



**GAUTENG DEPARTMENT OF EDUCATION  
EXEMPLAR 1  
2020**

**LIFE SCIENCES  
MAY/JUNE  
MARKING GUIDELINE  
GRADE : 11**

**MARKS: 150**

**NUMBER OF PAGES : 10**

Gr.11 – Marking guideline  
**GAUTENG DEPARTMENT OF EDUCATION**  
**EXEMPLAR**

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**PRINCIPLES RELATED TO MARKING LIFE SCIENCES**

1. **If more information than marks allocated is given**  
Stop marking when maximum marks are 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 become 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	C ✓✓		
	1.1.3	B ✓✓		
	1.1.4	B ✓✓		
	1.1.5	A ✓✓		
	1.1.6	B ✓✓		
	1.1.7	C ✓✓		
	1.1.8	A ✓✓		
	1.1.9	C ✓✓		
	1.1.10	A ✓✓	(10 x 2)	<b>(20)</b>
1.2	1.2.1	Chlorophyll✓		
	1.2.2	Villi/villus✓		
	1.2.3	Iodine solution✓		
	1.2.4	Through gut✓		
	1.2.5	Cephalization✓		
	1.2.6	Bile✓		
	1.2.7	Adenosine triphosphate✓/ATP		
	1.2.8	Sunlight /radiant ✓ energy		<b>(8)</b>
1.3	1.3.1	B✓✓		
	1.3.2	B✓✓		
	1.3.3	A✓✓		
	1.3.4	A✓✓		
	1.3.5	B✓✓		
	1.3.6	B✓✓	(6 x 2)	<b>(12)</b>
1.4	1.4.1	Phylogenetic tree/ cladogram ✓		(1)
	1.4.2	Cnidaria ✓		(1)
	1.4.3	Platyhelminthes ✓		(1)
	1.4.4	Arthropoda ✓ Arthropoda & Annelida have common ancestor ✓		(2)
	1.4.5	Chordata ✓		(1)
	1.4.6	(a) 1 ✓		(1)
		(b) 3 ✓		(1)

- 1.4.7 (a) ANY ONE: Hydra, Jelly fish, blue bottles, sea anemone, hard corals ✓ (1)
- (b) ANY ONE: Leech, earthworm, polychaete or bristle ✓ (1)
- (10)

**TOTAL SECTION A: 50**

## SECTION B

### QUESTION 2

- 2.1 2.1.1 PLANT A – Bryophyta ✓ (4)  
 PLANT B – Pteridophyta ✓  
 PLANT C – Gymnosperm ✓ (2)  
 PLANT D – Angiosperm ✓ (2)
- 2.1.2 (a) Plant A✓ and B✓ (2)  
 (b) Plant C✓ and D✓ (10)
- 2.1.3 They do not have true roots✓, vascular tissue is absent✓
- 2.2 2.2.1 A = Stamen/Androecium ✓ (1)  
 B = Pistil/Carpel /Gynaecium ✓ (1)
- 2.2.2 Stigma produces a sticky substance ✓ to capture pollen.  
**OR**  
 Stigma is lobed-shaped/enlarged as to offer greater surface area for pollen to land on. ✓ (1)
- 2.2.3 Pollination ✓ (1)
- 2.2.4 The physical appearance of flowers/its coloured petals ✓ attracts pollinators✓ such as insects and birds✓ for pollination which ensures reproductive success ✓  
 Seed dispersal mechanisms help to disperse seeds over a wide area✓ reducing competition amongst the plants. ✓  
 After fertilisation ovary develops into fruit✓ which can be eaten✓  
 (Any 6) (6)  
**(10)**
- 2.3 2.3.1 Flower A - animal✓/bee/bird/butterfly (1)  
 Flower B - wind✓ (1)

## Gr.11 – Marking guideline

- 2.3.2 Flower A has large petals✓ to attract insects, with the stigma upright above the anthers✓, large upright anthers✓

**OR**

Flower B has small petals✓ feathery stigmas✓ which are easily swayed by the wind/ anthers and stigmas hang outside the petals✓ and are easily moved.

(3)

**(5)**

- 2.4 2.4.1 A: Cnidaria✓

B: Annelida✓

C: Arthropoda✓

(3)

- 2.4.2 A: Hydra✓

B: Earthworm✓

(2)

- 2.4.3 (a) A✓ and B✓

(b) A✓ and B✓

(4)

**(9)**

- 2.5 2.5.1 (a) A✓

(b) H✓

(c) B/C/D/E ✓

(d) C ✓

(e) E✓

(5)

- 2.5.2 Produce bile ✓

Produce and store glycogen ✓

Store fat ✓

Deamination of amino acids ✓

Detoxification ✓

Produce vitamin A ✓

Store vitamin A, D, iron ✓

Change glycerol to glucose ✓

**(Mark first THREE only)**

(Any 3)

(3)

- 2.5.3 - Is well supplied with blood vessels and lacteals✓ to transport the absorbed food nutrients.✓

(4)

**(12)**

- Is coiled/folded ✓ to allow food to remain in the small intestine for longer✓ / maximum absorption.✓

- Is moist/ has mucous ✓ to facilitate/ speed up absorption for better diffusion✓

- Is very long✓ for maximum absorption of digested food.✓

- Has many villi ✓ to increase the surface area for food absorption.✓

- Thin✓ columnar epithelium to allow the digested food to be

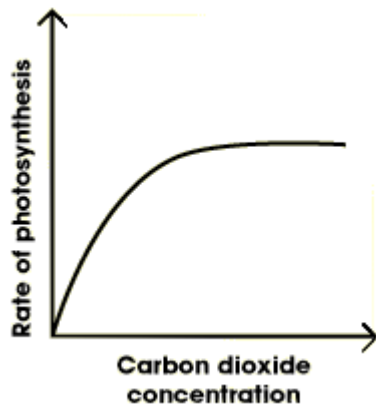
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in close contact with blood.✓  
**(Mark first TWO only)**

2.6.	2.6.1	B✓	(1)
	2.6.2	Presence of a canine✓	(1)
	2.6.3	Mechanical digestion✓ <b>OR</b> Chemical digestion✓	(1)
	2.6.4	Diagram C ✓	(1)
			<b>(4)</b>
			<b>[50]</b>

### QUESTION 3

3.1	3.1.1	24°C✓	(1)
	3.1.2	20°C✓ and high light✓	(2)
	3.1.3	At 10°C✓	(1)
	3.1.4	Light✓ was limiting the rate of photosynthesis.✓	(2)
	3.1.5	Temperature Light intensity✓	(2)
	3.1.6	The yield of the tomatoes.✓	(1)
	3.1.7	(a) Carbon dioxide✓ (b)	(1)

Line graph showing how the concentration of carbon dioxide affects the rate of photosynthesis



**Rubric for Assessment of the Graph**

Criterion	Mark allocation
Caption for Graph (C)	1
Labelling: (L)	
X- axis	1
Y- axis	1
Shape of Line (S)	2
<b>Total</b>	<b>5</b>

**(15)**

- 3.2 3.2.1 X: Chloroplast✓  
Y: Mitochondrion✓ (2)
- 3.2.2 Y- Chlorophyll✓ (1)
- 3.2.3 To absorb radiant energy, from the sun✓ (1)
- 3.2.4 X: Photosynthesis✓  
Y: Cellular respiration✓ (2)
- 3.2.5 A: Carbon dioxide/CO<sub>2</sub>✓  
B: Oxygen/O<sub>2</sub>✓ (2)
- 3.2.6 It has folded cristae✓ which increase surface area✓ for enzyme action  
**OR**  
Outer membrane is smooth and permeable✓, allowing substances to enter and leave easily. ✓ (2)



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3.3	3.3.1	Coronavirus✓ Disease	(1)
	3.3.2	No ✓	(1)
	3.3.3	People may also become infected by touching a contaminated ✓ surface and touching their face. ✓	(2)
	3.3.4	Antibiotics only kill bacteria and not viruses. ✓	(1)
	3.3.5	fever✓, cough✓, fatigue✓, shortness of breath✓ or breathing difficulties, and loss of smell. (Any 4)	(4)
	3.3.6	<ul style="list-style-type: none"> <li>- A person is vaccinated with antigens from the Corona virus✓</li> <li>- The immune system makes antibodies ✓ in response to antigens✓</li> <li>- When a person is exposed to the disease again the antibodies attach themselves to the antigens ✓ causing them to clump together✓</li> <li>- The white blood cells ✓ engulf and destroy the virus ✓ and free antibodies circulate in blood again. ✓</li> </ul>	(5)
	3.3.7	Implementing travel restrictions✓/ lockdowns/ workplace hazard controls/ making it compulsory to wear a facemask in public/ facility closures to slow/stop the spread of the disease.	(1)
			<b>(15)</b>
3.4	3.4.1	Carbon dioxide✓, ethanol✓	(2)
	3.4.2	It is important in making beer✓ Making wine✓ Making bread✓ Making cheese✓	(4)
	3.4.3	(a) Lactic acid✓	(1)
		(b) It leads to muscle stiffness and muscle pain(cramps) ✓	(1)
		(c) Moderate exercise with deep breathing✓ ensures that enough oxygen is available for aerobic respiration✓	(2)
			<b>(10)</b>
			<b>[50]</b>
		<b>TOTAL SECTION B:</b>	<b>100</b>
		<b>GRAND TOTAL:</b>	<b>150</b>

