

POSSIBLE ANSWERS

FEB / MARCH 2007

Biology P1 HG

4

Marking Guideline

Senior Certificate Examination – Feb/Mar 2007

SECTION A

QUESTION 1

- 1.1.1 A✓✓
- 1.1.2 C✓✓
- 1.1.3 B✓✓
- 1.1.4 D✓✓
- 1.1.5 B✓✓
- 1.1.6 B✓✓
- 1.1.7 C✓✓ 7 X 2 **(14)**

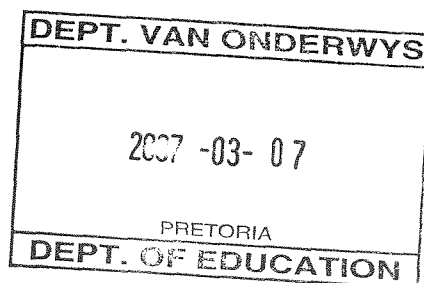
- 1.2.1 Epiglottis✓
- 1.2.2 Mitochondrion✓
- 1.2.3 Lag phase✓
- 1.2.4 Hydrolysis✓
- 1.2.5 pH scale✓
- 1.2.6 Environmental resistance✓ 6 X 1 **(6)**

- 1.3.1 A only✓✓
- 1.3.2 None✓✓
- 1.3.3 B only✓✓
- 1.3.4 B only✓✓
- 1.3.5 Both A and B✓✓
- 1.3.6 A only✓✓
- 1.3.7 Both A and B✓✓ 7 X 2 **(14)**

- 1.4.1 Energy✓ (1)
- 1.4.2 Fats✓Cholesterol✓Sodium✓ (2)
Mark first TWO only

1.4.3 (a) $\frac{1}{3} \times 67$ ✓ (3)
 $= 22,8$ ✓g✓

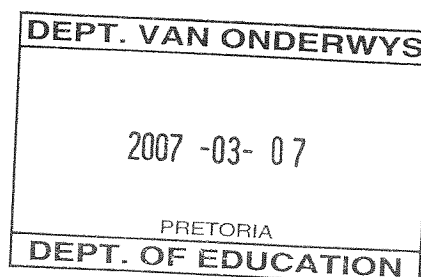
(b) $67g = 30\%$ ✓ (3)
 $= \frac{30}{100} \times 8500$ ✓ (9)
 $= 2550$ ✓kJ



- 1.5.1 5✓mg✓ (2)
- 1.5.2 Cooking✓ and storage✓ destroy vitamin C (2)
- 1.5.3 Through water loss by boiling✓ (1)
- 1.5.4 Boiling✓ (1)

SECTION B**QUESTION 2**

- 2.1.1 - To investigate whether peas contain the enzyme/amylase✓
- which converts/ digest starch to maltose✓ (2)
- 2.1.2 The agar contained starch✓✓ (2)
- 2.1.3 The unboiled pea seeds produced an enzyme/amylase✓ which broke down the starch✓ (2)
- 2.1.4 Maltose/glucose✓ (1)
- 2.1.5 Amylase✓ (1)
- 2.1.6 - For the seeds to absorb water✓ which is a medium for chemical reactions✓/soften the skin
- To activate growth/germination✓
- Activate enzymes✓ Any 3 X 1 (3)
- 2.1.7 - enzymes are organic catalysts /they bring about chemical reactions ✓/the amylase in the peas acted as organic catalysts to breakdown starch✓
- enzymes are sensitive to temperature/ high temperatures✓ denatured the enzymes in the boiled pea seeds✓ so starch was not broken down.
Mark first TWO only (4)
(15)
- 2.2.1 (a) Palisade mesophyll ✓ (1)
(b) Vascular bundle✓ (1)
- 2.2.2 (a) Oxygen✓ (1)
(b) Carbon dioxide✓ (1)
- 2.2.3 (a) Allows light to pass through for photosynthesis✓
Mark first ONE only (1)
(b) Allows movement of gases/carbon dioxide and oxygen✓
Mark first ONE only (1)
- 2.2.4 Light phase✓ (1)



- 2.2.5 - structure III/chloroplast can move✓ allowing them to arrange themselves into the best position for maximum absorption of light✓
- they contain the green pigment /chlorophyll✓ which is important for absorption of light✓
- stroma contains ribosomes✓ which manufacture the enzymes✓ for photosynthesis
- stroma contains starch granules✓ for storage of product✓ of photosynthesis
- grana made of thin flat discs✓ which increase the surface area✓ for absorption of light
- the stroma contains many enzymes✓ which are necessary for photosynthesis✓

Mark first TWO only

Any 2 X 2 (4)
(11)

- 2.3.1 - as light intensity increases, the rate of photosynthesis also increases✓
- until optimum light intensity is reached✓
- at this point the rate of photosynthesis is at the maximum✓
- further increase in light intensity does not bring about any further increase in the rate of photosynthesis✓

Any 3 X 1 (3)

- 2.3.2 (a) the rate of photosynthesis is higher in graph X✓ than Y✓ because of a higher/optimum temperature✓

or

at a lower temperature✓, at Y, the rate of photosynthesis is lower✓ than at X✓ although the carbon dioxide concentration and light intensity stays the same

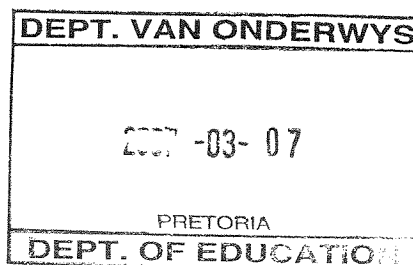
(3)

- (b) at a higher carbon dioxide concentration✓ at X, the rate of photosynthesis is higher✓ than at Z✓

(3)

(9)

Total Question 2: (35)



QUESTION 3

3.1.1 15 - 17✓mg/cm³✓ (2)

3.1.2 14 - 15✓ minutes✓ (2)

3.1.3 54- 56 minutes✓✓/4 minutes after X (2)

3.1.4 The oxygen supply to the cells is still inadequate/ less than the demand✓
anaerobic respiration is still taking place to supply the energy needs of the body✓

Any 2 X 1 (2)
(8)

3.2.1 (a) To investigate whether germinating seeds release heat ✓during respiration✓ (2)

(b) To indicate the effect of heat on air✓✓ (2)

3.2.2 B✓ (1)

3.2.3 The heat released from the seeds during germination✓
heats up the test tube causing the air molecules in the test tube to rise/
expand✓and exert pressure on the water✓ which then rises✓

Any 2 X 1 (2)

3.2.4 (a) It serves as an insulator /To retain heat✓ (1)

(b) It will remain constant/rise slowly/rise to a lower level✓
Heat released by the seeds will be lost ✓ (2)

(10)

3.3.1 (a) A – Bronchus/bronchiolus✓
B - Alveolus✓

(b) Gaseous exchange/diffusion✓ (1)

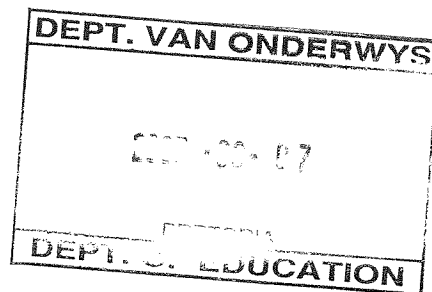
3.3.2 (a) Carbon dioxide✓

(b) Oxygen✓ (2)

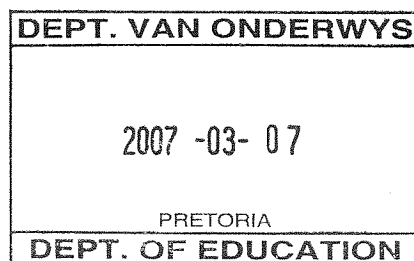
3.3.3 - numerous alveoli / large surface area✓ for exchange of gases
- thin epithelium made of single layer of cells✓for rapid diffusion
- presence of blood capillaries✓ for transport of gases

Mark first TWO only

Any 2 X 1 (2)



- 3.3.4 - blood in the capillary has high concentration of oxygen and a low concentration carbon dioxide✓
 - tissue fluid has a low concentration of oxygen and high concentration of carbon dioxide✓
 - exchange of gases occur from areas of high concentration to low concentration/according to the concentration gradient✓
 - blood gains carbon dioxide and loses oxygen✓
 - tissue gains oxygen and loses carbon dioxide✓ Any 3x1 (3) **(10)**
- 3.4.1 - During exercise there is an increased demand for energy✓
 - leading to increased breakdown of glucose✓to release energy
 - the by product of this process is carbon dioxide✓which is then exhaled.
 Any 2 X 1 (2)
- 3.4.2 Water vapour✓
Mark first ONE only (1)
- 3.4.3 $17 - 12 = 5\%$ (2)
- 3.4.4 Nitrogen cannot be used in the body in gaseous state/animals get nitrogen from food✓✓ Any 1 X 2 (2)
(7)
- TOTAL QUESTION 3: 35**



QUESTION 4

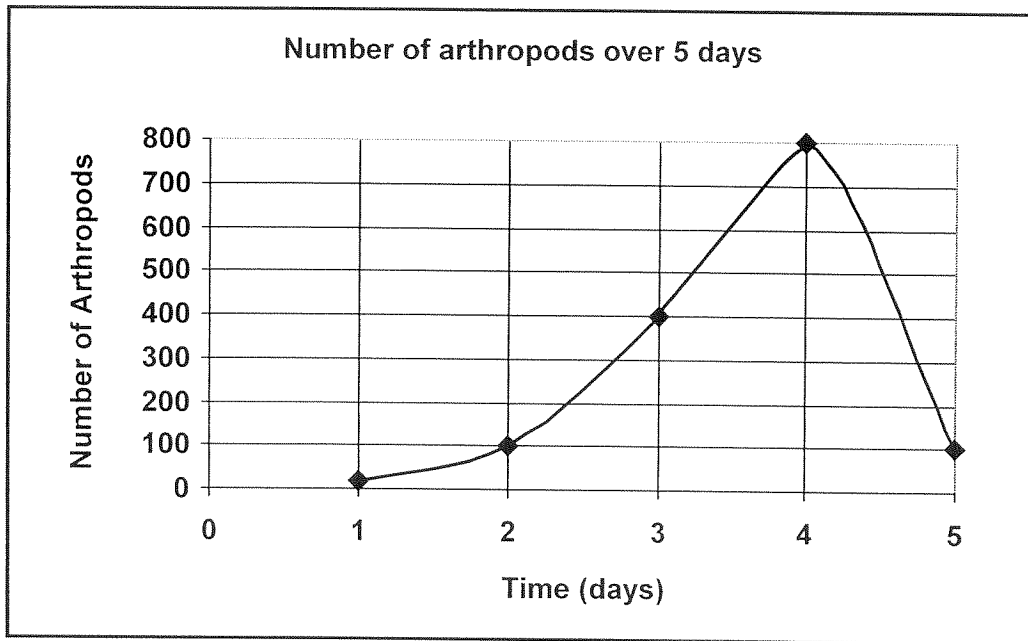
4.1.1 X = intercostal muscles✓ (1)
 Y = ribs✓ (1)

4.1.2 External intercostal muscles contract✓
 Internal intercostal muscles relax✓
 Causing the rib-cage to move upwards and forwards✓/increasing the volume of the thoracic cavity (3)

4.1.3 - high carbon dioxide concentration✓ in the blood
 - stimulates the medulla✓/cardiovascular and respiratory centres the medulla
 - to send impulses✓to the intercostals muscles (3)
(8)

4.2.1 A group of organisms of the same species✓ occupying a particular space✓at a particular time✓and with the potential to interbreed✓
 Any 3 X 1 (3)

4.2.2



Rubric for the mark allocation of the graph

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Correct type of graph		1		
Title of graph		1		
Correct label for X-axis including correct units		1		
Correct label for Y-axis		1		
Appropriate scale for X-axis		1		
Appropriate scale for Y-axis		1		
Plotting of points for graph	3: plotted all 5 points correctly	2 : plotted 3 or 4 correctly	1: plotted two or less of the points correctly	0: no points plotted
All plotted points joined			1	

Wrong type of graph is drawn : marks will be lost for “correct type of graph” as well as for “plotting of points” (11)

4.2.3 Geometric✓ (1)

4.2.4 800/ just below 800✓✓ (2)

4.2.5 2 times✓ (1)

4.2.6 environmental resistance✓✓
 limited food✓✓limited space✓✓
 any density independent factor✓✓

Mark first TWO only

Any 2 X 2 (4)

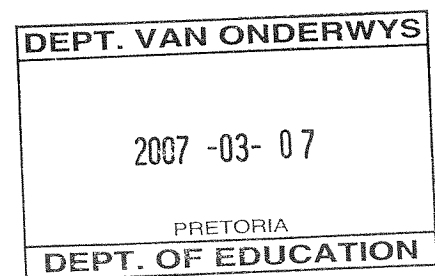
4.2.7 Mark-recapture/Petersen method/simple sampling✓ (1)

(23)

- 4.3
- territoriality is found where some form of social organisation✓ is present
 - each male marks✓ of his territory in which he keeps his harem of females
 - he defends✓/ protects his marked territory and the resources it may contain such as food and shelter✓
 - only he mates with the females and therefore the population increase is limited✓ because not all females are gravid at the same time
 - the male only keeps a limited number of females at any given time✓
 - population densities are limited by territorial rights✓

Any 4 X 1 (4)

TOTAL QUESTION 4: (35)



SECTION C
QUESTION 5

- 5.1.1 A - Oesophagus✓ (1)
D - Colon/large intestine✓ (1)
- 5.1.2 Liver✓ and Pancreas✓/gall bladder
Mark first TWO only (2)
- 5.1.3 Fibre✓/roughage (1)
It is indigestible /passes through the alimentary canal without being digested✓ or absorbed✓ (2)
- 5.1.4 - absorbs water and makes content bulky✓
- promotes peristalsis in the colon✓
- prevents constipation✓
- prevents cancer of the colon✓
Mark first TWO only Any 2 x 1 (2)
- 5.1.5 Water✓ (1)
It is absorbed in the stomach, small intestine and large intestine✓
And some of it is passed out in faeces✓ (2)
- 5.1.6 - acts as a transport medium and brings end products of digestion in close contact with the villi✓
- acts as a solvent for nutrients to be absorbed/ digested nutrients are absorbed in solution ✓
- transports absorbed nutrients from villi to the liver✓
Mark first TWO only Any 2x1 (2)
- 5.1.7 Hepatic portal vein✓ (1)
- 5.1.8 Amino acids✓ and glucose/ any monosaccharide✓
Mark first TWO only (2)
(17)

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5.2

- fatty acid and glycerol/d✓ is absorbed into the lacteal✓.
- glycerol is water soluble and is absorbed actively✓ while
- fatty acids are insoluble so they combine with bile salts✓
- to form fatty acid- bile salt complex✓ which are soluble.
- this enters through the columnar epithelial cells ✓ of the villi by diffusion✓
- fatty acids separate from the bile salts again ✓
- and recombine with glycerol ✓ to form small fat droplets/triglycerides. ✓
- which are absorbed into the lacteal.
- fat with lymph forms a milky substance called chyle✓
- a little of the fat enters the blood stream✓
- most of the fat enters the lymphatic system ✓ which eventually empties into the thoracic duct✓ and from there into the blood system.
- fat is then used as a reserve source of energy✓
- as structural components of cell membranes✓
- as well as for insulation✓.
- excess is converted by the liver✓ into glycogen✓
- or stored under the skin /around organs as adipose tissue✓

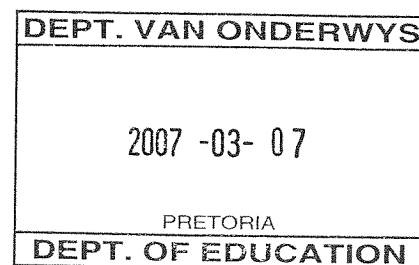
Factual Content: Any 15 X 1 (15)

Synthesis:

Marks	Descriptions
3	Well structured – demonstrates insight and understanding of question
2	Minor gaps in the logic and flow of the answer
1	Attempted but with significant gaps in the logic and flow of the answer
0	Not attempted/nothing written other than question number

Synthesis: 03
(18)

TOTAL QUESTION 5: 35



AFDELING A

VRAAG 1

- 1.1.1 A✓✓
 - 1.1.2 C✓✓
 - 1.1.3 B✓✓
 - 1.1.4 D✓✓
 - 1.1.5 B✓✓
 - 1.1.6 B✓✓
 - 1.1.7 C✓✓
- 7 X 2 **(14)**

- 1.2.1 Epiglottis✓
 - 1.2.2 Mitochondriun✓
 - 1.2.3 Sloerfase✓
 - 1.2.4 Hidrolise✓
 - 1.2.5 pH skaal✓
 - 1.2.6 Omgewingsweerstand✓
- 6 X 1 **(6)**

- 1.3.1 Slegs A✓✓
 - 1.3.2 Geeneen✓✓
 - 1.3.3 Slegs B✓✓
 - 1.3.4 Slegs B✓✓
 - 1.3.5 Beide A en B✓✓
 - 1.3.6 Slegs A✓✓
 - 1.3.7 Beide A en B✓✓
- 7 X 2 **(14)**

- 1.4.1 Energie✓
- (1)

- 1.4.2 Vette✓Cholesterol✓Natrium✓
- (1)
- Merk slegs eerste TWEE**
- (2)**

1.4.3 (a) $\frac{1}{3} \times 67$ ✓

= 22,8✓g✓

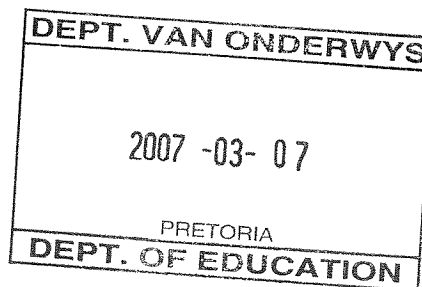
(3)

(b) 67g = 30%✓

= $\frac{30}{100} \times 8500$ ✓

= 2550 ✓kJ

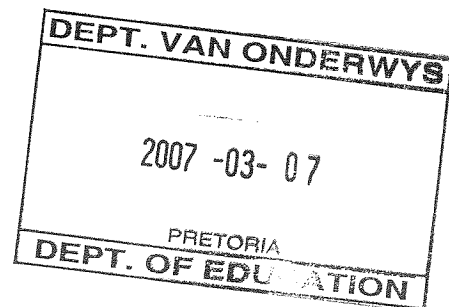
(3)



- 1.5.1 5✓mg✓
 - 1.5.2 Kokery✓ en berging✓ vernietig vitamien C
 - 1.5.3 Waterverlies tydens kokery✓
 - 1.5.4 Kokery✓
- (2)
- (2)
- (1)
- (1)

- 1.5.5 - voorkom skeurbuik✓
 - help met die herstel van wonde✓
 - help met die absorpsie van yster in die dunderm✓
 - opbou/versterk die immuunstelsel✓ Enige 2 X 1 (1)
 - Merk slegs eerste TWEE (8)**

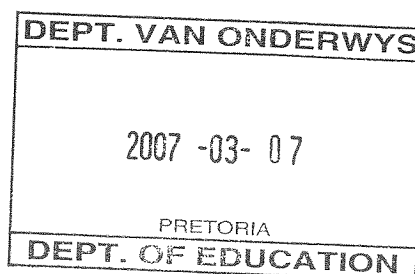
 - 1.6.1 Fotosintese✓ (1)
 - 1.6.2 Suurstof✓ (1)
 - 1.6.3 - verwyder die proefbuis✓
 - bedek die opening van die proefbuis met jou vinger om te voorkom dat die gas wat versamel is, ontsnap✓
 - druk die gloeiende punt van 'n houtsplinter in die proefbuis✓
 - gloeiende punt ontvlam✓ wat aandui dat suurstof aanwesig is Enige 3 X 1 (3)
 - 1.6.4 Om die voorsiening van koolstofdioksied te verhoog✓ wat vir wat vir fotosintese benodig word✓ (2)
 - 1.6.5 - stel die apparaat soos tydens die eksperiment op✓
 - maar sit dit in die donker✓ (2)
- (9)**
- TOTAAL VRAAG 1: 60**



AFDELING B

VRAAG 2

- 2.1.1 - Om te ondersoek of ertjies die ensiem/amilase✓ bevat
- wat stysel na maltose omskakel/verteer✓ (2)
- 2.1.2 Die agar bevat stysel✓✓ (2)
- 2.1.3 Die ongekookte ertjiesade produseer 'n ensiem/amilase✓ wat die stysel afbreek✓ (2)
- 2.1.4 Maltose/glukose✓ (1)
- 2.1.5 Amilase✓ (1)
- 2.1.6 - Vir die sade om water te absorbeer✓ wat 'n medium is vir chemiese reaksies✓/maak dop sag
- Om groei te aktiveer/ontkieming✓
- Aktiveer ensieme✓ Enige 3 X 1 (3)
- 2.1.7 - ensieme is organiese katalisators /hulle sit chemiese reaksies aan die gang✓/die amilase in die ertjies het as organiese katalisators opgetree wat die stysel afgebreek het✓
- ensieme is gevoelig vir temperatuur/ hoë temperatuur✓ denatureer die ensieme van die gekookte ertjiesade✓ gevolglik is die stysel nie afgebreek nie
Merk slegs eerste TWEE (4)
(15)
- 2.2.1 (a) Palissade mesofil ✓ (1)
(b) Vaatbondel✓ (1)
- 2.2.2 (a) Suurstof✓ (1)
(b) Koolstofdioksied✓ (1)
- 2.2.3 (a) Laat lig toe om vir fotosintese deur te beweeg✓
Merk slegs eerste EEN (1)
(b) Laat beweging van gasse/koolstofdioksied en suurstof toe✓
Merk slegs eerste EEN (1)
- 2.2.4 Ligfase✓ (1)



- 2.2.5 - struktuur III/chloroplas kan beweeg✓ wat hulle toelaat om te beweeg sodat hulle hulself positioneer om maksimum sonlig te absorbeer✓
- hulle bevat 'n groen pigment /chlorofil✓ wat vir die absorpsie van lig noodsaaklik is✓
- stroma bevat ribosome✓ wat ensieme vervaardig✓ vir fotosintese
- stroma bevat styselkorrels✓ wat die produk van fotosintese berg✓
- granums bestaan uit dun, plat skyfies✓ wat die oppervlakarea vir die absorpsie van lig vergroot✓
- die stroma bevat baie ensieme✓ wat vir fotosintese✓ noodsaaklik is

Merk slegs eerste TWEE

Enige 2 X 2 (4)
(11)

- 2.3.1 - soos die ligintensiteit toeneem, sal die tempo van fotosintese ook toeneem✓
- totdat optimum ligintensiteit bereik word✓
- by hierdie punt is die tempo van fotosintese maksimaal✓
- 'n verder toename in ligintensiteit, veroorsaak nie 'n verdere toename in fotosintese nie✓

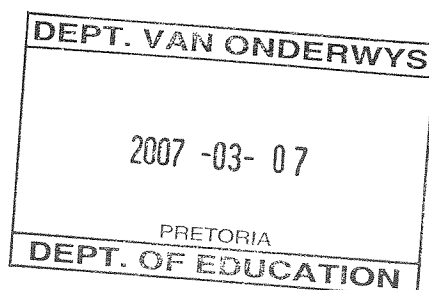
Enige 3 X 1 (3)

- 2.3.2 (a) die tempo van fotosintese is hoër in grafiek X✓ as Y✓
a.g.v 'n hoër/optimum temperatuur✓
of
by 'n laer temperatuur✓, Y, is die tempo van fotosintese laer✓ as by X✓ alhoewel die koolstofdiksiedkonsentrasie en ligintensiteit dieselfde bly (3)

- (b) by 'n hoër koolstofdiksiedkonsentrasie✓ by X, is die tempo van fotosintese hoër✓ as by Z✓ (3)

(9)

Totaal Vraag 2: (35)



VRAAG 3

3.1.1 15 - 17✓mg/cm³✓ (2)

3.1.2 14 - 15✓ minute✓ (2)

3.1.3 54- 56 minute✓✓/4 minute na X (2)

3.1.4 Die toevoer van suurstof na die selle is steeds onvoldoende/ minder as dit wat benodig word✓
anaërobiese respirasie vind steeds plaas om aan die energiebehoefte van die liggaam te voldoen✓

Enige 2 X 1 (2)
(8)

3.2.1 (a) Om te ondersoek of ontkiemende sade hitte ✓tydens respirasie✓
vrystel (2)

(b) Om die invloed van hitte op lug aan te dui✓✓ (2)

3.2.2 B✓ (1)

3.2.3 Die hitte wat deur die sade tydens ontkieming vrygestel word✓
verwarm die proefbuis wat veroorsaak dat die lugmolekules in die proefbuis styg/ uitsit✓en druk op die water uitoefen✓ wat dan styg✓

Enige 2 X 1 (2)

3.2.4 (a) Dit dien as 'n isolator /Om hitte te behou✓ (1)

(b) Dit sal konstant bly/stadig styg/tot 'n laer vlak styg✓
Hitte wat deur die sade vrygestel is, sal verlore gaan✓ (2)

(10)

3.3.1 (a) A – Brongus/brongioles✓
B - Alveolus✓ (2)

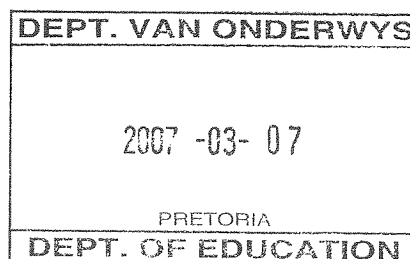
(b) Gaswisseling/diffusie✓ (1)

3.3.2 (a) Koolstofdiksied✓
(b) Suurstof✓ (2)

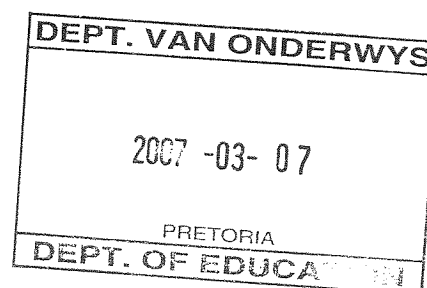
3.3.3 - baie alveoli / groot oppervlak✓ vir gaswisseling
- dun epiteel bestaan uit 'n enkele laag selle✓ vir vinnige diffusie
- teenwoordigheid van kapillêre bloedvate✓ vir vervoer van gasse

Merk slegs eerste TWEE

Enige 2 X 1 (2)



- 3.3.4 - bloed in die kapillêres het 'n hoë konsentrasie suurstof en 'n lae konsentrasie koolstofdioksied✓
 - weefselvloeistof het 'n lae konsentrasie suurstof en 'n hpe konsentrasie koolstofdioksied✓
 - gaswisseling vind plaas van 'n gebied met 'n hoë konsentrasie na 'n lae konsentrasie/saam met 'n konsentrasiegradiënt✓
 - bloed neem koolstofdioksied op en verloor suurstof✓
 - weefsels neem suurstof op en verloor koolstofdioksied✓
 Enige 3 x 1 (3)
(10)
- 3.4.1 - Tydens oefening is daar 'n toename in die vraag vir energie✓
 - wat lei tot 'n toename in die afbreek van glukose✓ om energie vry te stel
 die newe-produk van hierdie proses is koolstofdioksied✓ wat dan uitgeasem word
 Enige 2 X 1 (2)
- 3.4.2 Waterdamp✓
Merk slegs eerste EEN (1)
- 3.4.3 $17 - 12 = 5\%$ (2)
- 3.4.4 Stikstof kan nie in die liggaam in die vorm van 'n gas gebruik word nie/
 diere verkry stikstof uit voedsel✓✓
 Enige 1 X 2 (2)
(7)
TOTAAL VRAAG 3: 35



VRAAG 4

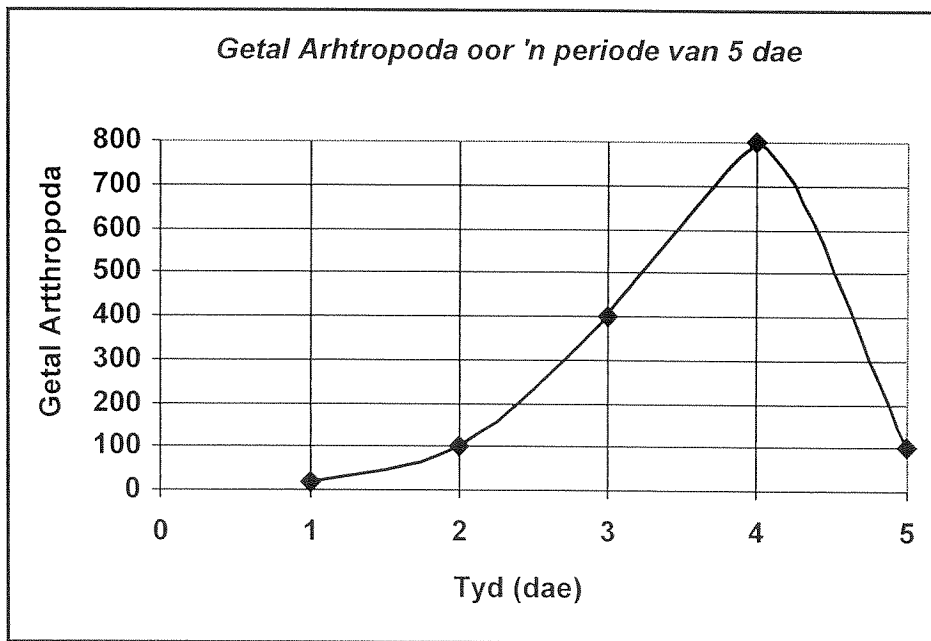
4.1.1 X = tussenribspiere✓ (1)
 Y = ribbe✓ (1)

4.1.2 Uitwendige tussenribspiere trek saam✓
 Inwendige tussenribspiere verslap✓
 Veroorsaak dat die borsholte opwaarts en vorentoe beweeg✓/vergroot die volume van die borsholte (3)

4.1.3 - Hoë konsentrasie koolstofdiksied✓ in die bloed
 - stimuleer die medulla✓/kardiovakulêre- en respiratoriese sentrums in die medulla
 - stuur impulse✓ na die tussenribspiere (3)
(8)

4.2.1 'n Groep organismes van dieselfde spesie✓ wat in 'n spesifieke gebied voorkom✓ op 'n spesifieke tyd✓ en wat die vermoë besit om te kan kruisteel✓
 enige 3 X 1 (3)

4.2.2



Rubriek vir die toekenning van punte vir die grafiek

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Korrekte soort grafiek	1			
Opskrif van die grafiek	1			
Korrekte byskrif vir X-as insluitend die korrekte eenheid	1			
Korrekte byskrif vir Y-as	1			
Geskikte skaal vir X-as	1			
Geskikte skaal vir Y-as	1			
Plot van punte van grafiek	3: al vyf punte korrek geplot	2 : drie of vier punte korrek geplot	1: twee of minder punte korrek geplot	0: geen punte geplot
Al die geplotte punte verbind	1			

Verkeerde soort grafiek is geteken : punte sal verloor word vir “korrekte soort grafiek”
sowel as vir “plot van punte” (11)

4.2.3 Geometries✓ (1)

4.2.4 800/ net minder as 800✓ (2)

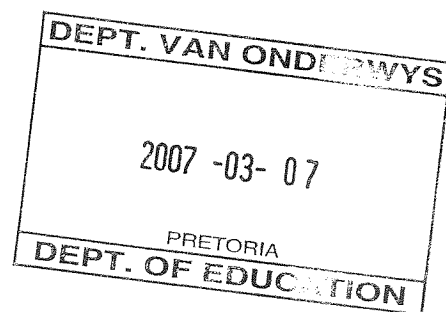
4.2.5 2 maal✓ (1)

4.2.6 omgewingsweerstand✓✓
voedsel beperk✓✓ruimte beperk✓✓
enige digtheisonafhanklike faktor✓✓
Merk slegs eerste TWEE enige 2 X 2 (4)

4.2.7 Merk-hervang/Petersen metode/eenvoudige bemonstering✓ (1)
(23)

4.3 - territorialiteit is waar daar 'n mate van sosiale organisasie✓ teenwoordig is
- elke mannetjie merk✓ sy gebied waarin hy sy harem wyfies aanhou, af
- hy verdedig✓/ beskerm sy afgemerkte gebied asook die hulpbronne
bv. voedsel en skuiling✓ wat daarin mag voorkom
- slegs hy mag met die wyfies paar en daarom is bevolkingsgroei beperk✓
omdat nie al die wyfies dieselfde tyd dragtig is nie
- die mannetjie hou slegs 'n beperkte getal wyfies op 'n tyd aan✓
- bevolkingsdigthede word deur territoriale regte beperk✓
Enige 4 X 1 (4)

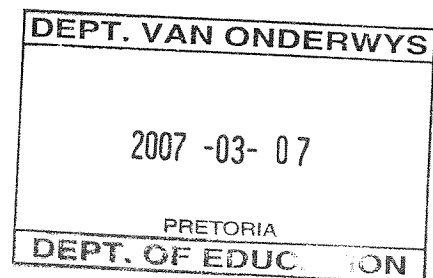
TOTAAL VRAAG 4: (35)



AFDELING C

VRAAG 5

- 5.1.1 A - Esofagus✓ (1)
 D - Kolon/dikderm✓ (1)
- 5.1.2 Lewer✓ en pankreas✓ /galblaas
Merk slegs eerste TWEE (2)
- 5.1.3 Vesel✓ /ruvoedsel (1)
 Dit is onverteerbaar /beweeg deur die spysverterinskanaal sonder dat dit verteer✓ of geabsorbeer✓ word (2)
- 5.1.4 - absorbeer water en maak inhoud lywig✓
 - bevorder peristalsiese bewegings in die kolon✓
 - voorkom hardlywigheid✓
 - voorkom kolonkanker✓
Merk slegs eerste TWEE Enige 2 x 1 (2)
- 5.1.5 Water✓ (1)
 Dit word in die maag, dunderm en dikderm geabsorbeer✓
 en 'n deel word as fese uitgeskei✓ (2)
- 5.1.6 - dien as 'n vervoermedium en bring die eindprodukte van vertering in noue kontak met die villi✓
 - tree as 'n oplosmiddel op vir voedingstowwe wat geabsorbeer moet word/ verteerde voedingstowwe word in oplossing geabsorbeer✓
 - vervoer geabsorbeerde voedingstowwe vanaf die villi na die lewer✓
Merk slegs eerste TWEE Enige 2 x 1 (2)
- 5.1.7 Lewerpoortaar✓ (1)
- 5.1.8 Aminosure✓ en glukose/ enige monosakkariede✓
Merk slegs eerste TWEE (2)
(17)



5.2

- vetsure en gliserol ✓ word in die lakteaal geabsorbeer ✓.
- gliserol is oplosbaar in water en word aktief geabsorbeer ✓ terwyl
- vetsure onoplosbaar is en met galsoute verbind ✓
- om 'n vetsuurgalsoutverbinding te vorm ✓ wat oplosbaar is
- dit dring deur die kolomepiteelselle ✓ van die villi deur diffusie ✓
- vetsure skei weer van die galsoute ✓
- en verbind weer met gliserol ✓ om klein vetdruppeltjies te vorm/triglisieriede ✓
- wat deur die lakteaal geabsorbeer word
- vette in limf vorm 'n melkerige oplossing wat chyl ✓ genoem word
- 'n bietjie van die vet dring die bloedstroom binne ✓
- meeste van die vette dring die limfvatstelsel binne ✓ wat uiteindelik in
- die borbuis ✓ open en van daar in die bloedstelsel
- vette word dan as 'n reserwe-energiebron gebruik ✓
- as strukturele komponente van selmembrane ✓
- sowel as vir isolering ✓
- oortollige vette word deur die lewer ✓ na glikogeen ✓ omgeskakel
- of onder die vel geberg /rondom organe as vetweefsel ✓

Feite inhoud: Enige 15 X 1 (15)

Sintese:

Punte	Beskrywings
3	Goed gestruktureerd – toon insig en begrip van die vraag
2	Klein leemtes in die logiese en vloei van die antwoord
1	Groot leemtes in die logiese en vloei van die antwoord
0	Geen poging/niks behalwe vraagnommer geskryf

Sintese: 03

(18)

TOTAAL VRAAG 5: 35

