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GRADE 11 LFSC REVISION BOOKLET- PAPER 1 (SECTION A)



EASY TO SCORE QUESTIONS: SECTION A
(MULTIPLE CHOICE, BIOLOGICAL TERM,
AND MATCHING COLUMN)

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NB: To understand this document, learners need to have the knowledge from the following topics of PAPER 1:

- ❖ Energy Transformation to Sustain Life: Photosynthesis
- ❖ Animal Nutrition
- ❖ Energy Transformation: Respiration
- ❖ Gas Exchange
- ❖ Excretion in Humans
- ❖ Population Ecology

1. MULTIPLE CHOICE QUESTIONS

SECTION A

QUESTION 1

1.1 Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A–D) next to the question numbers (1.1.1–1.1.10) in the ANSWER BOOK, for example 1.1.11 D.

1.1.1 Plants use oxygen ...

- A continuously.
- B during the day only.
- C during the night only.
- D during photosynthesis only.

1.1.2 Which of the following substances can directly be absorbed by blood without further digestion?

- A Proteins
- B Starch
- C Glucose
- D Fats

1.1.3 Which of the following occurs during inhalation in a human?

- A Pressure within the thoracic cavity decreases
- B The lungs collapse
- C The diaphragm relaxes
- D Pressure in the abdominal cavity decreases

1.1.4 The rate of breathing is regulated by the medulla oblongata, mainly ...

- A under voluntary control.
- B according to the oxygen level of blood.
- C according to the blood pressure.
- D according to the carbon dioxide level of blood.

1.1.5 Which of the following is the correct sequence of activities that occurs during kidney functioning?

- A pressure filtration → excretion → re-absorption
- B re-absorption → pressure filtration → excretion
- C excretion → pressure filtration → re-absorption
- D pressure filtration → re-absorption → excretion

1.1.6 Which of the following is part of the human circulatory system?

- A Glomerulus
- B Convoluted tubules
- C Loop of Henlé
- D Bowman's capsule

1.1.7 Which of the following is a density-dependent factor?

- A Drought
- B Temperature
- C Predation
- D Fire

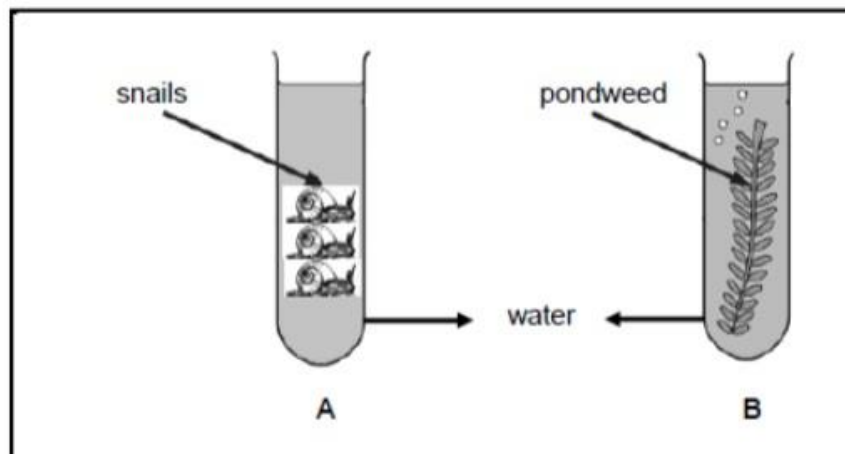
1.1.8 The disorder resulting from insufficient intake of energy food:

- A Kwashiorkor
- B Marasmus
- C Atherosclerosis
- D Bulimia

1.1.9 Which ONE of the following statements is TRUE about the relationship between a predator and its prey?

- A There is interspecific competition.
- B The size of the predator population is density-dependent and is controlled by the size of the prey population.
- C An increased number of predators leads to an increased number of prey.
- D A decreased number of predators leads to a decreased number of prey.

1.1.10 Test tubes A and B below were placed in bright light.



Which of the following is correct regarding the test tubes?

- A The amount of CO₂ in test tube A will decrease
- B The amount of CO₂ in test tube B will increase
- C The amount of O₂ in test tube B will increase
- D The amount of O₂ in test tube A will increase

(10 x 2) (20)

1.1 1.1.1 A✓✓

1.1.2 C✓✓

1.1.3 A✓✓

1.1.4 D✓✓

1.1.5 D✓✓

1.1.6 A✓✓

1.1.7 C✓✓

1.1.8 B✓✓

1.1.9 B✓✓

1.10 C✓✓

(10 x 2) (20)

SECTION A

QUESTION 1

1.1 Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A–D) next to the question numbers (1.1.1–1.1.10) in the ANSWER BOOK, for example 1.1.11 D.

1.1.1 Which ONE of the following is a direct cause of kidney damage?

- A High cholesterol
- B Too little physical exercise
- C Drinking hot tea
- D High blood pressure

1.1.2 Where does the emulsification of fat occur?

- A In the liver
- B In the colon
- C In the gall bladder
- D In the small intestine

1.1.3 What structures increase the surface area of the lungs?

- A Alveoli
- B Bronchi
- C The villi
- D The pleural membranes

1.1.4 Malpighian body ...

- A consists of a glomerulus and Bowman's capsule.
- B is part of Bowman's capsule.
- C consists of ciliated tubules.
- D consists of Bowman's capsule and a ciliated tubule.

1.1.5 Which of the following occurs during inhalation in a human?

- A Pressure within the thoracic cavity decreases
- B The lungs become smaller
- C The diaphragm relaxes
- D Pressure in the abdominal cavity decreases

1.1.6 Which of the following is the correct sequence of activities that occur during kidney functioning?

- A Pressure filtration → excretion → re-absorption
- B Re-absorption → pressure filtration → excretion
- C Excretion → pressure filtration → re-absorption
- D Pressure filtration → re-absorption → excretion

1.1.7 Which of the following is a density-dependent factor?

- A Drought
- B Temperature
- C Predation
- D Fire

1.1.8 Which ONE of the following methods is regarded as a direct technique to determine population size?

- A Census
- B Simple sampling
- C Mark-recapture technique
- D Belt transect technique

1.1.9 Use of different resources or different parts of the same resource by different species within an ecosystem to reduce competition is known as ...

- A interspecific competition.
- B competitive exclusion.
- C resource partitioning.
- D courtship behaviour.

1.1.10 A decrease in the size of a population is due to ...

- A migration.
- B increased immigration.
- C increased emigration.
- D an increased birth rate.

(10 x 2) (20)

1.1 1.1.1 D✓✓

1.1.2 D✓✓

1.1.3 A✓✓

1.1.4 A✓✓

1.1.5 A✓✓

1.1.6 D✓✓

1.1.7 C✓✓

1.1.8 A✓✓

1.1.9 C✓✓

1.1.10 C✓✓

(10 x 2) (20)

SECTION A

QUESTION 1

1.1 Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A to D) next to the question numbers (1.1.1–1.1.10) in the ANSWER BOOK, for example 1.1.11 A.

1.1.1 If a drop in the pH of the blood occurs, the kidneys will ...

- A increase the absorption of urea.
- B decrease the absorption of sodium ions.
- C decrease the secretion of hydrogen ions.
- D increase the re-absorption of bicarbonate ions.

1.1.2 Which of the following will cause the kidneys to reabsorb more sodium ions?

- A A decrease in blood pressure
- B An increase in the volume of blood
- C Constriction of the afferent arterioles
- D A decrease in the amount of ADH secreted

1.1.3 Cilia are found lining which of the following structures?

- A Larynx
- B Alveoli
- C Trachea
- D Pleural membranes

1.1.4 Which of the following takes place in the cytoplasm of a plant cell but not in the mitochondria?

- A Oxidative phosphorylation
- B Krebs cycle
- C Glycolysis
- D Light dependent reactions of photosynthesis

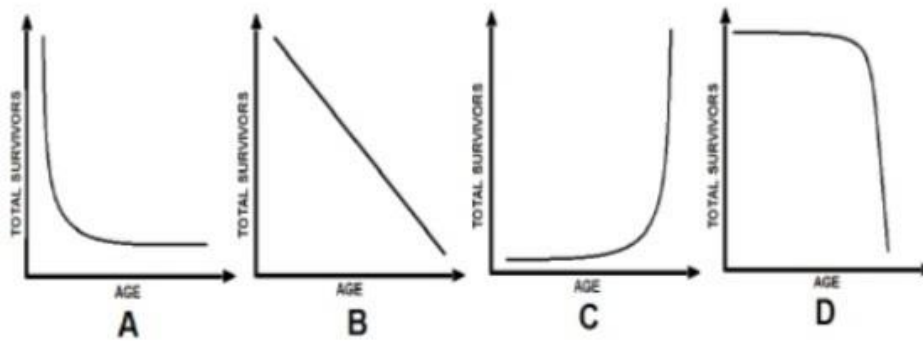
1.1.5 The conversion of pyruvic acid into lactic acid occurs during ...

- A photolysis.
- B glycolysis.
- C anaerobic respiration.
- D oxidation of glucose.

1.1.6 Which of the following substances can be absorbed by blood without further digestion?

- A Fats
- B Proteins
- C Starch
- D Glucose

1.1.7 Which of the following survival curves represents a troop of baboons?



1.1.8 Fecundity is...

- A the average number of children born in one generation per female of child bearing age.
- B the actual number of children born in one generation per female of child bearing age.
- C the average number of children born per 10 000 females of child bearing age.
- D the average number of children born in one generation per females aged between 45 and 55 years.

1.1.9 The resource partitioning observed in an ecosystem effectively reduces ...

- A the ability of closely related species to interbreed.
- B competition between closely related species by reducing overlap of ecological niches.
- C predatory instinct of related species.
- D the wastage of food resources.

1.1.10 Which of the following represents the characteristic feature of developing Countries such as Ethiopia, Mexico and Thailand?

- A Highly industrialised
- B High birth rates
- C Longer life expectancy
- D Low infant mortality rates

(10 x 2) (20)

1.1	1.1.1	D ✓✓	
	1.1.2	A ✓✓	
	1.1.3	C ✓✓	
	1.1.4	C ✓✓	
	1.1.5	C ✓✓	
	1.1.6	D ✓✓	
	1.1.7	D ✓✓	
	1.1.8	A ✓✓	
	1.1.9	B ✓✓	
	1.1.10	B ✓✓	(10 x 2) (20)

SECTION A

QUESTION 1

1.1 Various options are provided as possible answers to the following questions. Write down the question number (1.1.1–1.1.10), choose the answer (A–D) and write the answer of your choice in the ANSWER BOOK, for example 1.1.11 D.

1.1.1 The blood vessel that transports blood with oxygen and nutrients into the kidneys is the ...

- A renal vein.
- B inferior vena cava.
- C renal artery.
- D aorta.

1.1.2 The form in which excess glucose is stored as in the body.

- A Starch
- B Fat
- C Proteins
- D Glucagon

QUESTIONS 1.1.3 AND 1.1.4 ARE BASED ON THE TABLE BELOW.

Gas	Concentration in inhaled air (%)	Concentration in exhaled air (%)
Oxygen	21	16
Carbon dioxide	0,04	4
Nitrogen	78	78
Water vapour	0,96	2

1.1.3 The reason for the amount of nitrogen being the same in inhaled and exhaled air is that:

- A Nitrogen is taken into the bloodstream and the same amount diffuses back to the alveoli to be breathed out
- B Nitrogen gas does not reach the alveoli but remains in the bronchiole until exhalation occurs
- C Nitrogen gas is used in the body but the same amount is produced in the body as a waste product, which is then exhaled
- D Nitrogen cannot be absorbed by the body in its gaseous form, so the amount inhaled is the same as the amount exhaled

1.1.4 Why is the amount of water in the exhaled air more than in the inhaled air?

- A Water from the cells is excreted as water vapour
- B Blood plasma leaks into the alveoli, which is then excreted as water vapour
- C A small amount of water produced during cellular respiration is excreted
- D The respiratory surface must be kept moist at all times and some of this moisture evaporates and is exhaled

1.1.5 Which ONE of the following factors will cause optimal growth in greenhouses?

- A Carbon dioxide enrichment
- B Temperatures between 10 °C and 15 °C
- C Dim lighting in the greenhouse
- D Only irrigating once a week

1.1.6 The characteristics listed below are all applicable to chloroplasts.

- (i) Contain a double membrane
- (ii) Contain a fluid matrix with enzymes
- (iii) Contain parallel sacs called lamellae
- (iv) Contain a green pigment called chlorophyll
- (v) Contain starch granules

Which combination of characteristics make the chloroplast suitable to perform its function?

- A (i), (ii), (iv) and (v)
- B (ii), (iii) and (iv)
- C (ii), (iii), (iv) and (v)
- D (i), (ii), (iii) and (v)

1.1.7 A deficiency disease caused by a lack of all food groups and an energy deficiency is called ...

- A kwashiorkor.
- B bulimia.
- C anorexia.
- D marasmus.

1.1.8 Which ONE of the following characteristics make the leaf suitable for photosynthesis to take place?

- A The spongy mesophyll is elongated
- B The leaf has many stoma for gaseous exchange in the lower epidermis
- C The upper epidermis has a white cuticle
- D Xylem is present to the products of photosynthesis

1.1.9 A certain person is overweight and suffers from narrowing arteries because of over-nutrition.

Which ONE of the following conditions could result from this?

- A Anorexia nervosa
- B Low blood pressure
- C High blood pressure
- D Low blood sugar

1.1.10 Why does a teenage boy need more protein in his diet than an adult male?

- A Teenage boys need more protein in their diets to prevent a deficiency disease like rickets
- B The boy is still growing and needs the amino acids for muscle development
- C Adult males need only a small amount of proteins for cellular respiration, while boys need a large amount of proteins for cellular respiration as proteins are the main fuel for the process
- D Teenage boys need more proteins in their diet to prevent bone damage

(10 x 2) (20)

QUESTION 1

- | | | |
|-----|--------|------|
| 1.1 | 1.1.1 | C ✓✓ |
| | 1.1.2 | B ✓✓ |
| | 1.1.3 | D ✓✓ |
| | 1.1.4 | C ✓✓ |
| | 1.1.5 | A ✓✓ |
| | 1.1.6 | B ✓✓ |
| | 1.1.7 | D ✓✓ |
| | 1.1.8 | B ✓✓ |
| | 1.1.9 | C ✓✓ |
| | 1.1.10 | B ✓✓ |

(10 x 2) (20)

SECTION A

QUESTION 1

1.1 Various options are given as possible answers to the following questions. Choose the correct answer and write only the letter (A–D) next to the question number (1.1.1–1.1.10) in the ANSWER BOOK, for example 1.1.11 D.

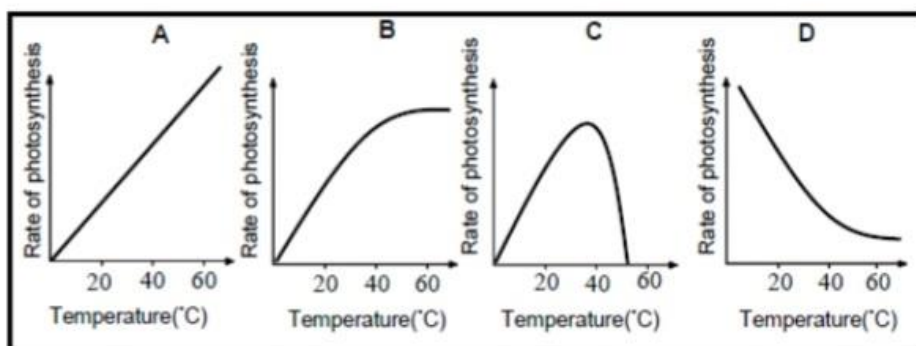
1.1.1 Carbon dioxide is carried in the blood mainly as ...

- A carb amino haemoglobin.
- B carbonic acid in the erythrocytes.
- C bicarbonate ions in the red blood cells.
- D gas bubbles in the blood plasma.

1.1.2 The blood that exits the liver contains ... compared to the blood that enters the liver.

- A less glucose
- B more oxygen
- C more glucose
- D less urea

1.1.3 The graphs below (A, B, C and D) represent the relationship between the rate of photosynthesis and temperature.



Which ONE of the graphs (A, B, C or D) represent the correct relationship between the temperature and the rate of photosynthesis?

- A D
- B A
- C B
- D C

1.1.4 The following components are involved in cellular respiration:

- (i) Energy
- (ii) Carbohydrates
- (iii) Carbon dioxide
- (iv) Water
- (v) Oxygen

Which ONE of the following combinations show the correct way in which the components are involved?

- A $(ii) + (iii) \rightarrow (i) + (iv) + (v)$
- B $(ii) + (iv) \rightarrow (i) + (iii) + (v)$
- C $(i) + (ii) \rightarrow (iii) + (iv) + (v)$
- D $(ii) + (v) \rightarrow (i) + (iii) + (iv)$

1.1.5 *E.coli* bacteria living in the colon of the human digestive system is an example of ...

- A parasitism.
- B mutualism.
- C competition.
- D commensalism.

1.1.6 Irritable bowel syndrome (IBS) is a medical term to describe a disease of the digestive system. Symptoms usually occur after certain foods or drinks were consumed. It can cause sudden and severe diarrhoea.

What consequence can this have for a person?

- A Too much water and nutrients will be absorbed in the digestive tract
- B Too little water will be absorbed, but the nutrients will be absorbed
- C Too little nutrients will be absorbed, but water will be absorbed
- D Too little water and nutrients will be absorbed

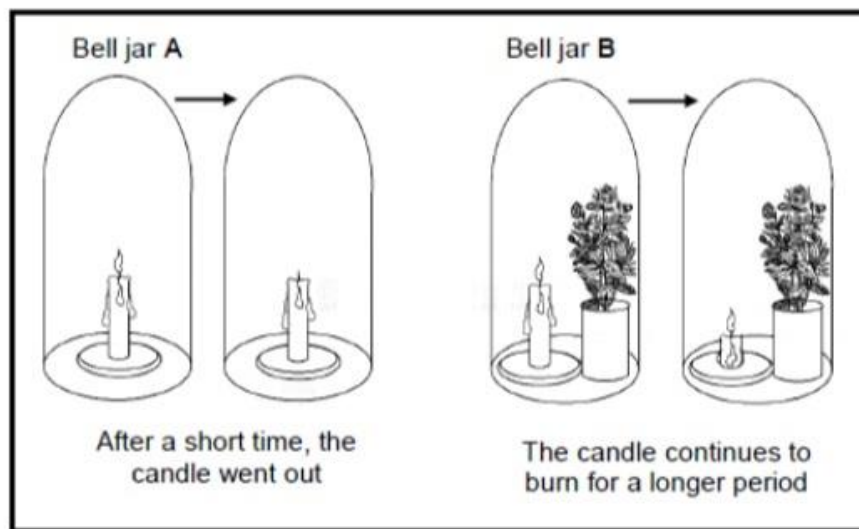
1.1.7 The sequence of plant succession on a bare piece of land is described below:

- (i) Trees start to grow
- (ii) Mosses and lichens grow and form soil when they die
- (iii) Soil thickens and small shrubs grow
- (iv) Soil develops and then grasses and small plants grow

Which of the following sequences leads to the emergence of stable climax community?

- A (i)→(ii)→ (iv)→(iii)
- B (ii)→ (i)→ (iv)→(i)
- C (ii)→(iv)→(iii)→(i)
- D (ii)→(iii)→(iv)→(i)

- 1.1.8 An experiment was set up to investigate whether oxygen is released during photosynthesis. The result of the experiment is represented in the following diagram.



The following deductions were made before arriving at the final conclusion.

- (i) Photosynthesis reduces the amount of CO_2 inside bell jar B
- (ii) The oxygen in bell jar A was completely used up and the burning is not supported
- (iii) The photosynthesis increases the amount of oxygen inside bell jar B
- (iv) The vapour produced inside bell jar A due to combustion extinguished the burning candle

Which ONE of the following set of deductions is correct?

- A (i) and (iv) only
- B (i), (ii) and (iii) only
- C (i), (iii) and (iv) only
- D (iii) and (iv) only

- 1.1.9 Which ONE of the following represents an example of where there is no social organisation and the chances of survival are reduced?

- A Division of labour in a bee hive
- B A school of fish moving in various formations
- C A predator hunting alone
- D An alpha male in a lion pack is the only one to reproduce with the females

- 1.1.10 A child is taken to the hospital and diagnosed with a form of malnutrition. Upon further investigation, doctors learnt that the child used only maize meal as food. From what type of malnutrition is this child most likely to suffer?

- A Anorexia
- B Kwashiorkor
- C Marasmus
- D Bulimia

(10 x 2) (20)

QUESTION 1

1.1 1.1.1 C ✓✓

1.1.2 A ✓✓

1.1.3 D ✓✓

1.1.4 D ✓✓

1.1.5 B ✓✓

1.1.6 D ✓✓

1.1.7 C ✓✓

1.1.8 B ✓✓

1.1.9 C ✓✓

1.1.10 B ✓✓

(10 x 2) (20)

SECTION A

QUESTION 1

1.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (1.1.1–1.1.10) in the ANSWER BOOK, for example 1.1.11 D.

1.1.1 Energy is released during ...

- A photosynthesis.
- B cellular respiration.
- C transpiration.
- D digestion.

1.1.2 Which ONE of the following pathways shows the correct sequence of air movement during exhalation?

- A Bronchiole→bronchus→alveolus→trachea
- B Alveolus→bronchiole→bronchus→trachea
- C Trachea→bronchus→bronchiole→alveolus
- D Alveolus→bronchus→bronchiole→trachea

1.1.3 The part of the brain that will be activated when a person begins to dehydrate is the ...

- A cerebrum.
- B cerebellum.
- C pons
- D hypothalamus.

1.1.4 Which ONE of the following substances is formed during anaerobic respiration by yeast cells?

- A Ethyl alcohol (ethanol)
- B Oxygen
- C Glucose
- D Carbonic acid

1.1.5 The carbon dioxide is transported in the blood mainly in the form of ...

- A urea.
- B carboxylic acid
- C bicarbonate ions.
- D lactic acid

- 1.1.6 Which of the following factors will determine the rate of breathing in humans?
- A Carbon dioxide level in the blood
 - B Level of oxygen in the exhaled air
 - C Amount of water in the blood
 - D Concentration of insulin in the blood
- 1.1.7 If the pH of the blood becomes (drops) too low, which substance will the cells of the renal tubule excrete from the blood and pass into the filtrate to correct this imbalance?
- A Potassium ions.
 - B Carbonate ions.
 - C Sodium ions.
 - D Hydrogen ions.
- 1.1.8 The blood tissue that transports oxygen is/are the ...
- A white blood cells
 - B red blood cells
 - C platelets
 - D haemoglobin
- 1.1.9 Which ONE of the following blood vessels carries oxygen from the lung to the heart?
- A Pulmonary artery
 - B Renal artery
 - C Hepatic vein
 - D Pulmonary vein
- 1.1.10 Which region of the kidney contains renal pyramids?
- A medulla
 - B cortex
 - C hilum
 - D pelvis
- (10 x 2) (20)

QUESTION 1

- | | | |
|-----|--------|------|
| 1.1 | 1.1.1 | B ✓✓ |
| | 1.1.2 | B ✓✓ |
| | 1.1.3 | D ✓✓ |
| | 1.1.4 | A ✓✓ |
| | 1.1.5 | C ✓✓ |
| | 1.1.6 | A ✓✓ |
| | 1.1.7 | D ✓✓ |
| | 1.1.8 | B ✓✓ |
| | 1.1.9 | D ✓✓ |
| | 1.1.10 | A ✓✓ |

(10 x 2) (20)

2. BIOLOGICAL TERM QUESTIONS

- 1.2 Give the correct BIOLOGICAL TERM for each of the following descriptions. Write only the term next to the question number (1.2.1–1.2.8) in the ANSWER BOOK.
- 1.2.1 The green, light-trapping pigment in photosynthesis found in plant leaves
 - 1.2.2 The splitting of water molecules into hydrogen and oxygen in the presence of light
 - 1.2.3 Site of reactions of the dark phase in the chloroplast
 - 1.2.4 The tiny finger-like projections in the small intestine
 - 1.2.5 The products of digestion become part of the protoplasm of the body cells
 - 1.2.6 A disorder in children caused by the diet that has high carbohydrate content but has insufficient proteins
 - 1.2.7 The death of all members of a particular species
 - 1.2.8 The general term which describes the plant species which is first to inhabit an environment (8 x 1) (8)

-
- 1.2 1.2.1 Chlorophyll ✓
- 1.2.2 Photolysis ✓
- 1.2.3 Stroma ✓
- 1.2.4 Villi ✓
- 1.2.5 Assimilation ✓
- 1.2.6 Kwashiorkor ✓
- 1.2.7 Extinction ✓
- 1.2.8 Pioneer ✓ (8 x 1) (8)

1.2 Give the correct biological term for each of the following descriptions. Write only the term next to the question number (1.2.1–1.2.6) in the ANSWER BOOK.

- 1.2.1 The maximum number of individuals that can be accommodated by the resources of a particular habitat
- 1.2.2 The type of plastid that absorbs radiant energy during photosynthesis
- 1.2.3 Removal of animals from a flock when the population size exceeds the carrying capacity
- 1.2.4 The kind of competition when individuals of the same species living in the same habitat compete for the same food sources
- 1.2.5 The functional and structural unit of the human kidney
- 1.2.6 The ejection of solid waste from the body

(6 x 1) (6)

1.2 1.2.1 Carrying capacity ✓

1.2.2 Chloroplasts ✓

1.2.3 Culling ✓

1.2.4 Intraspecific ✓ competition

1.2.5 Nephron ✓

1.2.6 Egestion/Defaecation ✓

(6 x 1) (6)

1.2 Give the correct **biological term** for each of the following descriptions. Write only the term next to the question number (1.2.1–1.2.6) in the ANSWER BOOK.

- 1.2.1 The pigment which is responsible for absorbing radiant energy during photosynthesis
- 1.2.2 Expected colour change of diluted iodine solution when the presence of starch in leaf is confirmed
- 1.2.3 Genetic material found in the mitochondrial matrix
- 1.2.4 The gas which is essential for the Kreb's cycle to occur
- 1.2.5 Folded structures found on the inner membrane of a mitochondria
- 1.2.6 Stage of aerobic respiration that releases carbon dioxide

(6 x 1) (6)

1.2	1.2.1	Chlorophyll ✓		
	1.2.2	Blue-black ✓		
	1.2.3	Deoxyribonucleic acid/DNA ✓		
	1.2.4	Oxygen ✓		
	1.2.5	Cristae ✓		
	1.2.6	Kreb's cycle ✓	(6 x 1)	(6)

1.2 Give the correct **biological term** for each of the following descriptions. Write only the term next to the question number (1.2.1–1.2.9) in the ANSWER BOOK.

- 1.2.1 The condition when the kidneys stop functioning
 - 1.2.2 An organism that hunts, catches and kills its prey
 - 1.2.3 The simple sugar formed during photosynthesis in green plants
 - 1.2.4 The hormone released by the pancreas that decreases the blood glucose concentration
 - 1.2.5 The permanent movement of organisms out of a specific area
 - 1.2.6 The process of breaking large fat molecules into small droplets
 - 1.2.7 The structure in the human respiratory system that closes the larynx
 - 1.2.8 The chewing process that breaks food molecules up mechanically
 - 1.2.9 The final hydrogen acceptor during cellular respiration
- (9 x 1) (9)

1.2	1.2.1	Kidney failure ✓		
	1.2.2	Predator ✓		
	1.2.3	Glucose ✓		
	1.2.4	Glucagon ✓		
	1.2.5	Emigration ✓		
	1.2.6	Emulsification ✓		
	1.2.7	Epiglottis ✓		
	1.2.8	Mastication ✓		
	1.2.9	Oxygen ✓	(9 x 1)	(9)

- 1.2 Give the correct **biological term** for each of the following descriptions. Write only the term next to the question number (1.2.1–1.2.9) in the ANSWER BOOK.
- 1.2.1 A type of malnutrition in which the person consumes large quantities of high-energy food
 - 1.2.2 The form in which excess glucose is stored in a plant
 - 1.2.3 Different populations occurring in a particular area
 - 1.2.4 The one-way movement of organisms out of a population to a new area
 - 1.2.5 The anaerobic respiration that occurs in yeast cells
 - 1.2.6 The type of energy absorbed by chlorophyll
 - 1.2.7 The type of relationship between two organisms where one completely outcompetes the other
 - 1.2.8 The type of competition between members of different species
 - 1.2.9 The position an organism occupies in an ecosystem (9 x 1) (9)

-
- 1.2 1.2.1 Obesity ✓
- 1.2.2 Starch ✓
- 1.2.3 Community ✓
- 1.2.4 Emigration ✓
- 1.2.5 Alcoholic fermentation ✓
- 1.2.6 Light energy / Solar energy / Radiant energy ✓
- 1.2.7 Competitive exclusion ✓
- 1.2.8 Interspecific competition ✓
- 1.2.9 Niche ✓ (9 x 1) (9)

- 1.2 Give the correct **biological term** for each of the following descriptions. Write only the term next to the question number (1.2.1–1.2.8) in the ANSWER BOOK.
- 1.2.1 The process by which the body eliminates metabolic waste products
- 1.2.2 The structure that prevents food from entering the trachea during swallowing
- 1.2.3 The part of the alimentary canal that serves as a passage for both food and air
- 1.2.4 The regulation of the water content in the body fluids by the kidneys
- 1.2.5 The region of the brain that controls the rate of breathing in humans
- 1.2.6 The general energy carrier in the cells of living organisms
- 1.2.7 The process by which food is moved along in the alimentary canal of humans
- 1.2.8 The stage of cellular respiration in which glucose is converted to pyruvic acid (8 x 1) (8)

-
- 1.2 1.2.1 Excretion ✓
- 1.2.2 Epiglottis ✓
- 1.2.3 Pharynx ✓
- 1.2.4 Osmoregulation ✓
- 1.2.5 Medulla oblongata ✓
- 1.2.6 ATP ✓/Adenosine triphosphate
- 1.2.7 Peristalsis ✓
- 1.2.8 Glycolysis ✓ (8 x 1) (8)

3. MATCHING COLUMN QUESTIONS

- 1.3 Indicate whether each of the statements in COLUMN I applies to **A ONLY**, **B ONLY**, **BOTH A and B** or **NONE** of the items in COLUMN II. Write **A ONLY**, **B ONLY**, **BOTH A and B** or **NONE** next to the question number (1.3.1–1.3.3) in the ANSWER BOOK, for example 1.3.4 **B ONLY**.

COLUMN I		COLUMN II
1.3.1	Tube that carries urine from the kidney to the bladder	A: ureter B: urethra
1.3.2	The hormone/s secreted by the adrenal gland to regulate the salt concentration of the blood	A: ADH B: aldosterone
1.3.3	Characteristic feature(s) of a declining population	A: high death rate B: low birth rate

(3 x 2) (6)

1.3 1.3.1 A only ✓✓

1.3.2 B only ✓✓

1.3.3 Both A and B ✓✓

(3 x 2) (6)

- 1.3 Indicate whether each of the statements in COLUMN I applies to **A ONLY**, **B ONLY**, **BOTH A and B** or **NONE** of the items in COLUMN II. Write **A ONLY**, **B ONLY**, **BOTH A and B** or **NONE** next to the question number (1.3.1–1.3.7) in the ANSWER BOOK, for example 1.3.8 **B ONLY**.

COLUMN I		COLUMN II
1.3.1	Anaerobic respiration in humans	A: Ethyl alcohol B: Lactic acid
1.3.2	The process whereby excess amino acids are broken down in the liver	A: Detoxification B: Deamination
1.3.3	The social behaviour observed among bees	A: Division of labour B: Hunting in packs
1.3.4	The enzyme secreted by the pancreas	A: Proteases B: Carbohydrases
1.3.5	The disease bilharzia	A: Kidneys B: Lungs
1.3.6	Osmoregulation	A: ADH B: TSH
1.3.7	Conversion of excess glucose to glycogen	A: Insulin B: Glucagon

(7 x 2) (14)

- 1.3 1.3.1 B only ✓✓
 1.3.2 B only ✓✓
 1.3.3 A only ✓✓
 1.3.4 Both A and B ✓✓
 1.3.5 A only ✓✓
 1.3.6 A only ✓✓
 1.3.7 A only ✓✓

(7 x 2) (14)

- 1.3 Indicate whether each of the statements in COLUMN I applies to **A only**, **B only**, **both A and B** or **none** of the items in COLUMN II. Write **A only**, **B only**, **both A and B**, or **none** next to the question number (1.3.1–1.3.6) in the ANSWER BOOK.

	COLUMN I	COLUMN II
1.3.1	Molecule that stores energy	A. ATP B. ADP
1.3.2	The fuel required for cellular respiration	A. Glycogen B. Glucagon
1.3.3	Products of anaerobic respiration in yeast	A. Alcohol B. CO ₂
1.3.4	The organelle in which photosynthesis takes place	A. Mitochondria B. Chloroplast
1.3.5	Storage of chlorophyll	A. Grana B. Lamella
1.3.6	Acid secreted in the stomach during digestion	A. HCl B. Fatty acid

(6 x 2) (12)

- 1.3 1.3.1 A only ✓✓
 1.3.2 None ✓✓
 1.3.3 Both A and B ✓✓
 1.3.4 B only ✓✓
 1.3.5 Both A and B ✓✓
 1.3.6 A only ✓✓

(6 x 2) (12)

- 1.3 Indicate whether each of the statements in COLUMN I applies to **A ONLY**, **B ONLY**, **BOTH A AND B** or **NONE** of the items in COLUMN II. Write **A only**, **B only**, **both A and B**, or **none** next to the question number (1.3.1–1.3.4) in the ANSWER BOOK.

COLUMN I	COLUMN II
1.3.1 The lung disease where the alveoli gets damaged by forming large uneven sacs	A: Lung cancer B: Emphysema
1.3.2 The place in the human digestive system where the most absorption of digested food takes place	A: The stomach B: The large intestine
1.3.3 The type of energy stored in food molecules during photosynthesis	A: Chemical energy B: Potential energy
1.3.4 Ways in which oxygen is transported in the blood	A: Dissolved in the blood plasma B: Forms a compound with haemoglobin

(8 x 1) (8)

- 1.3 1.3.1 B only ✓✓
1.3.2 None ✓✓
1.3.3 A only ✓✓
1.3.4 Both A and B ✓✓

(4 x 2) (8)

- 1.3 Indicate whether each of the statements in COLUMN I applies to **A ONLY**, **B ONLY**, **BOTH A and B** or **NONE** of the items in COLUMN II. Write **A only**, **B only**, **both A and B** or **none** next to the question number (1.3.1–1.3.3) in the ANSWER BOOK.

COLUMN I	COLUMN II
1.3.1 Substances that need to be digested before absorption	A: Amino acids B: Glucose
1.3.2 Raw material(s) essential for photosynthesis	A: Oxygen B: Carbon dioxide
1.3.3 Examples of mutualism	A: Nitrogen fixing bacteria on the roots of legumes B: Barnacles on whales

(3 x 2) (6)

1.3 1.3.1 None ✓✓

1.3.2 B only ✓✓

1.3.3 A only ✓✓

(3 x 2) (6)

- 1.3 Indicate whether each of the descriptions in COLUMN I applies to **A ONLY**, **B ONLY**, **BOTH A AND B** or **NONE** of the items in COLUMN II. Write **A only**, **B only**, **BOTH A and B** or **none** next to the question numbers (1.3.1–1.3.3) in the ANSWER BOOK.

	COLUMN I		COLUMN II
1.3.1	Site of cellular respiration	A:	Chloroplast
		B:	Mitochondrion
1.3.2	Transport of digested nutrients from the small intestine to the liver	A:	Renal vein
		B:	Hepatic vein
1.3.3	Hormone involved in the reabsorption of water	A:	ADH
		B:	Glucagon

(3 x 2) (6)

1.3 1.3.1 B only ✓✓

1.3.2 None ✓✓

1.3.3 A only ✓✓

(3 x 2) (6)