Hoërskool Johan Jurgens
Life Science
Grade 11
November Final Examination
Paper 2
Marking Guideline

Section A
Question 1

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

(10 x 2)
[20]

1.2.1 Poaching ✓
1.2.2 Recycling ✓
1.2.3 Intraspecific ✓
1.2.4 Parasitism ✓
1.2.5 Asexual ✓
1.2.6 Corolla ✓
1.2.7 AIDS ✓
1.2.8 Antibody ✓

(8 x 1)
[8]

1.3.1 A only ✓✓
1.3.2 B only ✓✓
1.3.3 A only ✓✓

(3 x 2)
[6]

1.4.1	Plantae ✓	(1)
1.4.2	Bryophytes ✓	(1)
1.4.3	B ✓ and D ✓	(2)
1.4.4	Diagram 3 ✓	(1)
1.4.5	Diagram 3 ✓	(1)
		[6]
1.5.1	Predator-Prey / Predation ✓	(1)
1.5.2	(a) The maximum population size that an ecosystem can support ✓✓ (b) Selectively killing organisms to reduce their population size ✓✓	(2) (2)
1.5.3	A ✓	(1)
1.5.4	1990 ✓ 1995 ✓	(2)
1.5.5	1995 ✓	(1)
1.5.6	Diseases / Competion for food, water and space ✓ **(Any one)**	(1)
		[10]

Total Section A: 50 marks

Section B
Question 2

2.1.1	Mycobacterium ✓	(1)
2.1.2	It does not have a nucleus ✓	(1)
2.1.3	(a) Slime capsule ✓ (b) Flagella ✓ (c) Nucleoid DNA ✓	(1) (1) (1)
2.1.4	A person is given a weak strain of the bacteria ✓ the body will produce antibodies to fight the infection ✓ The antibodies will protect them against a new/stronger infection of the same germ ✓	(3)

2.1.5

Virus	Bacteria
Non-living ✓	Living ✓
Acellular ✓	Prokaryotic ✓
Protein coat ✓	Cell wall / membrane ✓

Table ✓
Any 2 x 2 (5)

2.1.6 HIV lowers the body's immunity ✓
White blood cell count therefore it cannot defend the body against TB ✓ (2)

[15]

2.2.1 Plasmodium ✓ (1)

2.2.2 Mosquito ✓ (1)

2.2.3 Headache ✓ Fever ✓ Sweating ✓ Muscular pain ✓
Abdominal pain ✓ Diarrhea ✓ Nausea and vomiting ✓
Loss of appetite ✓ Cough ✓

(Mark first FOUR only of the learner)
(Any four) (4)

2.2.4 Prevent getting bitten by mosquitoes ✓
Get rid of mosquitoes ✓
Educate people ✓

(Any two) (2)

[8]

2.3.1 Yes ✓ (1)

2.3.2 It has a brain ✓ (1)

2.3.3 Due to separation of body wall and gut wall ✓
Coelom diffusion is inadequate for transportation of food, waste and gases ✓ (2)

2.3.4 They eat decomposed / dead organic plant material ✓
Feces of earthworms are rich in nutrients for plants and enrich the soil ✓
They aerate the soil / create underground tunnels ✓
This helps to infiltrate the soil with water and helps the plants to grow their roots deeper ✓ (4)

[8]

2.4.1 Insect ✓
Anthers and stigmas are inside the flower so that the insect must brush past them to get the nectar thus transferring the pollen ✓ (2)

2.4.2 A – Stigma ✓
B – Anther ✓
C – Style ✓ (3)

2.4.3 (a) A ✓
(b) D ✓
(c) B ✓ (3)

2.4.4

Wind pollinated	**Bird pollinated**
Sepals and petals are absent ✓	Sepals and petals are present ✓
Petals are not brightly coloured ✓	Flowers are brightly coloured to attract birds ✓
Flowers do not produce nectar ✓	Flowers produce large quantities of dilute nectar ✓
Anthers are large and have long filaments that hang outside the flower✓	Stamens and stigmas protrude beyond the petals ✓

(5)

(Any 2 x 2)
Table ✓

[13]

2.5.1 A: Vascular / conducting tissue/ xylem or phloem ✓
B: Seeds ✓
C: Flowers ✓ (3)

2.5.2 Bryophytes ✓ (1)

2.5.3 Gymnosperm seeds are naked, exposed on a cone ✓
Angiosperm seeds are enclosed in an ovary ✓ (2)

[6]

[50]

Question 3

3.1.1 (a) The increase in the average temperature on earth ✓✓ (2)
(b) The access to enough nutritious food at all times by all people ✓✓ (2)

3.1.2 Carbon dioxide ✓ (1)

3.1.3 Changes in rainfall patterns ✓ causes desertification ✓ increased flooding ✓ and wildfires ✓ which increase soil erosion ✓. This resulted in fewer crops to be planted ✓ lower crop yield ✓ and thus there will be less food for livestock ✓. Higher environmental temperatures negatively affect livestock and crops ✓. These factors decrease food availability ✓ and increase food prices✓ .

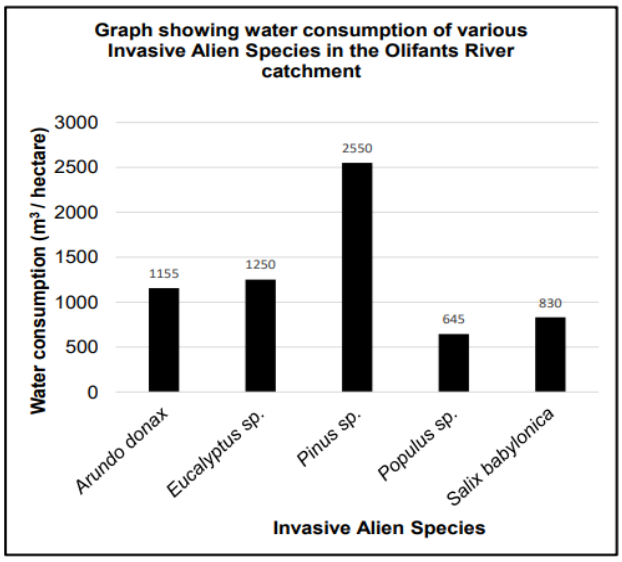
(Any 5) (5)

[10]

3.2.1 Independent variable = invasive alien species ✓
Dependent variable = water consumption / area invaded by plants ✓ (2)

3.2.2 Quadrat / simple sampling ✓ (1)

3.2.3



Marking guideline:

Caption (C) Both variables included	1 Mark
Type of graph (T)	1 Mark
X-axis label, bars of equal width (X)	1 Mark
Y-axis label and scale (Y)	1 Mark
Plotting of points (P)	0 Mark – No points plotted correctly
	1 Mark – 1 to 6 points plotted correctly
	2 Marks – all points plotted correctly

(6)

3.2.4 Biological control ✓
Chemical control ✓
Mechanical control ✓

(If learner provided examples to explain the above control, award the mark) (3)

3.2.5 Do not plant exotic plants in your garden ✓
Remove exotic plants from your garden ✓
Form a hacking club to chop down alien trees ✓ (3)

[15]

3.3.1 A – accelerating growth ✓
C – decelerating growth ✓ (2)

3.3.2 Logistic growth ✓ (1)

3.3.3 (a) D ✓
(B) B ✓ (2)

3.3.4 Rabbit population had reached carrying capacity ✓
Environmental resistance occurs ✓
Density dependent factors prevent population from increasing / food / space / water becomes limited ✓
This prevent population from increasing further ✓

(Any two) (2)

3.3.5.1 Mark-recapture method ✓ (1)

3.3.5.2 $\frac{40 \times 25}{4}$ ✓✓ = 250 ✓

(3)

3.3.5.3 The sample may have been taken from an area the rabbits prefer or don't prefer ✓
Tags may have fallen off ✓
The marked rabbits could have died ✓

(**Any one)** (1)

[12]

3.4.1 A group of organisms of the same species, occupying the same habitat at the same time and capable of random breeding ✓✓ (2)

3.4.2 4% ✓ (1)

3.4.3 5 – 9 years old ✓ (1)

3.4.4 Females ✓ (1)

3.4.5 Nigeria ✓ (1)

3.4.6 High birth-rate ✓
High death rate ✓ (2)

3.4.7 Disease ✓
Lack of food ✓
Lack of water ✓
Lack of space ✓

(Any 3) (3)

3.4.8 **Explanation must be for answer given in QUESTION 3.3.7**

Disease – humans have developed medical technology ✓ so there are fewer deaths ✓
Lack of food – mass produce crops ✓ / monoculture / GM foods to increase crop production ✓
Lack of water – building of dams ✓ to store water for when needed ✓
Lack of space – building high rise apartment building and skyscrapers ✓ / creating cities and towns so that people can live in a smaller area of space ✓
(Any 1 x 2)

(2)
[13]
[50]

Total Section B: 50 marks
TOTAL: 150 marks