

545/1  
CHEMISTRY  
Paper 1  
2024



UGANDA NATIONAL EXAMINATIONS BOARD

Uganda Certificate of Education

CHEMISTRY

Paper 1

*New Lower Secondary Curriculum*

***SCORING GUIDE***

## 545/1 - CHEMISTRY DRAFT GUIDE / BASIS

### Section A

#### Item 1.

S/N	Basis of Assessment	Assessment Criteria	Scoring
A.	<b>CATEGORY / TYPE</b>	Onyera used a soapy detergent (or soap) instead of a soapless detergent.	02
B.	<b>FUNCTIONS OF PRODUCTS (How It Works)</b>	<p>- The dirt is held on the cloth by a layer of oil.</p> <p>- Detergents (soaps) facilitate the emulsification and removal of grease / .</p> <p><b>Alternatively</b></p> <p>- Detergents facilitate breakdown of fats into small parts.</p> <p>- A soap molecule contains two parts; namely; the water-soluble /polar carboxylate head / hydrophilic end or lipophobic head and non-polar tail/fat-soluble part / hydrophobic part/lipophilic part.</p> <p>-During washing, soap acts by lowering the surface tension between water and oil/grease/other water insoluble materials and also emulsifies them. The hydro-carbon tail becomes attached to dirt /oil /fat while the polar head dissolves in water. With constant agitation, the dirt is pulled off the cloth and gets dispersed in water as tiny droplets which are then poured away. The cloth is then rinsed several times and dried.</p>	02
C.	<b>DANGERS OR SIDE EFFECT OF PRODUCTS.</b>	<p>(a) Soap contains chemicals that can cause:</p> <ul style="list-style-type: none"> <li>• Skin burns / blisters / irritation and hence pain or cancer.</li> </ul>	03

		<ul style="list-style-type: none"> <li>• Eye redness and pain; hence loss of vision.</li> <li>- Mitigation can be done by thoroughly washing the affected areas (or irrigation of the affected areas) like skin or eyes.</li> <li>(b) Soapless detergents contain phosphates which cause algae bloom/algal bloom and hence water pollution.</li> <li><b>N.B.</b> Algae/algal bloom already means accumulation.</li> </ul>	
<p><b>D.</b></p>	<p><b>EVALUATION OF PRODUCTS AND PROCESS.</b></p>	<p>(a) <b>Similarities:</b></p> <ul style="list-style-type: none"> <li>• Both soapy detergents and soapless detergents are salts of Organic acids of long carbon chain.</li> <li>• Both soapy detergents and soapless detergents are effective cleansing agents in soft water / rain water.</li> </ul> <p>(b) (i) <b>Differences;</b> Soapy detergents:</p> <ul style="list-style-type: none"> <li>• Forms scum with hard water.</li> <li>• Gentle on skin during cleansing..</li> <li>• Sodium salts of carboxylic acid of long chains and cannot be used in strongly acidic solutions.</li> <li>• Biodegradable</li> </ul> <p>(b) (ii) Soapless detergents:</p> <ul style="list-style-type: none"> <li>• does not form scum with any form of water.</li> <li>• not gentle on skin during washing.</li> <li>• Sodium salts of long chain benzene sulphonic acids and can be used in strongly acidic solutions.</li> <li>• Non-biodegradable</li> </ul>	<p>02</p>

## Item 2.

S/N	Basis of Assessment	Assessment Criteria	Scoring
A.	<b>CATEGORY OF ELEMENT COMPOUND.</b> (Substance and material with a reason.)	<p>A material is a substance or a mixture of substances that constitute an object. It can be Natural or Artificial.</p> <p>Natural material is God made / exists in nature and its formation is not influenced by man e.g. rocks, sand, wood, water, soil etc.</p> <p>Artificial material is man-made / synthetic manufactured by man e.g. iron bars, plastics, paint, composites.</p>	03
B.	<b>PROPERTIES OR PREDICTIONS OF PROPERTIES OF MATERIAL.</b>	<p>Materials to be used for constructing a good strong house have different qualities based on their nature. A house is made up of the following:</p> <p>(a) Iron;</p> <ul style="list-style-type: none"> <li>- Very strong (can support heavy load.)</li> <li>- has high tensile strength (resists breakage).</li> <li>- its ductile and malleable (easy to mould.)</li> <li>- has high melting point (resists fires.)</li> <li>- Galvanised iron resists rusting.</li> <li>- steel has improved properties, making it suitable for many users.</li> </ul> <p>(b) Aluminium;</p> <ul style="list-style-type: none"> <li>- low density(used on top of buildings).</li> <li>- strong, not easy to break / durable.</li> <li>- has high melting points (resists fires).</li> <li>- has bright appearance (used for doors, roofing, window frames.)</li> <li>- high electrical/ heat conductivity (making utensils.)</li> </ul>	03

		<p>(c) Wood;</p> <ul style="list-style-type: none"> <li>- Readily available so easy to get cheaply.</li> <li>- Strong, so it can support heavy load.</li> <li>- Light when dry so good for roofing.</li> <li>- Easy to smoothen to give nice appearance.</li> <li>- can rot or be eaten by termites when not treated.</li> </ul> <p>(d) Mortar; Composite made of cement, sand and water,</p> <ul style="list-style-type: none"> <li>- Hard so reacts deformation.</li> <li>-It is adhesive so can join bricks.</li> <li>-Cushioning to spread the vertical load</li> </ul> <p>(e) Glass;</p> <ul style="list-style-type: none"> <li>- Ordinary glass is transparent so good for windows to see through.</li> <li>- tinted glass allows light to pass through it in only one direction so good for windows (visual security.)</li> <li>- Double-glazed glass (tampered glass) is strong, resistant to fire attack and it is not brittle.</li> <li>- Glass is reflective, attractive and it adds value when put in doors and windows.</li> </ul> <p>(f) Paint; This is a liquid composite made of pigment, resin, solvent and additives.</p> <ul style="list-style-type: none"> <li>- Weather guard resists bad weather (water proof). So good for outside walls.</li> <li>- Silk vinyl paint does not burn, so good for interior purposes.</li> <li>- Paint can be insect repelling, light sensitive to beautify, protect walls.</li> </ul>	
		<p>(g) Plastics;</p> <ul style="list-style-type: none"> <li>- These are man-made polymers which</li> </ul>	

		<p>can undergo permanent deformation without breaking when subjected to a strong force. E.g. PVC, Polyethene, Nylon, Polyesters.</p> <ul style="list-style-type: none"> <li>- They are flexible so can be bent easily.</li> <li>- They are water prone so a good for Plumbing and roofing.</li> <li>- They are light and strong, so good for shuttering purposes.</li> <li>- They have low melting points so can be attacked by fires easily.</li> </ul> <p>(h) Clay and Ceramics;</p> <ul style="list-style-type: none"> <li>- They are brittle so break easily.</li> <li>- They are water proof so good for flooring.</li> <li>- They are good looking, so nice for Finishing purpose like floors, walls.</li> <li>- They cannot be attacked by chemicals.</li> </ul> <p>(i) Bricks and blocks:</p> <ul style="list-style-type: none"> <li>- Resistant to fire so good for wall construction.</li> <li>- They are strong, so can support heavy loads.</li> </ul>	03
	<p><b>USES OF MATERIALS, ELEMENTS OR SUBSTANCES / APPLICATION.(Quantity of Matter i.e. Moles)</b></p>	<p>The choice of material for construction is dependent on the purpose it is meant to do and its impact to the environment.</p> <p>(a) Iron;</p> <ul style="list-style-type: none"> <li>- Making shutters for doors, windows.</li> <li>- Making frames for doors windows.</li> <li>- Reinforcing concrete.</li> <li>- Irons used to fix / join objects like timber, iron sheets.</li> <li>- Used for plumbing.</li> </ul>	01

		<p>(b) Aluminium;</p> <ul style="list-style-type: none"> <li>- Making shutters for doors, and windows.</li> <li>- Making frames for doors and windows.</li> <li>- Reinforcing concrete.</li> <li>- Making roofing materials (struts and ties).</li> <li>- electrical installations, wires.</li> </ul> <p>(c) Wood;</p> <ul style="list-style-type: none"> <li>- Used to make shutters for windows, doors.</li> <li>- Making frames for doors, windows.</li> <li>- Making struts and ties during roofing.</li> <li>- Making poles, pillars and beams.</li> </ul> <p>(d) Mortar;</p> <ul style="list-style-type: none"> <li>- Joining and binding bricks.</li> <li>- Making concrete for floors.</li> <li>- Plastering walls.</li> </ul> <p>(e) Glass;</p> <ul style="list-style-type: none"> <li>- Making shutters for doors, windows.</li> </ul> <p>(f) Paint;</p> <ul style="list-style-type: none"> <li>- Beautifying (better appearance) of buildings.</li> <li>- Protecting materials, from rusting.</li> <li>- Enhancing durability.</li> </ul>	
		<p>The choice of material for construction is dependent on the purpose it is meant to do and its impact to the environment.</p> <p>(f) Plastics;</p> <ul style="list-style-type: none"> <li>- Making pipes (water pipes) for plumbing.</li> <li>- Making door and window shutters.</li> </ul>	03

		<p>(h) Clay and Ceramics;</p> <ul style="list-style-type: none"> <li>- Making bricks.</li> <li>- Making Tiles (floor tiles).</li> <li>- Making roofing tiles.</li> </ul> <p>(i) Bricks and blocks;</p> <ul style="list-style-type: none"> <li>- Constructing walls.</li> </ul>	
<b>D.</b>	<p><b>IMPACT/ POLLUTION OF ENVIRONMENT ELEMENTS, COMPOUND MATERIAL / SUBSTANCE.</b></p> <p><b>(Quantity of Matter i.e. Moles)</b></p>	<p>Material used in construction of a house have impact to the environment.</p> <p>(a) Iron;</p> <ul style="list-style-type: none"> <li>- Depletes soil fertility when it accumulates.</li> <li>- Being a heavy metal can cause cancer.</li> <li>- Non biodegradable.</li> </ul> <p>(b) Aluminium;</p> <ul style="list-style-type: none"> <li>- Depletes soil fertility when it accumulates.</li> </ul> <p>(c) Plastics;</p> <ul style="list-style-type: none"> <li>- Non biodegradable spoils the soil.</li> </ul> <p>(d) Mortar;</p> <ul style="list-style-type: none"> <li>- Bulky, takes long to decompose and so spoils the soil.</li> </ul>	02

### **SECTION B**

#### **Item 3**

<b>S/N</b>	<b>Basis of Assessment</b>	<b>Assessment Criteria</b>	<b>Scoring</b>
<b>A.</b>	<b>RAW MATERIAL (RM)</b>	Concentrated sodium chloride solution (brine).OR Sodium chloride crystals (Rock salt)	02
<b>B.</b>	<b>PROCESS OF PRODUCTION</b>	Chlorine from brine.	03



	(Pp)	<p>Brine is electrolysed in a cell made up of mercury cathode and graphite anode.</p> <p>Brine contains <math>Na^+</math>, <math>Cl^-</math>, <math>OH^-</math> and <math>H^+</math>.</p> <p>The ions migrate to oppositely charged electrodes.</p> <p><math>Na^+</math> are discharged at the cathode by electron gain in preference to <math>H^+</math> since <math>Na^+</math> are more concentrated.</p> $Na^+(aq) + e^- \rightarrow Na(s).$ <p>At the anode chloride ions are discharged, in preference to hydroxide ions; being in higher concentration than hydroxyl ions chlorine gas is formed.</p> $2 Cl^-(aq) - 2e^- \rightarrow Cl_2(g) \text{ or } (l)$ <p>The chlorine formed is collected and stored in tightly closed tanks.</p> <p>The chlorine is dried, liquefied and stored.</p>	
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<b>ALTERNATIVE USING ROCK SALT</b>			
S/N	Basis of Assessment	Assessment Criteria	Scoring
		<p>Solid sodium chloride (rock salt) and little calcium chloride are fed into Down's cell. The mixture is electrolysed using titanium or graphite anode and steel or iron cathode.</p> <p>The ions migrate to oppositely charged electrodes. At the cathode <math>Na^+</math> are discharged by reduction being the only ions present.</p> $Na^+(aq) + e^- \rightarrow Na(s).$	02

		<p>At the anode <math>Cl^-</math> are discharged by electron loss forming chlorine gas.</p> $2Cl^-(aq) \rightarrow Cl_{2(g)} + 2e^-$ <p>The chlorine formed is collected and stored in tightly closed tanks</p> <p>The Chlorine is dried, liquefied and stored.</p>	
C.	<b>SIDE EFFECTS OF THE PROCESS OF PRODUCTION AND MITIGATION</b>	<p>(a) Air pollution by waste gases,</p> <ul style="list-style-type: none"> <li>- acidic gases can cause acid rain which leads to crumbling of buildings, lowering soil pH and corrosion of roofs made of iron.</li> </ul> <p>Mitigation can be done by:</p> <ul style="list-style-type: none"> <li>- fitting catalytic converters in exhaust pipes of machines to convert oxides of nitrogen into nitrogen and carbon monoxide to carbon dioxide.</li> <li>- neutralise the acidic gases before releasing waste gases into the atmosphere.</li> </ul>	03

<b>ALTERNATIVE USING ROCK SALT</b>			
<b>S/N</b>	<b>Basis of Assessment</b>	<b>Assessment Criteria</b>	<b>Scoring</b>
	<b>C.SIDE EFFECTS OF THE PROCESS OF PRODUCTION AND MITIGATION</b>	<p>(b) Leakage of Chlorine.</p> <p>(c) Land degradation.</p>	03
	<b>D.SOCIAL BENEFITS</b>	<ul style="list-style-type: none"> <li>- Employment opportunity; improved income thus better standards of living.</li> <li>- Development of infrastructure e.g. electricity lines, roads, hospitals schools etc.</li> </ul>	03

**Item 4**

S/N	Basis of Assessment	Assessment Criteria	Scoring
A.	<b>RAW MATERIAL</b>	Liquid air / Air.	02
B.	<b>PROCESS OF PRODUCTION.</b>	<p>Air is passed through air filters to remove dust and smoke particles. Air is passed through concentrated sodium hydroxide solution to absorb/ remove carbon dioxide, which is acidic.</p> $2NaOH_{(aq)} + CO_{2(g)} \rightarrow Na_2CO_{3(aq)} + H_2O_{(l)}$ <p>Air is free from Carbon dioxide is now passed through Silicon(IV) oxide / silica gel to absorb water vapour. Carbon dioxide and water vapour are removed from air before it is liquefied because they solidify and block the apparatus.</p> <p>The air is now compressed at 200 atmospheres and allowed to cool by making it escape into a large space through a jet.</p> <p>The process of cooling is repeated several times to obtain liquid air at about <math>-200\text{ }^{\circ}\text{C}</math>. The liquid air is fractionally distilled using a fractionating column / tower.</p> <p>Nitrogen boils off first because it has a lower boiling point (<math>-196\text{ }^{\circ}\text{C}</math>) leaving behind oxygen with a higher boiling point (<math>-183\text{ }^{\circ}\text{C}</math>). Both nitrogen and oxygen collected obtained contain traces of noble gases. Pure oxygen is then stored under pressure in steel cylinders.</p>	03
C.	<b>SIDE EFFECTS OF THE PROCESS OF PRODUCTION AND MITIGATION</b>	<p>(a) Explosion of oxygen cylinders due to high pressure. This can cause other materials to ignite spontaneously/catch fire.</p> <p>The resulting fire can cause damage to equipment and injury to people.</p> <p>Mitigation can be done by:</p>	03

		<ul style="list-style-type: none"> <li>- Regular maintenance and monitoring of cylinders.</li> <li>- keeping cylinders in cool areas / avoid exposure to heat.</li> </ul> <p>(b) Exposure to liquid oxygen can cause severe skin and eye irritations and burns. This may cause loss of vision and cancer.</p> <p>Mitigation can be done by:</p> <ul style="list-style-type: none"> <li>- Posting hazard and warning information in the working area.</li> <li>- Communicating all information on the health and safety hazards of oxygen to potentially exposed workers; for example; submerging the affected body parts in warm water.</li> </ul> <p>(c) Air pollution by waste gases. Acidic gases can cause acid rain which leads to crumbling of buildings,</p> <ul style="list-style-type: none"> <li>- acidic gases can cause acid rain which leads to crumbling of buildings, lowering of soil pH and corrosion of roofs made of iron.</li> </ul> <p>Mitigation can be done by:</p> <ul style="list-style-type: none"> <li>- fitting catalytic converters in exhaust pipes of machines to convert oxides of nitrogen into nitrogen and carbon monoxide to carbon dioxide.</li> <li>- neutralise the acidic gases before releasing waste gases into the atmosphere.</li> </ul>	
<b>D.</b>	<b>SOCIAL BENEFITS</b>	<ul style="list-style-type: none"> <li>- Employment opportunity; improved income thus better standards of living.</li> <li>- Development of infrastructure e.g. electricity lines, roads, hospitals schools etc., Improved road network will facilitate trade hence improved income and better standards of living.</li> </ul>	03

Item 5.

S/N	Basis of Assessment	Assessment Criteria	Scoring
A.	<b>IDENTIFY CATEGORY OF NATURAL RESOURCE REASON AND EXAMPLE.</b>	<p>They are classified as:</p> <p>Renewable and Non-renewable. Renewable Natural resources can be replenished e.g. Air, water vapour, dust etc.</p> <p>Non-renewable resources cannot be replenished (get used up) e.g. fossil fuels, rocks/ minerals.</p>	03
B.	<b>COMPOSITION OF NATURAL RESOURCES.</b>	<ul style="list-style-type: none"> <li>• Air contains Nitrogen, Oxygen Carbon dioxide, rare gases, water contains; Hydrogen and oxygen.</li> <li>• Fossil fuels contain Carbon, Hydrogen, Oxygen.</li> <li>• Rocks contain Iron, copper, calcium carbonate, and other minerals like Gold, Cobalt, etc.</li> </ul>	02
C.	<b>IMPACT OF NATURAL RESOURCES ON THE ENVIRONMENT AND HOW IT OCCURS / CHEMICALS AND PHYSICAL REACTIONS AND MITIGATION.</b>	<ul style="list-style-type: none"> <li>• Air               <ul style="list-style-type: none"> <li>- Some components of Air pollute environment and cause global warming, and carbondioxide because its a green house gas thus traps heat in the atmosphere.</li> </ul> <math display="block">C_{(s)}+O_{2(g)}\rightarrow CO_{2(g)}.</math> <li>- Carbon monoxide is a poisonous gas and causes suffocation, carbon monoxide can also be converted to carbon dioxide e.e.</li> <math display="block">2CO_{(g)}+O_{2(g)}\rightarrow 2CO_{2(g)}.</math> </li></ul> <p>Mitigation:</p> <ul style="list-style-type: none"> <li>• Increased Afforestation to replace the cut trees which absorb <math>CO_2</math> from the atmosphere to reduce global warming.</li> <li>• Carbon monoxide effects and production can be reduced by using catalytic converters on exhaust pipes of cars and other fuel engines to reduce the poison in the environment.</li> </ul>	03

		<ul style="list-style-type: none"> <li>• Water Impact and how it occurs. Water contains dissolved gases like <math>O_2</math> and <math>CO_2</math>. The <math>CO_2</math> in it forms carbonic acid. <math display="block">H_2O(l) + CO_2(g) \rightleftharpoons H_2CO_3(aq)</math>The carbonic acid makes water acidic. The acid rains dissolve or deplete rocks. <math display="block">H_2CO_3(aq) + CaCO_3(s) \rightarrow Ca(HCO_3)_2(aq)</math></li> <li>• Water has dissolved oxygen which facilitates rusting of iron containing materials according to the following equation: <math display="block">2Fe(s) + xH_2O(l) + \frac{3}{2}O_2(g) \rightarrow Fe_2O_3 \cdot xH_2O(l)</math></li> <li>• Hot water as an effluent from industries when introduced into the water bodies, increase the temperature of the water bodies affecting the life of aquatic organisms.</li> <li>• Water pollution caused by farming and Agriculture. So the use of fertilizers results in Eutrophication of nearby water bodies and Algae blooms/algal bloom.</li> <li>• Re-afforestation to reduce the impact of acid rains.</li> <li>• Use of Alloys, painting, galvanising to reduce the effect of rusting.</li> <li>• Hot water reservoirs and effluent deposit points from factories to cool the exhaust water before introduction into the water bodies.</li> <li>• Use of organic fertilizers e.g. manure from both animal and plant waste which are Biodegradable and reduce on use of synthetic fertilisers.</li> <li>• Vehicles and machines burn fossil fuels leading to reduction of gaseous pollutants into the atmosphere. <math display="block">2C(s) + O_2(g) \rightarrow 2CO(g)</math> <math display="block">CH_4(g) + 2O_2(g) \rightarrow CO_2(g) + 2H_2O(l)</math> <math display="block">S(s) + O_2(g) \rightarrow SO_2(g)</math></li> </ul>	
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		$2SO_2(g) + O_2(g) \rightarrow 2SO_3(g)$ <p>Mitigation:</p> <ul style="list-style-type: none"> <li>• Use of alternative fuel and energy sources like solar and Hydroelectric Power (HEP) from the sun and water respectively reduce on depletion of Fossils and also the decrease in gaseous pollutants.</li> </ul>	
	<p><b>Benefits</b></p>	<ul style="list-style-type: none"> <li>• Air facilitates respiration, During respiration carbohydrates combine with oxygen in order to release energy and carbon dioxide used for proper body functioning.</li> <li>- 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.</li> </ul> <p>Fossil fuels are used as fuels; fossil fuels when burnt produce heat energy used to run engines and machines and for cooking.</p> <ul style="list-style-type: none"> <li>• Water is a habitat for many aquatic organisms; water bodies like lakes, rivers, swamps, dams, pools contain necessary conditions for survival of animals like fish, snails, snakes, worms, bacteria and plants e.g. blue green algae planktons which are fish foods etc.</li> <li>• Water bodies like; lakes, rivers, pools, as well as water vapour from plants crucial role in rain formation.</li> </ul> <p>Water from the water bodies evaporates and eventually cools and condenses on the clouds, these results into precipitation.</p> <p>Water bodies like rivers can be used to generate electricity, fast moving waters to the rivers drives turbines at waterfalls which produce kinetic energy into electrical energy.</p>	<p>02</p>

**Item 6**

S/N	Basis of Assessment	Assessment Criteria	Scoring
A.	<b>IDENTITY CATEGORY OF NATURAL RESOURCE REASON AND EXAMPLE.</b>	<p>Theme ‘MY ENVIRONMENT MY RESPONSIBILITY’</p> <p>Resources in our environment which we use to satisfy our needs; water, air, trees, grass, rocks.</p> <p>They are classified as renewable and non-renewable.</p> <p>Renewable resources can be sustained e.g. air, water, grass.</p> <p>Non-renewable resources can be exhausted and not replaceable e.g. fossil fuels, rocks etc.</p>	03
B.	<b>COMPOSITION OF NATURAL RESOURCES.</b>	<ul style="list-style-type: none"> <li>•Air: is composed of Nitrogen, Oxygen, Carbon dioxide, rare gases, water vapour and dust in different proportions.</li> <li>•Water:is a compound made up of hydrogen and oxygen. It has dissolved minerals, micro-organisms and living things.</li> <li>•Rocks: are of different types of example igneous, sedimentary metamorphic.</li> </ul> <p>They contain minerals for example limestone, iron, gold, copper, quartz etc.</p> <ul style="list-style-type: none"> <li>•Trees and natural vegetation is made up of important elements like carbon, hydrogen, magnesium etc. (depending on the soil composition).</li> </ul>	02
C.	<b>IMPACT OF NATURAL RESOURCES ON THE ENVIRONMENT. HOW IT OCCURS AND MITIGATION./ CHEMICALS AND PHYSICAL REACTIONS</b>	<p>Impact to the Environment:</p> <p>- Several activities impact negatively on natural resources for example charcoal burning involves cutting down of trees which leads to deforestation and loss of habitat for wild animals.</p> <p>It leads to increased amount of carbon dioxide in the atmosphere which contributes to climate change and global warming.</p>	03



		<p>•<b>Mitigation:</b></p> <p>Ensure sustainable fuel production using soft wood which is renewable. (Afforestation)</p> <p>Use charcoal briquettes made from waste organic materials.</p> <p>•<b>Stone quarrying:</b></p> <p>Involves breaking of rocks into small stones and gravel for construction purposes. This disrupts the underground water cycle and sources hence reduced water quality, air pollution from dust, destruction of vegetation cover.</p> <p><b>Mitigation:</b></p> <p>Strict government policies and laws against stone quarrying. Filling up holes made during the process of quarrying, encourage population to use alternative construction materials like tiles and clay bricks..</p> <p>•<b>Farming:</b></p> <p>Involves the use of fertilisers and manure which pollutes water bodies and makes the water unsafe for use.</p> <p><b>Mitigation:</b></p> <p>Sensitise farmers to use controlled doses of fertilisers and manure in gardens.</p> <p>•<b>Animal Husbandry:</b></p> <p>Causes water pollution through their excreta.</p> <p><b>Mitigation:</b></p> <p>People should ensure proper disposal of animal excreta and also convert it into other useful products for example biogas, organic fertilisers and briquettes.</p>	
<b>D.</b>	<b>BENEFIT / IMPORTANCE OF NATURAL RESOURCE</b>	<p>Air is used for respiration. During respiration carbohydrate combine with oxygen in air to release energy and carbon dioxide used for proper body functioning.</p> <p>Air facilitates photosynthesis, During photosynthesis carbon dioxide from air combines with water in presence of sunlight</p>	03

		<p>trapped by chlorophyll to form glucose and oxygen.</p> <p>Fossil fuels are used as fuels: Fossil fuels when burnt produce heat energy used to run engines and machines, even for cooking..</p>	
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**END.**

SAMPLE