



**GAUTENG DEPARTMENT OF EDUCATION  
EXEMPLAR  
2020**

**LIFE SCIENCES P1  
OCTOBER /NOVEMBER  
MARKING GUIDELINE  
GRADE : 11**

**MARKS : 150**

**NUMBER OF PAGES : 11**

**GAUTENG DEPARTMENT OF EDUCATION  
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**PRINCIPLES RELATED TO MARKING LIFE SCIENCES**

1. **If more information than marks allocated is given**  
Stop marking when maximum marks is reached and put a wavy line and 'max' in the right-hand margin.
2. **If, for example, three reasons are required and five are given**  
Mark the first three irrespective of whether all or some are correct/incorrect.
3. **If whole process is given when only part of it is required**  
Read all and credit relevant part.
4. **If comparisons are asked for and descriptions are given**  
Accept if differences / similarities are clear.
5. **If tabulation is required but paragraphs are given**  
Candidates will lose marks for not tabulating.
6. **If diagrams are given with annotations when descriptions are required**  
Candidates will lose marks
7. **If flow charts are given instead of descriptions**  
Candidates will lose marks.
8. **If sequence is muddled and links do not make sense**  
Where sequence and links are correct, credit. Where sequence and links is incorrect, do not credit. If sequence and links becomes correct again, resume credit.
9. **Non-recognised abbreviations**  
Accept if first defined in answer. If not defined, do not credit the unrecognized abbreviation but credit the rest of answer if correct.
10. **Wrong numbering**  
If answer fits into the correct sequence of questions but the wrong number is given, it is acceptable.
11. **If language used changes the intended meaning**  
Do not accept.
12. **Spelling errors**  
If recognizable accept provided it does not mean something else in Life Sciences or if it is out of context.
13. **If common names given in terminology**  
Accept provided it was accepted at the National memo discussion meeting.

14. **If only letter is asked for and only name is given (and vice versa)**  
No credit
15. **If units are not given in measurements**  
Candidates will lose marks. Memorandum will allocate marks for units separately
16. Be sensitive to the **sense of an answer, which may be stated in a different way.**
17. **Caption**  
All illustrations (diagrams, graphs, tables, etc.) must have a caption
18. **Code-switching of official languages (terms and concepts)**  
A single word or two that appears in any official language other than the learners' assessment language used to the greatest extent in his/her answers should be credited, if it is correct. A marker that is proficient in the relevant official language should be consulted. This is applicable to all official languages.
19. No changes must be made to the marking memoranda without consulting the Provincial Internal Moderator who in turn will consult with the National Internal Moderator (and the External moderators where necessary)

**SECTION A****QUESTION 1**

1.1	1.1.1 A	✓✓		
	1.1.2 B	✓✓		
	1.1.3 B	✓✓		
	1.1.4 B	✓✓		
	1.1.5 B	✓✓		
	1.1.6 D	✓✓		
	1.1.7 C	✓✓		
	1.1.8 C	✓✓	(8 x 2)	<b>(16)</b>
1.2	1.2.1 Cristae	✓		
	1.2.2 Radiant (energy)	✓		
	1.2.3 Kwashiorkor	✓		
	1.2.4 Destarch	✓		
	1.2.5 Pyloric sphincter	✓		
	1.2.6 Enzymes	✓		
	1.2.7 Villi	✓		
	1.2.8 Photolysis	✓		<b>(8)</b>
1.3	1.3.1 A only	✓✓		
	1.3.2 B only	✓✓		
	1.3.3 B only	✓✓		
	1.3.4 None	✓✓	(4 x 2)	<b>(8)</b>
1.4	1.4.1	(a) Trachea✓ (b) Bronchi✓ (c) Lungs✓		<b>(3)</b>
	1.4.2	It has C-shaped cartilage rings✓ protect trachea and keep it open for easy movement of air✓		<b>(2)</b>
	1.4.3	(Diagram) A✓		<b>(1)</b>
	1.4.4	The balloons are inflated✓ Part D (diaphragm) is pulled down. ✓		<b>(2)</b>
	1.4.5	- Diaphragm muscle contracts, it flattens ✓ - External intercostal muscle contract✓ - Ribcage lifts upwards and pushes outwards✓ - Air pressure in the lungs decrease✓ as the chest volume increases✓ - Atmospheric pressure is greater than the pressure inside the lungs and air flows in✓	(Any FIVE)	<b>(5)</b> <b>(13)</b>

## Gr.11 – Marking guideline

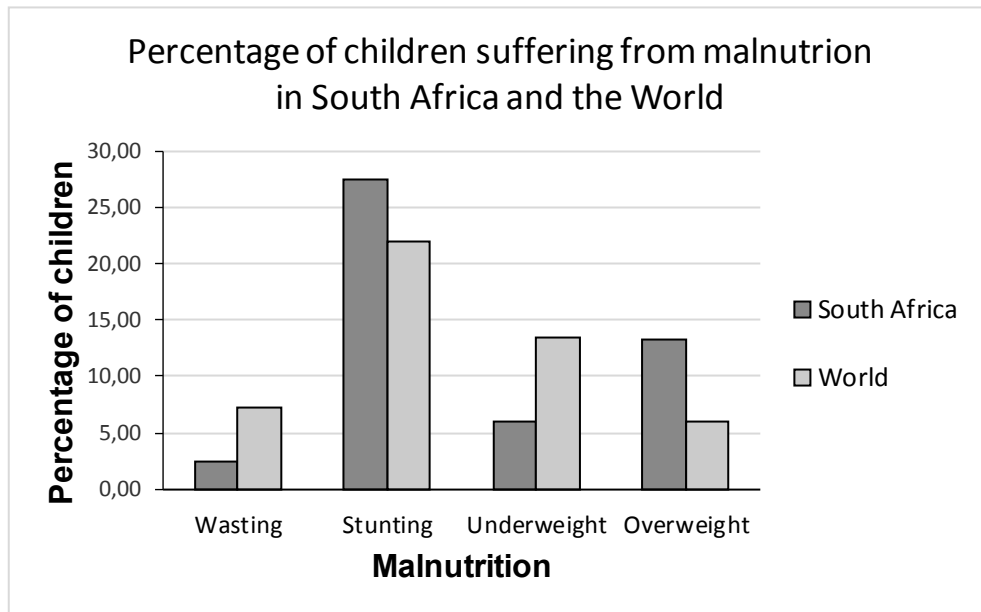
- |     |       |   |            |     |
|-----|-------|---|------------|-----|
| 1.5 | 1.5.1 | <ul style="list-style-type: none"> <li>- When glucose levels are high✓ it is detected by the glucose meter✓</li> <li>- Which sends a message to the pump✓</li> <li>- Insulin is delivered into body✓/blood</li> <li>- Glucose levels decrease to normal ✓/ set point</li> <li>- Insulin is no longer delivered✓ when glucose levels are low ✓</li> <li>- It is detected by the meter✓ and insulin is withheld✓</li> </ul> | (Any FIVE) | (5) |
|-----|-------|---|------------|-----|

**TOTAL SECTION A: 50**

## SECTION B

## QUESTION 2

- |     |       |  |                    |
|-----|-------|--|--------------------|
| 2.1 | 2.1.1 | A pancreas✓<br>B gall bladder<br>C liver✓<br>F large intestine/colon✓  | (4)                |
|     | 2.1.2 | (a) B✓<br>(b) A✓<br>(c) E✓<br>(d) F✓   | (4)                |
|     | 2.1.3 | - Mechanical digestion occurs in the stomach where the stomach muscles churn✓ the food into a liquid called chyme. ✓<br>- Chemical digestion: gastric juice with enzymes✓ that break down proteins into amino acids. ✓ | (4)<br><b>(12)</b> |
| 2.2 | 2.2.1 | Malnutrition occurs when a person does not follow a balanced diet. ✓   | (1)                |
|     | 2.2.2 | A diet that is high in energy foods such as sugars and fats✓   | (1)                |
|     | 2.2.3 | Increased risk of heart disease; ✓<br>type 2 diabetes✓;<br>hypertension; ✓<br>arthritis✓<br><b>(Mark first TWO only)</b>   | (2)                |
|     | 2.2.4 | Kwashiorkor✓   | (1)                |
|     | 2.2.5 | It weakens the immune system, ✓ thus exposing the body's weakness to infections✓   | (2)                |

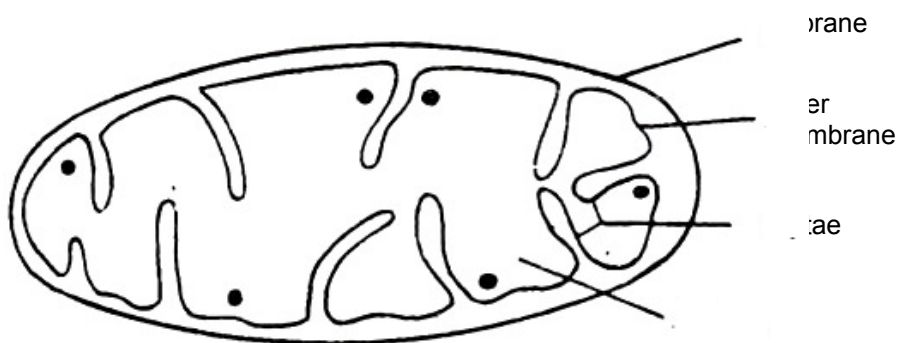


Criteria	Mark	
Type of graph	(T)	1
Heading	(H)	1
Includes both variables		
Appropriate scale for X and Y axis (spaces between bars and bar sizes equal)	(S)	1
Correct labels for X and Y axis	(L)	1
Drawing of bars	(P)	
1 -7 bars drawn correctly		1
8 bars drawn correctly		2
		(6)
		(13)

2.4	2.4.1	1. Endothelium✓ 2. Squamous epithelium✓	(2)
	2.4.2	Red blood cell/erythrocyte✓	(1)
	2.4.3	Gaseous exchange/ diffusion✓	(1)
	2.4.4	Oxyhaemoglobin✓ Dissolved in the blood plasma✓ <b>(Mark first TWO only)</b>	(2)
	2.4.5	Endothelium✓ – capillary wall one cell thick providing a thin surface for the diffusion of gases✓ Alveoli lobed/cup-shaped✓ - to increase the surface area for exchange of gases✓ Moist surface of alveolus✓ - facilitates diffusion✓ Richly supplied with blood vessels✓ - for rapid transport of oxygen from the alveolus and carbon dioxide to the alveolus✓ <b>(Mark first TWO only)</b>	
Copyright reserved	2.4.6	Dust, germs, and mucus will not be removed effectively✓	Please turn over(4)

**QUESTION 3**

- 3.1      3.1.1      A Chloroplasts✓  
B Mitochondrion✓ (2)
- 3.1.2      Cellular respiration✓, is the chemical process where glucose is gradually broken down, ✓ in the presence of oxygen✓/in the absence of oxygen to release energy✓  
(Any THREE) (3)
- 3.1.3      Glycolysis✓ (1)
- 3.1.4      3 Oxygen✓  
4 Carbon dioxides✓ (2)
- 3.1.5



Criteria	Marks
Correct diagram (double	1



3.2	3.2.1	To prevent oxygen from the air from dissolving into the solution✓	(1)
	3.2.2	Anaerobic respiration✓	(1)
	3.2.3	Glucose✓	(1)
	3.2.4	Liquid X which is clear lime water ✓ becomes milky in colour✓	(2)
	3.2.5	(a) Lactic acid✓	(1)
		(b) The accumulation of lactic acid, causes muscle cramps✓	(1)
	3.2.6	Used to produce alcoholic beverages such as beer and wine✓ Also, used to cause bread to rise during the baking process. ✓	(2)
	3.2.7	A 100-metre race, requires more energy and fast/quick✓ Oxygen supply is limited✓ due to increased breathing rate Not enough oxygen reaches the cells✓ Cells therefore respire anaerobically✓ to supply the body with energy.	(4) <b>(13)</b>
3.3	3.3.1	Nephron✓	(1)
	3.3.2	B Glomerulus✓ C Bowman's capsule✓ D Proximal convoluted tubule✓ E Descending limb/Loop of Henle✓	(4)
	3.3.3	Glomerular filtration✓	(1)
	3.3.4	The walls of the glomerulus capillaries are thin and consist of a single layer of squamous epithelial cells. ✓ Inner lining of the Bowman's capsule has special cells called podocytes✓ Together they only allow smaller dissolved substances to travel through the filtration slits✓, larger proteins remain in the blood✓	(4) <b>(10)</b>

- |     |       |   |                           |
|-----|-------|---|---------------------------|
| 3.4 | 3.4.1 | (a) Proteins✓<br>(b) Glucose✓<br>(c) Salts✓ and urea✓   | (1)<br>(1)<br>(2)         |
|     | 3.4.2 | It will be higher✓ because there will be too much glucose in the fluid leaving the kidney to be reabsorbed, ✓ so some glucose passes into the urine.                                  | (2)<br>(6)                |
| 3.5 | 3.5.1 | Dialysis is the process of filtering and purifying the blood with the help of a machine✓✓   | (2)                       |
|     | 3.5.2 | To create a larger surface area for filtration✓✓  | (2)                       |
|     | 3.5.3 | To keep the blood temperature as close as it can be to 37°C✓, which is the normal body temperature. ✓   | (2)                       |
|     | 3.5.4 | It is time consuming and expensive. ✓<br>Patients are often tired after dialysis and cannot work. ✓<br>It cannot remove all the waste in the blood. ✓<br><b>(Mark first TWO ONLY)</b> | (2)<br>(8)<br><b>[50]</b> |

**TOTAL SECTION B: 100**

**GRAND TOTAL: 150**