5. Photosynthesis

1.1 The type of nutrition found in green plants which involves the making of organic compounds is: *

- heterotrophic
- autotrophic
- parasitic
- saprophytic

1.2 The cells in a leaf which are best adapted for the process of photosynthesis are the: *

- spongy mesophyll
- epidermal
- guard
- palisade

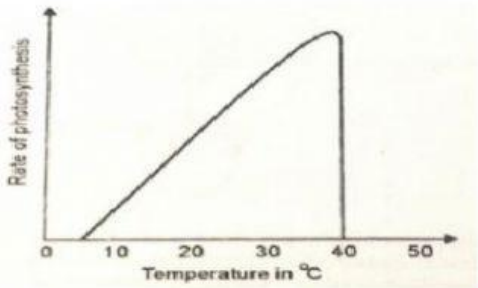
1.3 The following factors must be present before photosynthesis can take place: *

- carbon dioxide, oxygen, water, sunlight
- carbon dioxide, water, chlorophyll, oxygen
- carbon dioxide, water, sunlight, chlorophyll
- carbon dioxide, water, sunlight, chlorophyll, enzymes

1.4 Energy transformation which takes place during photosynthesis involves: *

- chemical energy transformed into kinetic energy
- light energy changed into into kinetic energy
- light energy changed into chemical energy
- chemical energy changed into heat energy

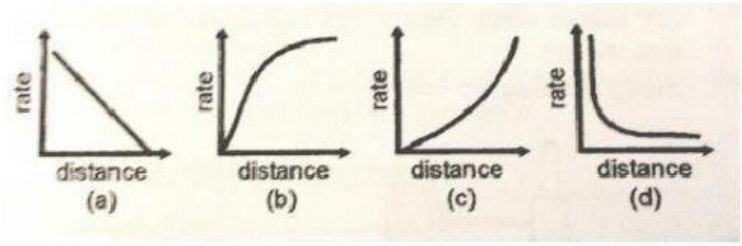
1.5 Study the graph below. No photosynthesis was observed below 3 degrees Celcius or above 40 degrees Celcius. The reason for this is: *



- the enzymes involved in photosynthesis are denatured by high temperatures and inactivated by low temperatures
- the stomata close at these temperatures
- the necessary diffusion of gases stops at these temperatures
- high temperatures denature chlorophyll

LIVEWORKSHEETS

1.6 Which of the following graphs represents the relationship between the rate of photosynthesis and light intensity most accurately *



- A
- B
- C
- D

1.7 Which of the following is not essential for photosynthesis?

- water
- oxygen
- carbon dioxide
- chlorophyll

1.8 Which of the following methods should be used to extract chlorophyll from a leaf? Boil the leaf in ... *

- pure water
- iodine solution
- alcohol
- Millon's reagent

1.9 The stomata control the supply of the following raw material that is necessary for photosynthesis. *

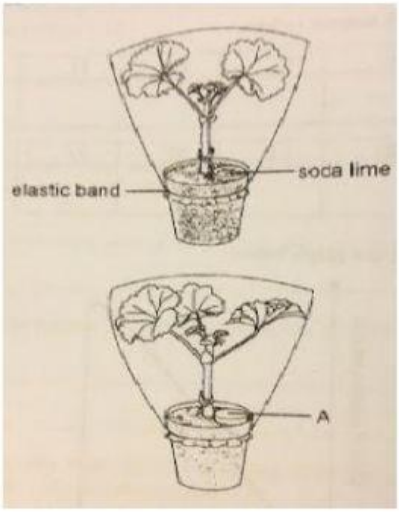
- water
- carbon dioxide
- oxygen
- mineral salts

LIVEWORKSHEETS

1.10 An increase in the following factors cause the rate of photosynthesis to be speeded up, EXCEPT an increase in... *

- ◯ light intensity
- ◯ carbon dioxide
- ◯ temperature
- ◯ oxygen

Questions 1.11 - 1.14 are based on the experiment below.



1.11 The aim of the experiment is to: *

- ◯ show that green leaves contain chlorophyll
- ◯ show that carbon dioxide is given off during respiration
- ◯ show that plants take up oxygen during respiration
- ◯ find out if carbon dioxide is necessary for photosynthesis

1.12 The substance labelled A is:

- ◯ alcohol
- ◯ sodium hydroxide solution
- ◯ sodium bicarbonate solution
- ◯ lime water

LIVEWORKSHEETS

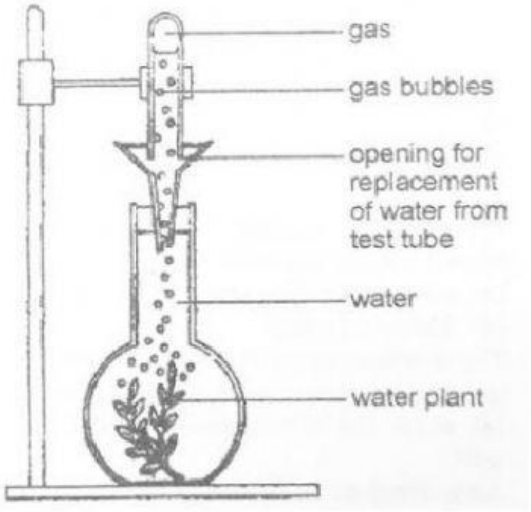
1.13 The function of substance labelled A is to: *

- absorb water from the air
- absorb carbon dioxide from the air
- absorb oxygen from the air
- give off carbon dioxide into the air

1.14 The function of soda lime is to: *

- absorb carbon dioxide from the air
- absorb oxygen from the air
- absorb water vapour
- release carbon dioxide into the air

1.15 Study the diagram below. What is the aim of this experiment? *



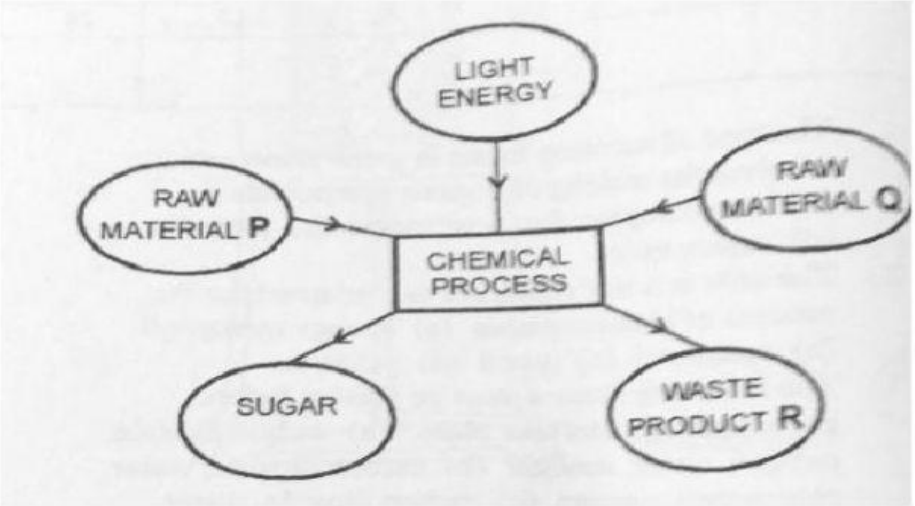
- To demonstrate respiration
- To prove that oxygen is necessary for photosynthesis.
- To prove that oxygen is given off during photosynthesis.
- To prove that oxygen is necessary for respiration.

LIVEWORKSHEETS

1.16 In the presence of light, green plants convert carbon dioxide and water into organic nutrients. Which of the following will be the first carbohydrate synthesised? *

- a simple sugar
- starch
- sucrose
- amino acids

The diagram below shows a chemical process which takes place in some living organisms.



1.17 The substances P, Q and R are: *

	P	Q	R
(a)	O_2	CO_2	H_2O
(b)	CO_2	H_2O	O_2
(c)	H_2O	O_2	CO_2
(d)	O_2	H_2O	CO_2

- A
- B
- C
- D

LIVEWORKSHEETS

1.18 The basic single unit within chloroplasts in which the light phase of photosynthesis occurs is *

- lamella
- stroma
- granum
- thylakoid

1.19 The dark phase of photosynthesis occurs in the: *

- cytoplasm of the cell
- thylakoids
- stroma of chloroplasts
- mitochondria

1.20 Which one of the following would decrease during the day in a photosynthesising cell? *

- carbon dioxide
- oxygen
- chlorophyll
- carbohydrates

LIVEWORKSHEETS