1. What is meant by pollution?

**The harmful addition to the environment (by humans)**

1. Give an example of a human activity that results in the pollution of air or water.

**Any correct example of human activity, e.g. air - burning fossil fuels** or **water - fertiliser run-off**

1. Explain conservation in relation to wild plants and animals.

**The protection, preservation, reproduction and wise management of endangered plants and animals**

1. State one conservation practice from agriculture or fisheries or forestry.

**Control of fertiliser usage** or **control of mesh size** or **plant trees** or **any valid example**

1. Suggest two reasons for conserving wild species.

**Aesthetic / recreational / food supplies / possible sources of drugs /source of other materials / species right to existence / prevent extinction / biodiversity or balance**

1. Explain what is meant by pollution.

**The harmful addition to the environment (by humans)**

1. Give an example of pollution and describe how this form of pollution can be controlled.

**Example / Control, e.g. burning fossil fuels / catalytic converters (scrubbers)**

1. Describe some of the problems associated with waste disposal.

**Disease / pollution / toxins / smell / unsightly / other valid named problem**

1. Give an outline account of one example of waste management.

Agriculture **- Slurry / dilute / on dry land / a fertilizer;** Fisheries **- Heads, neutralise waste / pulped and dried / fertiliser or pig feed.;** Forestry **- Small branches / humus / Large branches / wood products**

1. Explain what is meant by conservation.

**The wise management of the environment or organisms**

1. Give a brief account of a conservation practice with which you are familiar.

**Example / conservation benefit, e.g.** Agriculture **- crop rotation / prevent mineral depletion from soil;** Fisheries **- net size / small fish escape to mature and reproduce;** Forestry **- replanting / ensure continuity of supply and maintaining ecosystem**

1. What is meant by pollution?

**The harmful addition to the environment (by humans)**

1. Describe a human activity that may result in pollution. Suggest a way in which this pollution could be prevented.

**Any valid activity, e.g. fertiliser run-off; prevention, e.g. suitable timing of application**

1. What do you understand by the term conservation?

**The wise management of the environment or organisms**

1. Suggest three reasons for conserving wild animals and plants.

**Food source / balance of nature / biodiversity / prevention of extinction / health of planet / aesthetic / recreational / O2 / CO2**

1. Explain what is meant by pollution.

**The harmful addition to the environment (by humans)**

1. Give an account of the effects of a named pollutant of domestic, agricultural or industrial origin.

**Name / Effect, e.g. agricultural - fertiliser run-off / eutrophication, etc.**

1. Outline the problems associated with the disposal of waste. Suggest two ways of minimising waste.

Problems **– may be toxic/ non-biodegradable/ pollute groundwater/ no land-fill available / costly / incineration (causes toxins) /valid example;** Minimising **– reduce or recycle or re-use or example(s)**

1. Waste management is becoming an increasingly difficult matter. Suggest two reasons for this.

**Increasing population / increasing consumption (prosperity) / too little recycling / opposition to incinerators / shortage of landfill sites / illegal dumping / NIMBY / cost**

1. Describe one method of waste management by reference to agriculture, fisheries or forestry.

Agriculture **e.g. Slurry / dilute / on dry land / a fertilizer;** Fisheries **e.g. Heads, neutralise waste / pulped and dried / fertiliser or pig feed.;** Forestry **e.g. Small branches / humus / Large branches / wood products**

1. Suggest some ways of minimizing waste.

**Reduce / Reuse / Recycle / bulk packaging / biodegradable packaging / incineration**

1. Waste management is a matter of growing concern in Ireland as the population expands. Outline three problems associated with waste disposal.

**Disease / pollution / toxins / smell / unsightly / other valid named problem**

1. Give an example of waste produced in agriculture or fisheries or forestry and describe how it is managed.

**Agriculture e.g. Slurry / dilute / on dry land / a fertilizer; Fisheries e.g. Heads, neutralise waste / pulped and dried / fertiliser or pig feed; Forestry e.g. Small branches / humus / Large branches / wood products**

1. Suggest two methods of waste minimisation.

**Reduce consumption / reduce packaging / recycle / reuse**

1. Give one example of the use of micro-organisms in waste management.

**Landfill sites / sewage treatment plants / digesters / compost heaps**

1. What is meant by pollution?

**The harmful addition to the environment (by humans)**

1. Give an example of pollution which may result from domestic (household) or industrial or agricultural activity.

**e.g.** Domestic **- plastic bags;** Industrial **- sulphur dioxide from burning fossil fuels;** Agricultural **- slurry and fertiliser washed or leeched from land**

1. Suggest two ways to prevent or control pollution.

**Two ways, e.g. Slurry & Fertiliser - do not spread on wet / waterlogged / steeply sloping land; Sulphur dioxide - fit catalytic scrubbers to factory chimneys; Plastic bags - tax / levy / reuse / recycle**

1. Write a short paragraph (about 5 lines) on waste management.

**Waste produced/ must be disposed safely/ recycled / re-used / reduce / example of waste/ how managed/ role of micro-organisms**

1. What does an ecologist mean by the term conservation?

**The wise management of the environment or organisms**

1. Give an outline of one conservation practice used in agriculture or fisheries or forestry.

**Example / conservation benefit**

1. Explain the words **pollution** and **conservation**.

**Pollution: Harmful addition to an ecosystem; Conservation: Management of ecosystems**

1. State the effect of any one named pollutant.

**Named pollutant. Effect must match named pollutant, e.g. fertiliser run-off / eutrophication**

1. Outline one conservation measure carried out by one of the following industries: agriculture or forestry or fisheries.

**Conservation measure - Two points needed, e.g.** Agriculture **- crop rotation / prevent mineral depletion from soil;** Fisheries **- net size / small fish escape to mature and reproduce;** Forestry **- replanting / ensure continuity of supply and maintaining ecosystem**

1. Name one problem associated with waste disposal.

**One problem associated with waste disposal, e.g. availability of landfill sites / dioxin production from incineration / etc.**

1. State one role of microorganisms in waste management.

**To consume waste**

1. What is meant by pollution?

**Any harmful addition to the ecosystem (example not acceptable)**

1. Name one human activity that causes pollution.

**Any relevant activity but not naturally occurring catastrophe, e.g. fertiliser run-off**

1. State two problems associated with waste disposal in Ireland.

**1. e.g. Finding land for landfill sites; 2. e.g. Litter / pollution or named form of pollution**

1. List two ways of minimising waste.

**Reduce / Reuse / Recycle**

1. Give one example of the use of microorganisms in waste management.

**e.g. Breaks down waste / in sewage treatment plants**

1. What is meant by the term predator?

**Organism that kills & eats others**

1. What is meant by the term conservation?

**Management of an ecosystem (not natural resource & not protection)**

1. What does an ecologist mean by the term conservation?

**Management of environment or management of species (or organism(s))**

1. Suggest a reason why nature reserves are important for conservation.

**To allow species to develop or (maintaining) biodiversity or prevent extinction or protection**

1. Explain the term pollution.

**Harmful addition to the environment (or named part of environment)**

1. Pollution may result from domestic, agricultural or industrial sources. Select one of these areas and state an effect that may be produced by a named pollutant. How may the pollution referred to be controlled?

**e.g. agricultural - fertiliser run-off / eutrophication, etc. Control: timing of fertiliser application**

1. In relation to the incineration of domestic waste, suggest: (i) an advantage of the process, (ii) a disadvantage of the process.

**(i) Amount of waste greatly reduced or useable heat or reduced landfill, (ii) Harmful products**

1. Organisms that are introduced into new environments outside their natural ranges are referred to as exotic species. In some cases these introductions have been deliberate and in other cases accidental e.g. when a species kept in captivity in a new country escapes and gives rise to a wild population. Worldwide, the great majority of deliberate attempted introductions have been unsuccessful.

(i) Suggest a reason for attempting to establish an exotic species in a new country.

(ii) Suggest two reasons why the great majority of attempted introductions have been unsuccessful.

(iii) Use your knowledge of the life cycle of flowering plants to suggest how an exotic plant may escape from captivity.

(iv) Use the knowledge that you have gained in your studies of ecology to suggest how the introduction of an exotic species may: 1. impact negatively on an existing community. 2. impact positively on an existing community.

**(i) Food source or biological control or aesthetic or sporting or other;**

**(ii) Failure to adapt / example of failure to adapt / preyed upon / insufficient numbers / dispersal / competition;**

**(iii) Seed dispersal or fruit;**

**(iv) 1. Increased competition or (increased) predation or example of increased competition or example of increased predation; 2. Control of nuisance species or food or shelter or other**

1. Pick a term from the list to match the following description: Any harmful addition to the ecosystem. List: Pollution; Niche; Recycle; Burning fuel; Conservation; Smell.

**Pollution**

1. Pick a term from the list to match the following description: A problem associated with waste disposal. List: Pollution; Niche; Recycle; Burning fuel; Conservation; Smell.

**Smell**

1. Pick a term from the list to match the following description: A way to minimise waste. List: Pollution; Niche; Recycle; Burning fuel; Conservation; Smell.

**Recycle**

1. Pick a term from the list to match the following description: Wise management of an ecosystem. List: Pollution; Niche; Recycle; Burning fuel; Conservation; Smell.

**Conservation**

1. Pick a term from the list to match the following description: A possible cause of pollution. List: Pollution; Niche; Recycle; Burning fuel; Conservation; Smell.

**Burning Fuel**

1. As a result of pollution, a species of plant disappears from an ecosystem. Suggest two possible effects that the disappearance of this plant might have on the other plants and animals living in the area.

**Plants and/or animal numbers increase and /or decrease (valid examples allowed)**

1. Suggest why continual monitoring of the environment is valuable.

**To be able to detect change(s) or to remedy effect of change or to detect levels of pollutants (or example)**

1. In ecology, what is meant by the term conservation?

**Wise management of natural resources**

1. Suggest why conservation is important in an ecosystem.

**To prevent extinction / (to maintain) biodiversity / (to maintain) the balance of nature**

1. What is meant by the term pollution?

**Any harmful addition to the environment**

1. State any two types of pollution associated with waste disposal.

**e.g. Air pollution / water pollution / ground pollution**

1. Give one example of a waste associated with agriculture or forestry or fisheries. State how the named waste is managed.

**Example of waste; How waste is managed**

1. Give three ways to minimise waste.

**e.g. Reduce / Reuse / Recycle**

1. Give one example of the use of micro-organisms in waste management.

**e.g. To consume waste e.g. sewage breakdown**

1. Suggest one advantage and one disadvantage of biological control of a pest organism.

***Advantage*: No (harmful) chemicals or specific (target pest); *Disadvantage*: Possible extinction (of a species) or may not be specific (or explained) or immunity develops or balance of nature disturbed (or explained)**

1. The vast amount of waste generated is one of the consequences of the huge increase in the human population. Mention the three main ways in which waste can be minimised.

**Reduce / reuse / recycle**

1. What is pollution?

**Any harmful addition to the environment**

1. What is the role of microorganisms in pollution control?

**Decomposition**

1. Describe the role of Animals in the Nitrogen Cycle and in the Carbon Cycle.

**Consume plants / assimilate protein / assimilate. carbohydrate / produce nitrogenous waste / respire / die**

1. Give two problems associated with waste disposal.

**e.g., Smell, Unsightly, Vermin, Disease, Pollution, illegal dumping, etc.**

1. Mention two ways of minimising the amount of waste produced.

**Reduce or Reuse or Recycle**