problem identification and action skills. Contents may be science-based and action-oriented work. The secondary schools should include action related assignment and workshop for the students. The teachers should organize community service programme, debate competitions, group discussions in the classroom to enlighten the students. Visit to dense forest should be organised so that students develop a taste for natural beauty and acquire knowledge of flora and fauna.

Non-Formal Environmental Education Programme: Non-

Formal Environmental Education Programme for secondary school students are -

a. **The Young Conservationist Programme (YCP):** The purpose of this programme is to provide high school students with specially designed participatory leadership modules that will help them in the future. Simultaneously, participants can use these skills to reach out to a wider audience and raise funds for WWF India's conservation efforts.

b. **WWF's India's one Earth one Home programme:** On September 10, 2020, WWF, India started the one Earth one Home programme to motivate youngsters to adopt pro-conservation attitudes and sustainable household practises toward a greener life. Students from class I to VIII from government or government-aided schools around the country can participate on a week-long guided digital journey to ensure that learning, wellness, and action are all interconnected.

c. **Awareness programme under MOEFCC:** Rallies • Mini - marathon • Door-to- Door Campaigns • Knowledge Workshops • Environment Film Festival • Cleanliness drives • Plantation drives.

d. **National Green Corps Programme:** To inspire and motivate school children to participate in various environmental conservation activities in their communities, the Government of India launched a school programme called National Green Crops. Under this programme, eco-clubs were formed by student members from classes VI to X. These school-based eco-clubs engage in a variety of activities aimed at protecting and improving the environment. The principal focus of NGC programme is to introduce students to action-oriented studies of environmental problems at various levels and to assist them in identifying easy solutions of these problems under the guidance and supervision of their teachers.



CHECK YOUR PROGRESS

Q 4: What should be the emphasis of teaching environmental education at higher secondary stage?

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Q 5: Write five activities of Awareness programme under Ministry of Environment, Forest and Climate Change.

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Q 6: What is the principal focus of the NGC Programme?

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5.7.3 Programmes of Environmental Education at College Education Level

Formal Environmental Education Programmes: At the college level, emphasis should be on sustainable development and conservation. The content must be scientific and technological in nature. Course content should include teaching, practical, and action-oriented field work.

a) **Environmental awareness programmes:** Eco development camps and lecture series make students aware about various environmental aspects. Film shows and exhibitions are active means of environmental awareness.

b) **Research Project:** Research projects that deal with environmental problems can be conducted by the students of colleges.

c) **Action Research:** Action Research on local environmental problems can also be conducted by the students of colleges.

d) **Eco school projects:** Through the eco-school projects, learners may attend field trips, observation and take part in bird watching activities. Students might be involved in cleaning up, recycling, planting etc.

e) **Environmental Discussions:** Conducting various group discussions, seminars, workshops, conferences, symposia, interaction meets in college helps in developing wide outlook towards environmental awareness.

Non-Formal Environmental Education Programme: At college level non-formal environmental programmes include-

a) **WWF-India's Youth for Nature Conservation Programme:** The WWF India's Youth for Nature Conservation Programme is a six-week virtual youth leadership training programme for students enrolled in any undergraduate degree. The programme is structured in such a way that it will continue to extend:

- A learning platform enabling students to explore into the field of conservation and become acquainted with the efforts and challenges involved in protecting India's most endangered ecosystems and species.
- Possibility of acquiring and developing relevant knowledge, skills, commitments, attitudes, and behaviours related to environmental protection and sustainability.



CHECK YOUR PROGRESS

Q 7: At the college education level, maximum emphasis must be given on knowledge regarding…….(Fill in the blanks)

Q 8: Mention any two programmes offered by colleges on environmental education.

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Q 9: Write three environmental awareness activities for college students.

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5.7.4 Programmes of Environmental Education at University Education Level

Formal Environmental Education Programmes: At University level, Environmental Education is being looked after by the UGC. At post graduate level, four major areas are recognised environmental engineering, conservation and management, environmental health, social ecology. Universities can help to establish sustainable development through following aspects: a) Teaching programmes b) Research c) Outreach Programme.

a. **Teaching Programmes:** In the teaching programme, the framework of the curricula should include the relevant information on environmental issues. The learners should become familiar with all environmental skills and information. The curriculum should encourage pupils to participate and work to solve the environmental issues. Besides classroom studies, young learners have the ability to raise public awareness about environmental issues through street plays, rallies, and exhibitions at the grassroots level. Direct nature experiences are well known for enhancing individuals' environmental awareness and fostering positive attitudes toward the environment. The teaching programme for environmental awareness includes applied research projects, lecture series,

documentary shows, celebration of environmental days, competitions, exhibitions, nature visits, nature clubs, seminars and conferences.

b. Research: Research is a necessary part of higher education. It is an analytical parameter for obtaining new knowledge or generating new ideas for the development of the society. Globally, in higher education research is regarded as one of the most effective tools for the development of healthy environment. Environmental aspects, particularly those relating to renewable and non-renewable resources, pollution monitoring and control, and biodiversity conservation, are the significant areas of research. At PG level, applied environmental projects can be taken up by the students which will give actual field experience and improve the quality of research work. Moreover, different National level Research Institutes in India such as UGC, NEERI, NCL, NIO, IIT, MOEF etc. are trying to solve many environmental problems as well as some of them act as funding agencies for such projects.

c. Outreach Programme*:* The purpose of outreach programme is to create relationship between academic institutions and communities with the objective of increasing capacity to solve an issue in society and enhancing the research and teaching capacities of participating colleges and universities. Higher education institutions play an important role in shaping communities' development. Higher education institutions must engage in community outreach-based research in order to contribute to the development of a strong knowledge-based economy in the country. These activities can increase wages and productivity, enabling countries to achieve major advances in social, economic, scientific, technical, and political development. Higher educational institutions and non-governmental organisations can collaborate to promote environmental conservation and awareness. The educational institutions can share their knowledge to solve the

environmental problem. Simultaneously, the Environmental NGO's can also disseminate the information about the solution to the needy society.

Non-Formal Environmental Education Programmes: At University level non-formal Environmental Education Programmes include -

- ***Environmental Awareness Campaigning*:** University may organise environmental awareness campaigning for the people on various themes like environmental pollution, environment protection, plastic waste management, etc. to raise awareness and motivate the community to protect and conserve the environment.
- ***Community Development Programme:*** Community development programmes may be conducted by higher educational institution for community people. The programme components may include social and environmental aspects.
- ***Rain-Water Harvesting Practice (Green Practice*):** It is an important environment friendly approach. This green practice can be encouraged in the form of community development programme by the higher educational institutions.
- ***Lecture Programme:*** Students as well as community people can actively participate in lecture programme by asking questions related to the theme being discussed. Online lectures have shown to be an effective way for students to gain an overview of the topic at hand while also interacting directly with the resource person.



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Rainwater harvesting is the collection and storage of rain, rather than allowing it to run off. Rainwater is collected from a roof-like surface and redirected to a tank, cistern, deep pit, aquifer, or a reservoir with percolation, so that it seeps down and restores the ground water.



CHECK YOUR PROGRESS

Q 10: Environmental Education at the University education stage is looked after by the ……(Fill in the blanks)

Q 11: What are the four major areas recognized at the post graduate level?

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Q 12: What are the programmes of Environmental Education at University level?

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5.8 LET US SUM UP

- Environmental education programmes are important for educating people about sustainability. It is intended to equip people with the knowledge and skills necessary to live an environmentally balanced life and sustain a community. These programmes demonstrate leadership in promoting sustainability and also contribute to the effort being made in the education sector to deliver learning programmes.
- In order to instil effective learning for environmental conservation, educational institutions must design both formal and non-formal environmental education programmes.
- At primary level, children should be made aware about plants, animal needs, their natural habitats; reuse and recycle of materials that have been used. At advance levels awareness regarding bio-diversity conservation, environment conservation, alternative sources of energy

and global climate change etc should be taught. At university level new knowledge need to be produced through research and development.

- Different programmes offered by the Centre for Environment Education for primary level students are- Eco schools programme, Paryavaran Mitra Programme, Eco club programme, National Nature camping programme etc.
- At secondary level emphasis must be given on involving children in out-of-school activities, problem solving and community activities related to environmental problems. At this level objective must be real life experience, awareness and problem identification. The contents must be supplemented with general science. Teaching, practical and field visits must be part of the course content.
- At higher secondary stage emphasis must be on environmental protection, management, conservation, assimilation of knowledge, problem identification and action skills. Contents may be science-based and action-oriented work.
- Different non-formal programmes of Environmental Education at secondary level are The Young Conservationist Programme (YCP), WWF's India's one Earth one Home programme, National Green Corps Programme etc.
- Awareness programme under MOEFCC for secondary level of education are: Rallies, Mini - marathon, Door-to- Door Campaigns, Knowledge Workshops, Environment Film Festival, Cleanliness drives, Plantation drives, etc.
- At the college level, emphasis should be on sustainable development and conservation. The content must be scientific and technological in nature. Course content should include teaching and action-oriented field work.
- Environmental awareness programmes, WWF-India's Youth for Nature Conservation Programme, Research Project, Action Research, Environmental Discussions are different programmes can be imparted to college level students.

- At post graduate level, four major areas are recognised environmental engineering, conservation and management, environmental health, social ecology. Universities can help to establish the sustainable development through following aspects: a) Teaching programmes b) Research c) Outreach Programme.



5.9 FURTHER READING

1) Das. P. and Sahidullah. F.T. (2019). *Environmental Education and Population Education*. Guwahati: Shanti Prakashan.
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3) Sarma, R.C. (1997). *Environmental Education*. Meerut: Surya Publication.
4) Sharma, R.A. (2012). *Environmental Education*. New Delhi: Metro Politary Book Co. Pvt. Ltd.
5) Vijayan. S. (2008). *Principles of Environmental Education*. New Delhi:Sarup & Sons.



5.10 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: Two objectives of Programmes of Environmental Education are as follows:

a) To provide children with knowledge, attitudes and skills on environment sustainability through hands-on experience in their immediate environment.

b) To create awareness among the younger generation about various environmental issues and make them aware of their

responsibilities towards nation.

Ans to Q No 2: Three activities of eco club programme are as follows-

a. Organize seminars, debates, lectures and popular talks on environmental issues in schools.

b. Organize rallies, marches, human chains and street theatre at public places with a view to spread environmental awareness.

c. Take up activities like tree plantation, cleanliness drives both within and outside the school campus.

Ans to Q No 3: Activities such as massive plantation, cleaning of water bodies, conservation of natural resources can help in developing the spirit of environmental awareness among students.

Ans to Q No 4: • At higher secondary stage emphasis must be on environmental protection, management, conservation, assimilation of knowledge, problem identification and action skills. Contents may be science-based and action-oriented work.

Ans to Q No 5: Five activities of awareness programme under Ministry of Environment, Forest and Climate Change are: Rallies, Mini - Workshops, Environment Film Festival, Cleanliness drives, Plantation drives, etc.

Ans to Q No 6: The principal focus of the NGC Programme is to introduce students to action-oriented studies of environmental problems at various levels and to assist them in identifying easy solutions of these problems under the guidance and supervision of their teachers.

Ans to Q No 7: Sustainable development and conservation.

Ans to Q No 8: Two programmes offered by colleges on environmental education are as follows:

a) Environmental awareness programmes

b) WWF-India's Youth for Nature Conservation Programme

Ans to Q No 9: Three environmental awareness activities for college students are as follows:

a. Eco development camps

b. Lecture series

c. Film shows and exhibitions

Ans to Q No 10: University Grant Commission.

Ans to Q No 11: The four major areas recognized at the post graduate level are as follows:

a. Environmental engineering,

b. Conservation and management,

c. Environmental health,

d. Social ecology.

Ans to Q No 12: The Programmes of Environmental Education at University level are a) Teaching programmes b) Research c) Outreach Programme



5.11 POSSIBLE QUESTIONS

A) Short Questions (Answer each question in about 150 words)

Q 1: Write four objectives of Environmental Education Programme.

Q 2: Write five characteristics of environmental education programmes suggested by Ritz in 1978.

Q 3: What are formal and non-formal environmental education programme?

Q 4: State the importance of Environmental Education Programme.

Q 5: Write a short note on Eco-club Programme.

B) Long Questions (Answer each question in about 300-500 words)

Q 1: Discuss about the programmes of Environmental Education at Primary Level of Education.

Q 2: What programmes should be included at the secondary level to impart environmental Education?

Q 3: Discuss how Environmental Education can be made effective at college level in India.

Q 4: Discuss the programmes of Environmental Education for University students.

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