

Dawood Public School
Course Outline 2017-18
Environmental Management
Class XI

Syllabus Code: 5014

1. Syllabus content at a glance

The content of this syllabus is designed to encourage reflection on the limits to growth and sustainable development.

- The content is divided into four broad areas:
 - Lithosphere – rocks, minerals, soils, plate tectonics.
 - Hydrosphere – water cycle, oceans.
 - Atmosphere – air, climate, weather.
 - Biosphere – biomes, ecosystems, populations.
- In each case, these are explored through an analytic process of consideration of:
 - Resources – How does the natural system work?
 - Development – How do people use natural resources?
 - Impact – How does development change the environment?
 - Management – How can the environment be developed sustainably?
- The content is structured as a series of learning outcomes that lay out what candidates should know, understand and be able to analyse and discuss.

2. Assessment at a glance

All candidates take Papers 1 and 2.

Paper 1	2hr 15 min.	Paper 2	1hr 30 minutes
This will consist of two sections. Section A will consist of four compulsory structured short-answer questions, each based on one of the four spheres (lithosphere, hydrosphere, atmosphere, biosphere). (40 marks) Section B will consist of a number of compulsory structured questions, involving short-answer and free response, based upon several pieces of related source material concerning environmental issues of global impact. Candidates will be expected to use case studies to illustrate issues of environmental management. (80 marks)		This paper primarily tests skills in Assessment Objectives B and C. Candidates are given data about an environmental problem which could provide the basis for a project. They will be required to identify issues raised by the data and to indicate ways in which a project could be organised to identify a possible management strategy.	
120 marks: 60% of total assessment		60 marks: 40% of total assessment	

3. Syllabus aims

The aims are to enable candidates to acquire:

1. knowledge of the functioning of the natural system which makes life possible on Earth;
2. an understanding that humankind is part of this system and depends on it;
3. an appreciation of the diverse influences of human activity on the natural system;
4. an awareness of the need for management and human responsibility to keep the system in a healthy condition if life as we know it is to continue;
5. an understanding of sustainable development and management to meet the needs of the present, without compromising the ability of future generations to meet their own needs;
6. an understanding of how local environments contribute to the global environment;
7. a sensitivity to, and a sense of responsibility and concern for, the welfare of the environment and all other life forms which share this planet;
8. an awareness of their own values concerning environmental issues;
9. an awareness of the values of others;
10. a willingness to review their own attitudes in the light of new knowledge and experiences;
11. a sound basis for further study, personal development and participation in local and global environmental concerns.

4. Assessment objectives

Assessment objectives are relatively independent sets of skills and activities. In Cambridge O Level Environmental Management, the three Assessment Objectives are skills-oriented rather than content-oriented.

A. Knowledge with understanding

Candidates are expected to demonstrate knowledge and understanding of:

1. the wide range of processes contributing to
 - a) the functioning of the Earth's natural, geophysical and ecological systems;
 - b) human development within the natural system and the impact of human activity on the total environment;
2. the concept of environmental interdependence and should be able to place local environmental questions in an international or global setting;
3. the implications of the unequal distribution of resources and of the unequal patterns of human development;
4. the concept and practice of sustainable development;
5. ways of reducing and repairing environmental damage.

These assessment objectives will mainly be covered in the **Resources and Development** elements of the syllabus.

B. Enquiry, presentation and analysis

Candidates are expected to demonstrate the ability to:

6. select and use suitable basic techniques to
 - a) observe, record and classify relevant primary data;
 - b) extract and classify relevant secondary data from appropriate sources;
7. organise and present their findings
 - a) in a logical and concise manner;
 - b) in a clear and coherent form, using appropriate techniques including graphs, diagrams, maps and tables;
8. analyse data to
 - a) recognise patterns and deduce relationships;
 - b) draw reasoned conclusions;

These assessment objectives will be covered throughout the syllabus.

C. Evaluation, judgement and decision making

Candidates should be able to:

9. recognise that cultural, economic, social, and political factors influence the different ways in which people perceive, value, use and make decisions about the environment;
10. discuss and evaluate choices available to decision makers and the influences and constraints in which they operate;
11. recognise, analyse, discuss and evaluate strategies for sustainable development;
12. make reasoned judgements about environmental issues.

5. The syllabus matrix

The syllabus is organised as a matrix as follows:

	Resources	Development	Impact	Assessment
Biosphere	Biomes Types of vegetation	The changing role of people in the environment Human population Modification of vegetation and soils	Ecosystems at risk People in crisis Land at risk	Conservation of the ecosystem Population management Managing the land

The syllabus is designed to emphasise that

- (a) life on Earth as we know it is an integrated and interdependent whole;
- (b) its future is endangered by the impact of human development on natural resources;
- (c) its survival for future generations will depend on concerted action to conserve and manage the environment as a self-sustaining resource base.

For each of the four spheres of the Earth's environment (lithosphere, hydrosphere, atmosphere and biosphere), the following aspects are considered.

1. **Resources:** How does the natural system work?
2. **Development:** How do people use natural resources?
3. **Impact:** How does development change the environment?
4. **Management:** How can the environment be developed sustainably?

6. Syllabus content

Units	Topics
Unit 4.1 Ecosystems: their function, operation, and resource potential	Ecosystems Organization of ecosystems Adaptations to physical factors Relationships of living organisms pollination, dispersal of fruits and seeds, vegetation succession Producers, consumers, food chains and food webs Energy flows Nutrient cycling the carbon cycle, the nitrogen cycle Resource potential of biomes

	<p>Biodiversity</p> <p>Biodiversity as a genetic resource</p>
Unit 4.2 Human activities and their impacts on the Earth's environment	<p>Primary, secondary and tertiary activities</p> <p>Changes in Farming and the natural environment</p> <p>Genetic engineering and GM crops</p> <p>Habitat destruction and its effects on species deforestation, loss of wetlands, flooding</p> <p>Unfavourable environmental impacts</p> <p>Unit 4.3 Strategies for conservation</p>
Unit 4.3 Strategies for conservation	<p>Gene banks, biosphere reserves, nature reserves, national parks, World conservation strategies, habitat conservation</p>
Unit 4.4 Biomes and their distribution	<p>Tundra, Taiga, Tropical rainforest, Importance of nutrient cycling, Monsoon forests, Savannah grasslands</p>
Unit 4.5 Deforestation and forest management	<p>Clearance of natural vegetation</p> <p>Means of rainforest destruction</p> <p>Cultivation, Ranching, Logging and Energy</p> <p>Case study of deforestation-Indonesia</p> <p>Sustainable forest management techniques</p> <p>Management in tropical forests</p> <p>Global issues</p>
Unit 4.6 Soil erosion, desertification and conservation	<p>Soil erosion and its causes</p> <p>Consequences of soil erosion</p> <p>Desertification</p> <p>Example- The Sahel in Africa</p> <p>Soil conservation</p> <p>Mechanical methods, Changes in farming practices and Community solutions</p>
Unit 4.7 World population growth	<p>Birth rates</p> <p>Death rates</p> <p>Natural increase</p> <p>The demographic transition model (advantages and disadvantages of the model)</p> <p>Population structure</p> <p>Migration</p> <p>Urbanization</p> <p>Urban Problems</p> <p>Implications of Population structure</p> <p>Strategies for managing population growth (China and one child policy, Policies in other asian countries).</p> <p>Strategies for managing urban problems</p> <p>Improving housing in developing countries</p> <p>Strategies for management</p> <p>Case study 1: Chennai in India</p> <p>Case study 2: Orangi Pilot Project</p>

Unit 4.8 World inequalities, trade and aid	Contrasts in development between rich and poor Measuring economic development Other measures of development Environmental consequences of poverty The need for fair trade The Fair trade movement Aid Types of aid
Unit 4.9 Unsustainability on Earth	Global indications of unsustainability caused by people

Monthly Syllabus

Duration	Syllabus Content
August	Unit 4.1 Ecosystems: their function, operation and resource Unit 4.2 Human Activities and their impacts on the Earth's environment
September	Unit 4.3 Strategies for conservation Unit 4.4 Biomes and their distribution Unit 4.5 Deforestation and sustainable management of forests
October	Unit 4.6 Soil erosion, desertification and conservation Unit 4.7 World population growth Unit 4.8 World inequalities, trade and aid Unit 4.9 Unsustainability on Earth
November	Revision through past papers
November - December	Mid year exams
January - march	Revision through Pastpapers.

