



UGANDA NATIONAL EXAMINATIONS BOARD
UGANDA CERTIFICATE OF EDUCATION
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Watsp 07550

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Subject Paper code **0778599963**

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Natural resources.

→ Are substances that occur in nature and can be used for economic benefit or to satisfy human needs.

* Category of natural resources.

① Renewable resources:

These resources can be replenished for example Air, Water, Forests (trees)

② Non-renewable resources.

These resources cannot be replenished for example Rocks or Minerals, Fossil fuels.

* Composition of natural resources.

(a) Air is composed of Oxygen, Nitrogen, carbon dioxide, Water vapour, Rare gases and dust particles in different proportions.

(b) Water is a compound made up of hydrogen and Oxygen. It has dissolved minerals, micro-organisms.

(c) Fossil-fuels contain Carbon, Hydrogen, oxygen and small amounts of other elements like nitrogen.



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Sulphur and mineral matter.

(d) Rocks contain Copper, Aluminium, Iron, Limestone and other minerals like Gold, Quartz.

(e) Forests (Trees) made up of different important elements like Carbon, Hydrogen, Calcium, Sodium Magnesium (depending on the soil composition).

* Impact of natural resources on the environment, how it occurs, and mitigation.

(i) Air

⇒ Global warming; When some components of air like Carbon dioxide increases in its level, being a greenhouse gas, it traps heat in the atmosphere leading to global warming. This can be mitigated by increased afforestation and re-afforestation as these trees absorb carbon dioxide from the atmosphere thus reducing global warming.

⇒ Air pollution; When air pollutants like Carbon monoxide, Sulphur dioxide are released in the atmosphere, being poisonous, pollutes the environment hence reducing on the amount of oxygen resulting into suffocation thus death.

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→ Living organisms: This can be mitigated by using Catalytic converters on exhaust pipes of cars and other fuel engines to reduce the poison in the environment.

(ii) Water.

→ Rusting: Water has dissolved Oxygen which facilitates rusting of iron containing materials thus weakening the metal. This can be mitigated by painting, galvanising and use of alloy to reduce the effect of rusting.

→ Water pollution: When waste materials from industries and agriculture are released into water bodies, these act as food for algae thus accumulation of algae (algae bloom) hence polluting water bodies. This can be mitigated by ensuring effective wastewater treatment.

(iii) Rocks

→ Destruction of habitats: Rocks contain minerals like gold, which are obtained through mining and drilling. This destroys the ecosystem and habitats of living organisms. This can be mitigated by introducing sustainable mining practices.



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(iv) Fossil fuels.

⇒ Air Pollution; Burning fossil fuels releases carbon dioxide and other greenhouse gas which results into global warming thus polluting the environment. This can be mitigated by practising afforestation and re-afforestation to absorb carbon dioxide from atmosphere.

* Impact of human activities on natural resources, how it occurs and Mitigation.

(a) Charcoal burning (Affects Air, Trees)

This involves cutting down of trees which leads to deforestation and loss of habitat for wild animals.

This results into increased amount of carbon dioxide in the atmosphere which leads to global warming. This can be mitigated by imposing strict laws and government policies against charcoal burning or by afforestation.

(b) Stone Quarrying. (Affects mainly Rocks)

This involves breaking of rocks into small stones and gravels for construction purpose. This disrupts the underground water cycle hence reduced water quality. It also results into

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air pollution from dust, destroys vegetation. This can be mitigated by imposing strict government policies and laws against stone quarrying.

(c) Farming (Affects Water).

This involves the use of fertilizers and manure which pollutes water bodies and makes the water unsafe for use. This may result into algae bloom since fertilizers act as food for algae. This can be mitigated by sensitising farmers to use controlled doses of fertilizers and manure in gardens. Or use of organic fertilizers like manure from both animal and wastes of plants which are biodegradable.

Other activities include:

- (1) Animal husbandry (Affects Water)
- (2) Bush burning (Affects Air).
- (3) Overgrazing (Affects Air, Soil)
- (4) Fishing (Affects Water)
- (5) Petrochemical manufacturing industries (Affects fossil fuels and Air)
- (6) Transportation industry (Affects Air, fossil fuel)
- (7) Crop husbandry (Affects Mainly Water)

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* Benefits / Importance of natural resource .

(a) Air.

⇒ Air facilitates aerobic respiration; During aerobic respiration, carbohydrates combine with oxygen and these are broken down in the process to release energy for proper body functioning.

⇒ Air facilitates photosynthesis; During photosynthesis, carbon dioxide from air combines with water in presence of sunlight trapped by chlorophyll to form glucose, carbohydrates and oxygen.

(b) Water.

⇒ Water as a habitat; Many aquatic organisms like fish, snakes, snails live in water bodies since water contains necessary conditions for survival of animals such as dissolved oxygen.

⇒ Rain formation; Water bodies like lakes, rivers, swamps play a vital role in rain formation through evaporation and condensation processes.

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(b) Fossil fuels.

⇒ Source of fuel; When fossil fuels are burnt produces heat energy used to run engines and machines and also used for cooking.

(d) Rocks

⇒ Soil formation; Rocks break down into smaller particles by weathering process. This is due to exposure to wind, temperature change which eventually forms soil and releases nutrients.