



Province of the  
**EASTERN CAPE**  
EDUCATION

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 11**

**NOVEMBER 2020**

**LIFE SCIENCES P2  
(EXEMPLAR)**

**MARKS: 150**

**TIME: 2½ hours**



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This question paper consists of 17 pages.

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**INSTRUCTIONS AND INFORMATION**

Read the following instructions carefully before answering the questions.

1. Answer ALL the questions.
2. Write ALL the answers in the ANSWER BOOK.
3. Start the answer to EACH question at the top of a NEW page.
4. Number the answers correctly according to the numbering system used in this question paper.
5. Present your answers according to the instructions of each question.
6. Make ALL drawings in pencil and label them in blue or black ink.
7. Draw diagrams, tables or flow charts only when asked to do so.
8. The diagrams in this question paper are NOT necessarily drawn to scale.
9. Do NOT use graph paper.
10. You must use a non-programmable calculator, protractor and a compass, where necessary.
11. Write neatly and legibly.

**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 (1.1.1–1.1.9) in your ANSWER BOOK, for example 1.1.10 D.

1.1.1 The regrowth of plants and animals in an area after a fire has destroyed all vegetation:

- A Primary succession
- B Secondary succession
- C Competitive exclusion
- D Symbiosis

1.1.2 Which of the following produce antibodies?

- A Blood plasma
- B Lymphocytes
- C Macrophages
- D Red blood cells

1.1.3 The short-lived type of immunity that mothers pass to their babies is called ...

- A maternal immunity.
- B active immunity.
- C passive immunity.
- D innate immunity.

1.1.4 All of the following increase intraspecific competition except:

- A Too much food
- B Lack of water
- C Too little space
- D Too few mates

1.1.5 A seed and a spore differ in that ...

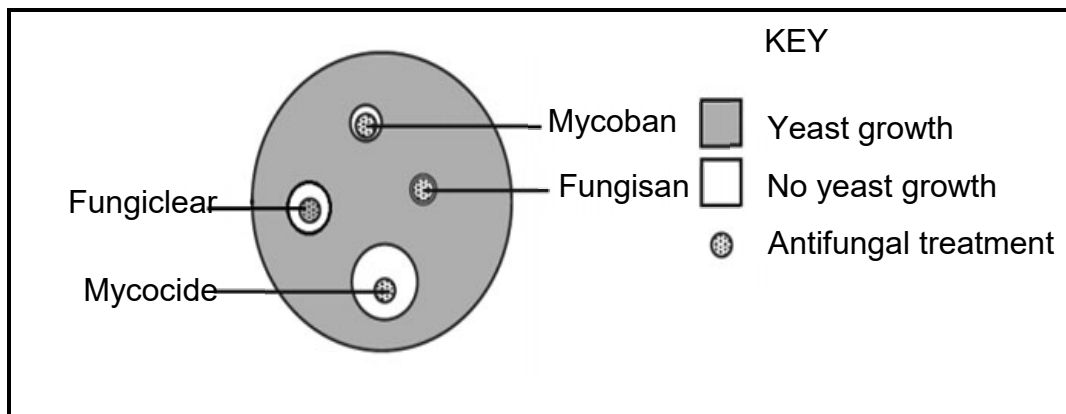
- A spores are diploid while seeds are haploid.
- B spores can withstand dehydration while seeds cannot.
- C spores are gametes while seeds give rise to new plants.
- D spores are usually unicellular while seeds are multicellular.

- 1.1.6 A biologist discovered a new living cell with a distinct cell wall but with no definite nucleus.

The cell is likely to be that of a/an ...

- A animal
- B bacterium
- C virus
- D plant

- 1.1.7 An investigation was carried out to test the effectiveness of four antifungal treatments on preventing the growth of yeast. The results are shown in the diagram below.



Which ONE of the following conclusions can be made from the results?

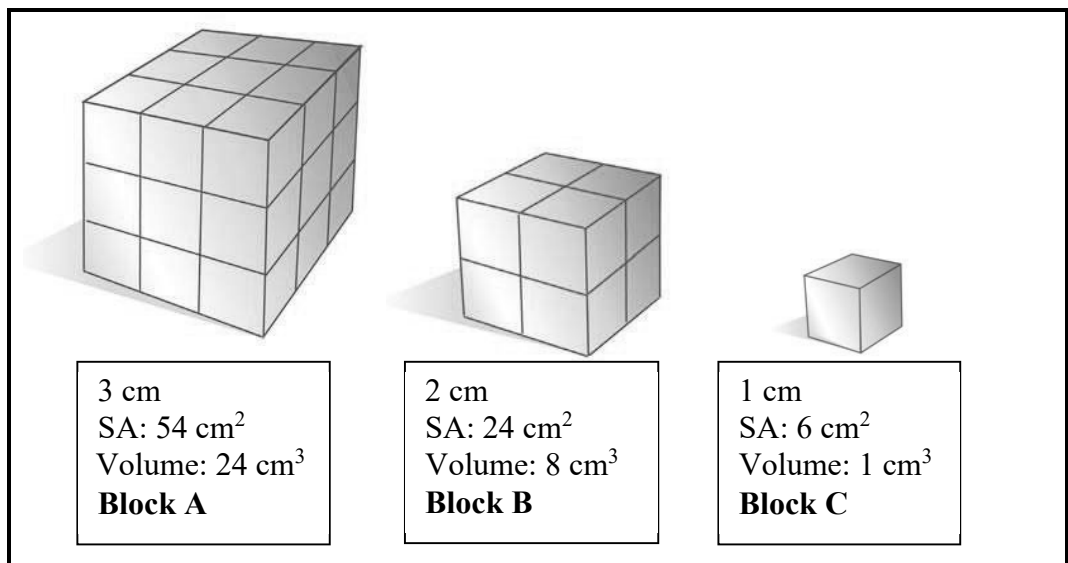
- A All the antifungal treatments are equally effective.
  - B All the antifungal treatments are ineffective.
  - C Mycocide is the most effective and Fungisan is the least effective.
  - D Fungisan is the most effective and Mycocide is the least effective.
- 1.1.8 Consider the following which affect the waterways in South Africa.

- (i) Thermal pollution
- (ii) Sewerage spills
- (iii) Acid mine drainage
- (iv) Over use of inorganic fertilisers

Which of the above reduce the oxygen content of a river?

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

1.1.9 Consider the blocks below.



According to the above diagrams, the block(s) with the highest surface area to volume ratio is/are:

- A Block A
- B Block B
- C Block C
- D All are the same

(9 x 2) (18)

1.2 Give the correct **biological term** for each of the following descriptions. Write only the term next to the question numbers (1.2.1–1.2.8) in the ANSWER BOOK.

1.2.1 Symbiotic relationship between humans and *E. coli* bacteria living in the gut of humans

1.2.2 The micro-organism used in the manufacturing of beer and bread

1.2.3 A diagram which shows the evolutionary relationships between different organisms

1.2.4 Reproductive structure in which the gametes are found in gymnosperms

1.2.5 A process caused by excessive nutrients in water which leads to algal bloom and reduces water quality

1.2.6 The variety plant and animal life in a particular habitat

1.2.7 The elimination of one species from a habitat as a result of being out competed by a similar species occupying the same ecological niche

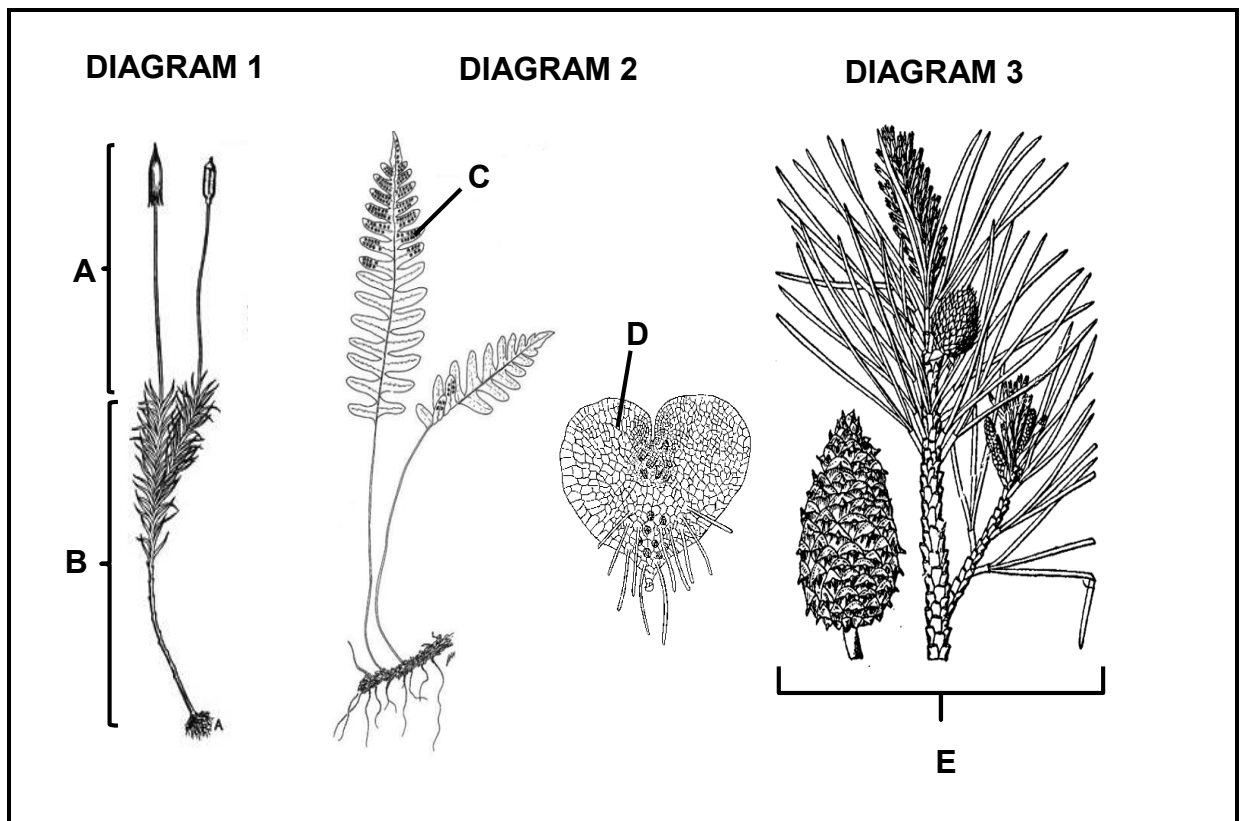
1.2.8 Gas produced in landfill sites that has the potential to be used as a biofuel (8 x 1) (8)

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 numbers (1.3.1–1.3.3) in the ANSWER BOOK.

COLUMN I		COLUMN II	
1.3.1	Flower of a Monocotyledon	A:	Calyx
		B:	Corolla
1.3.2	Fungi	A:	Saprophytic
		B:	Prokaryotic
1.3.3	Reduced water availability	A:	Genetically modified crops
		B:	Destruction of wetlands

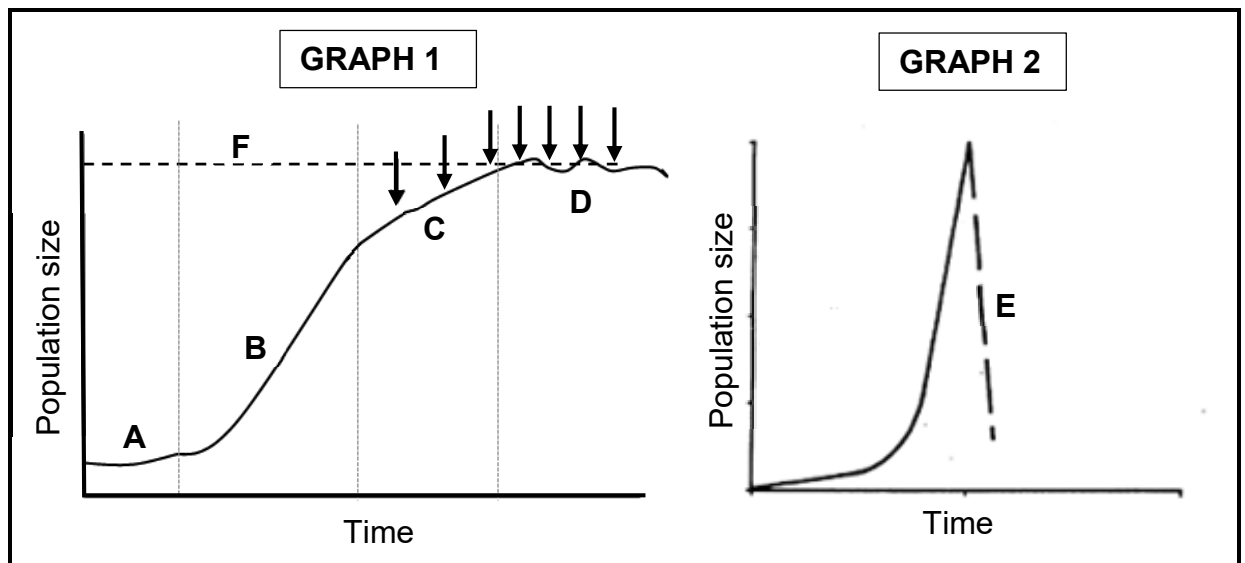
(3 x 2) (6)

1.4 Study the diagrams below.



- 1.4.1 Name the kingdom to which the above organisms belong. (1)
- 1.4.2 Name the Division/Phylum to which the organism in DIAGRAM 1 belongs. (1)
- 1.4.3 Give the LETTERS that represent the gametophyte generation. (2)
- 1.4.4 Give the DIAGRAM NUMBER of the group that DOES NOT rely on water for reproduction. (2)
- 1.4.5 Give the DIAGRAM NUMBER of the group that produces seed. (2)

1.5 Study the two population growth curves below.



1.5 1.5.1 Provide labels for phases:

- (a) B (1)
- (b) C (1)
- (c) E (1)

1.5.2 Name the type of growth form represented by GRAPH 1. (1)

1.5.3 Which growth curve would represent the growth of a bacterial colony? (1)

1.5.4 Give the LETTER of the phase where:

- (a) Birth rate equals death rate (1)
- (b) Natality exceeds mortality by far (1)

1.5.5 What do the arrows in GRAPH 1 represent? (1)

1.5.6 Give TWO reasons why the initial phase A starts slowly. (2)

**TOTAL SECTION A: 50**

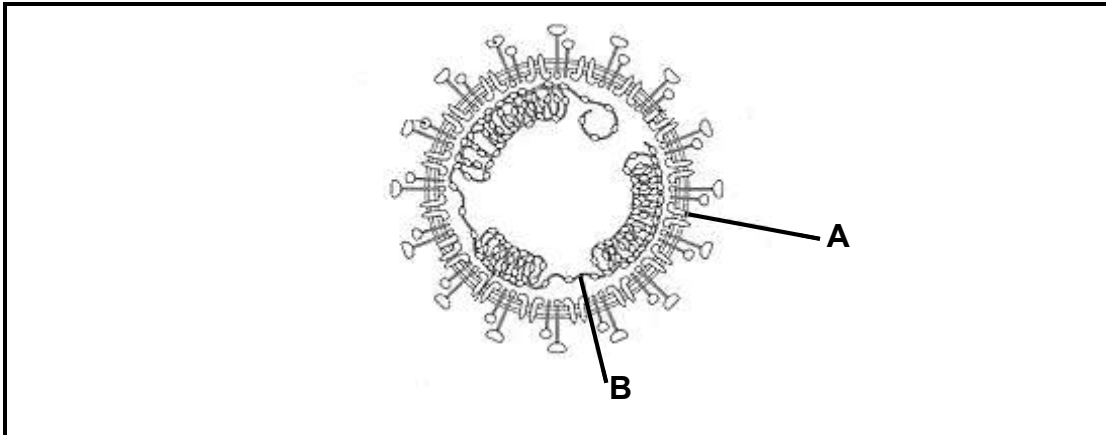


**SECTION B**

**QUESTION 2**

2.1 The novel corona virus, named COVID-19, escalated to a pandemic level during 2020. Scientists around the world raced to produce a vaccine to help fight the virus. However, it would take months before a vaccine could be released, once it had been discovered.

Below is the virus that caused our world to change.

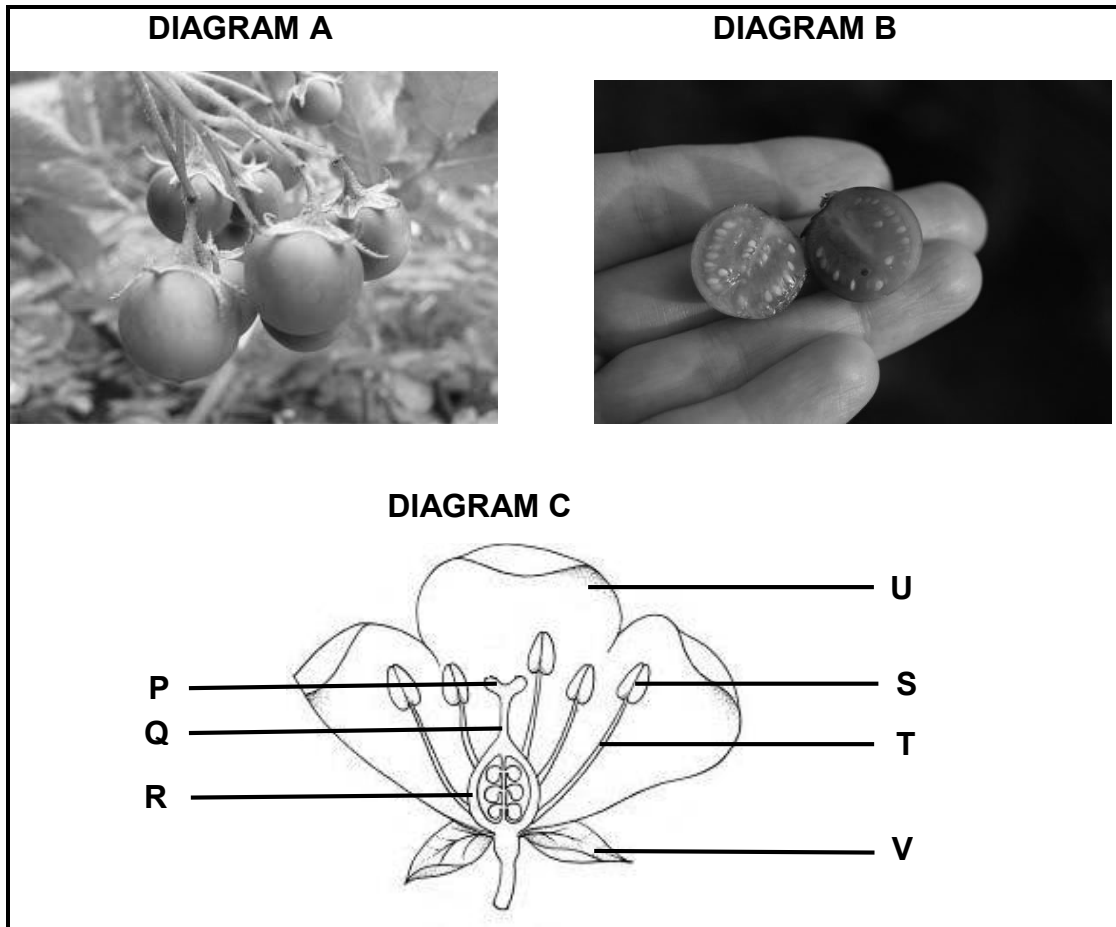


- 2.1.1 Provide labels for viral parts **A** and **B** respectively. (2)
- 2.1.2 Why were antibiotics not prescribed to fight against the virus? (2)
- 2.1.3 Explain how a vaccine works to protect us from a disease. (3)
- 2.1.4 Why would it take so long for a vaccine to be released? (2)
- 2.2 Malaria causes over 400 000 deaths each year globally.
  - 2.2.1 Name the protozoan that causes malaria. (1)
  - 2.2.2 What is the vector that spreads malaria? (1)
  - 2.2.3 Give TWO common symptoms in malaria patients. (2)
  - 2.2.4 How can malaria be prevented if there is no medication or vaccine available? (2)

- 2.3 Potatoes are a staple food in many countries including Peru. The International Potato Centre in Lima, Peru is a seedbank that stores 4 500 different varieties of potato seeds. Many of these varieties are not used as farmers prefer to use only a few varieties which grow well. Most farmers practise monoculture and grow only one variety of potato.

To collect the potato seed, the fruit or potato berry is picked and ripened. The seeds can remain viable for many years.

The diagrams below show the potato berry (**Diagram A**) the potato seeds inside the berry (**Diagram B**) and the potato flower (**Diagram C**).



- 2.3.1 Name the plant division to which potatoes belong. (1)
- 2.3.2 Provide labels for the whorl labels **U** and **V** in Diagram **C**. (2)
- 2.3.3 Give the LETTER and NAME of the part in Diagram **C**:
- (a) That will develop into the potato berry after fertilisation (2)
- (b) Where the male gametes are produced (2)

2.3.4 The potato flowers are bright purple with a small amount of nectar. Suggest how these flowers can be pollinated. (1)

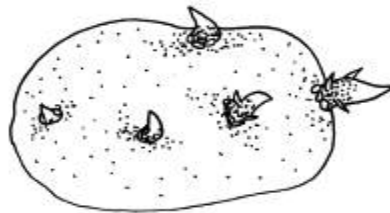
2.3.5 Give ONE:

(a) Advantage of monoculture (1)

(b) Disadvantage of monoculture (1)

2.3.6 Explain TWO reasons why seedbanks are important. (4)

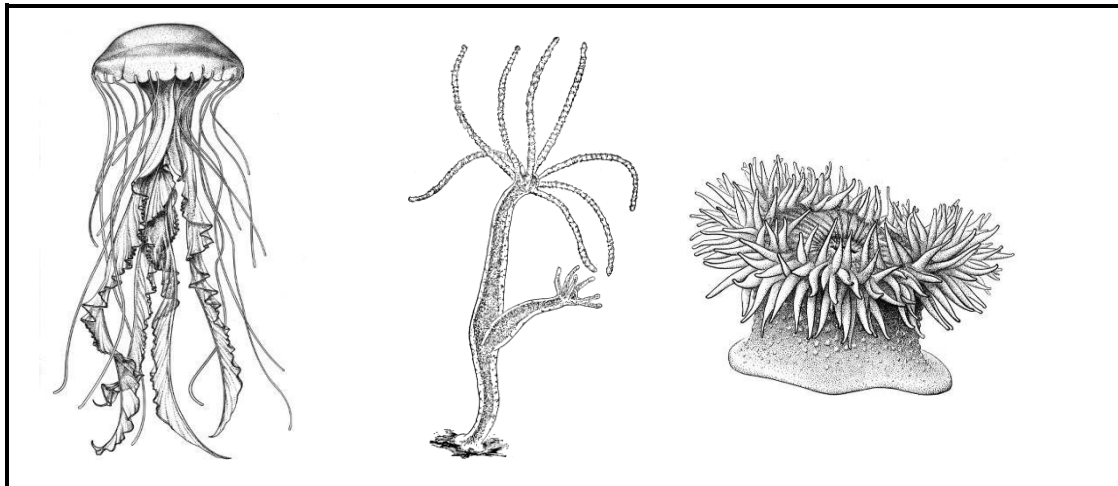
Farmers, however, do not use seeds to grow their potato plants but rather they plant the potato tuber that has started to grow roots as shown in the picture below.



2.3.7 Is this method of growing potatoes an example of asexual or sexual reproduction? (1)

2.3.8 Explain ONE advantage of growing potatoes in this way. (2)

2.4 The diagrams below show animals that belong to the same phylum.



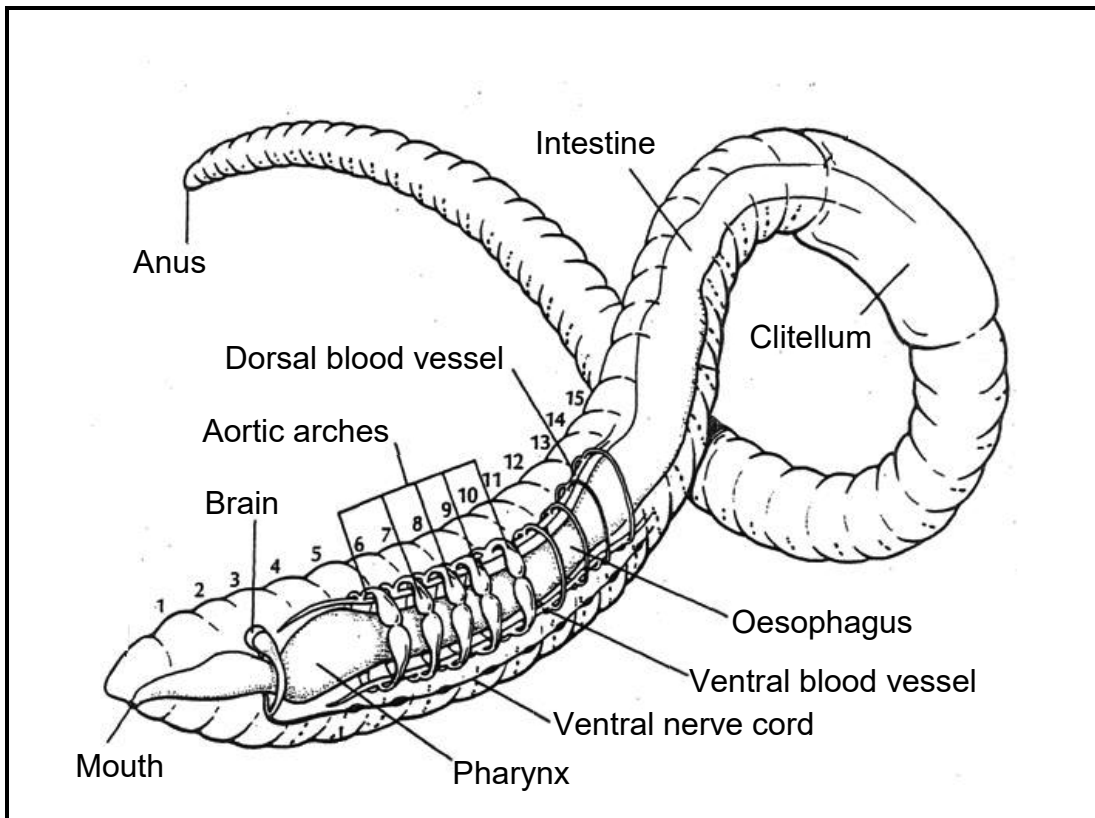
2.4.1 Name the phylum to which the above organisms belong. (1)

2.4.2 What type of symmetry is shown by members of the phylum above? (1)

2.4.3 Draw a simple labelled diagram of a cross section through the body wall of tissue layers found in this phylum. (4)

2.4.4 Explain how the body plan of this phylum of animals is suited to their sedentary mode of living. (2)

- 2.5 Study the diagram of the earthworm below. Earthworms belong to the phylum *Annelida*, which are coelomate organisms.



- 2.5.1 Does this organism show cephalisation? (1)
- 2.5.2 Give a reason for your answer visible in the diagram above. (1)
- 2.5.3 How has a coelom been an advantage to the earthworm? (2)
- 2.5.4 Why is a blood system necessary in Annelids? (2)
- 2.5.5 Describe how earthworms are economically important to farmers. (4)

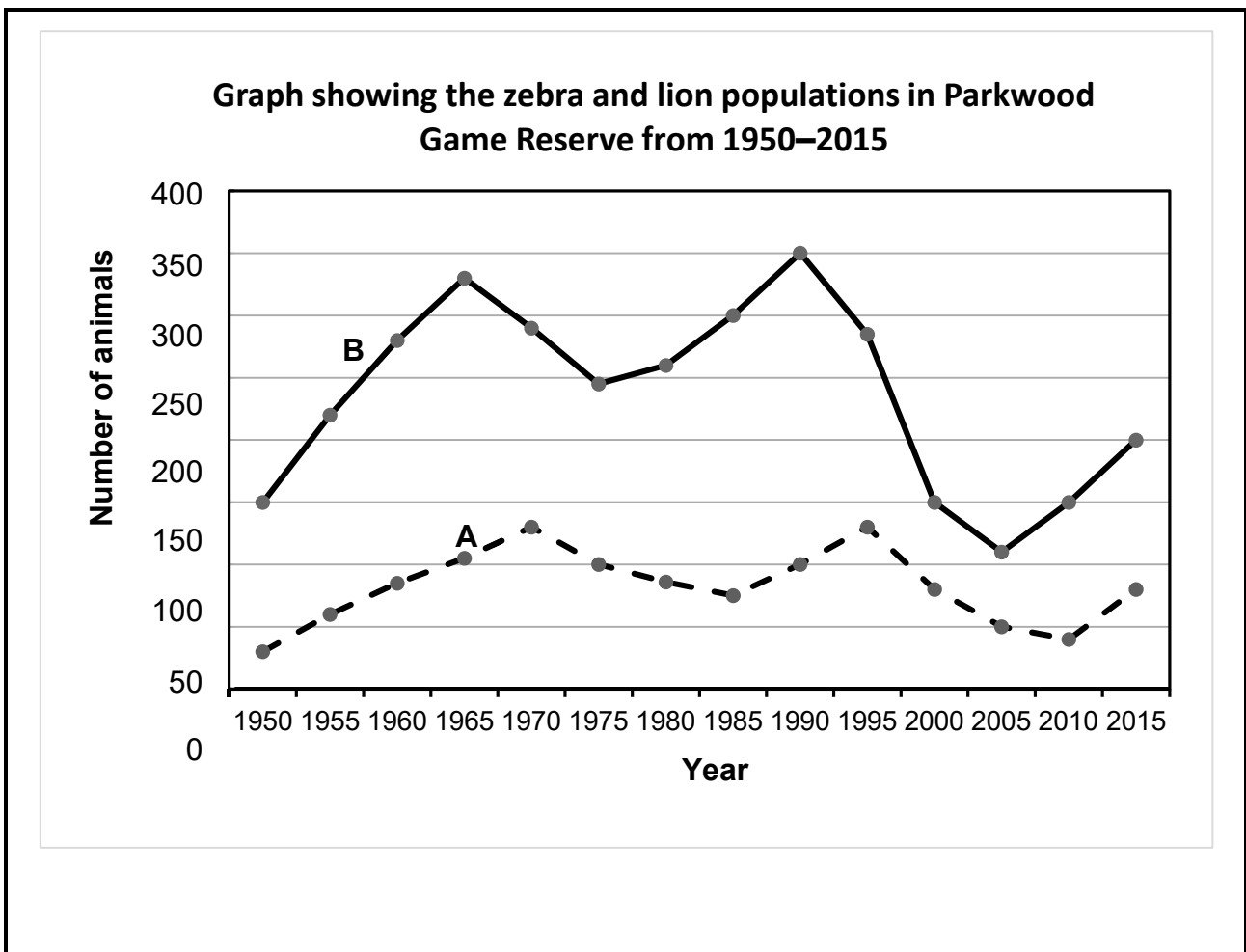
**[50]**

**QUESTION 3**

3.1 Read the extract below and study the graph showing the zebra and lion population in Parkwood Game Reserve over a period of 65 years.

The most important reason that lions are able to find enough food is that they usually do their hunting cooperatively. Normally, several lions circle around the herd they are attacking, slowly driving their victims towards the lionesses hiding in the tall grass. These lionesses then attack their prey from the sides or the rear. Lions are not fast predators. By working in groups they are able to tackle prey that would otherwise prove to be too fast for them. Lions also gain another advantage through group hunting when they kill an animal too large for one lion to tackle on its own. Zebras are one of the major prey of lions.

The graph below shows the number of zebras and lions in Parkwood Game Reserve over a period of 65 years.



3.1.1 Give TWO reasons mentioned in the extract why the social structure (hunting together) of lion prides makes them successful hunters. (2)

3.1.2 What type of relationship is shown between lions and zebras in the graph above? (1)

- 3.1.3 Which line (**A** or **B**) represents the lion population? (1)
- 3.1.4 Give TWO reasons for your answer to QUESTION 3.1.3. (2)
- 3.1.5 In 1995 there was a large decrease in the number of zebras in the reserve. Give ONE environmental factor that could have caused this decrease. (1)
- 3.1.6 Zebra live in herds. Explain ONE reason why living in herds is an advantage. (2)
- 3.1.7 Explain why the chances of the zebra and lion population reaching carrying capacity is limited. (3)
- 3.2 3.2.1 Define the following:
- (a) *Global warming* (1)
- (b) *Food Security* (3)
- 3.2.2 Name the main gas produced by humans that is responsible for global warming. (1)
- 3.2.3 Explain how global warming has a negative effect on food security. (5)
- 3.3 The spread of Invasive Alien Plants (IAP) in the water catchment areas of South Africa is concerning. In a country that is already water scarce this means less water available for agricultural and domestic use. A recent study of the Olifants River catchment area looked at the water consumption of some of the most invasive species (measured in m<sup>3</sup> per hectare) and the area that they invade (measured in hectares).

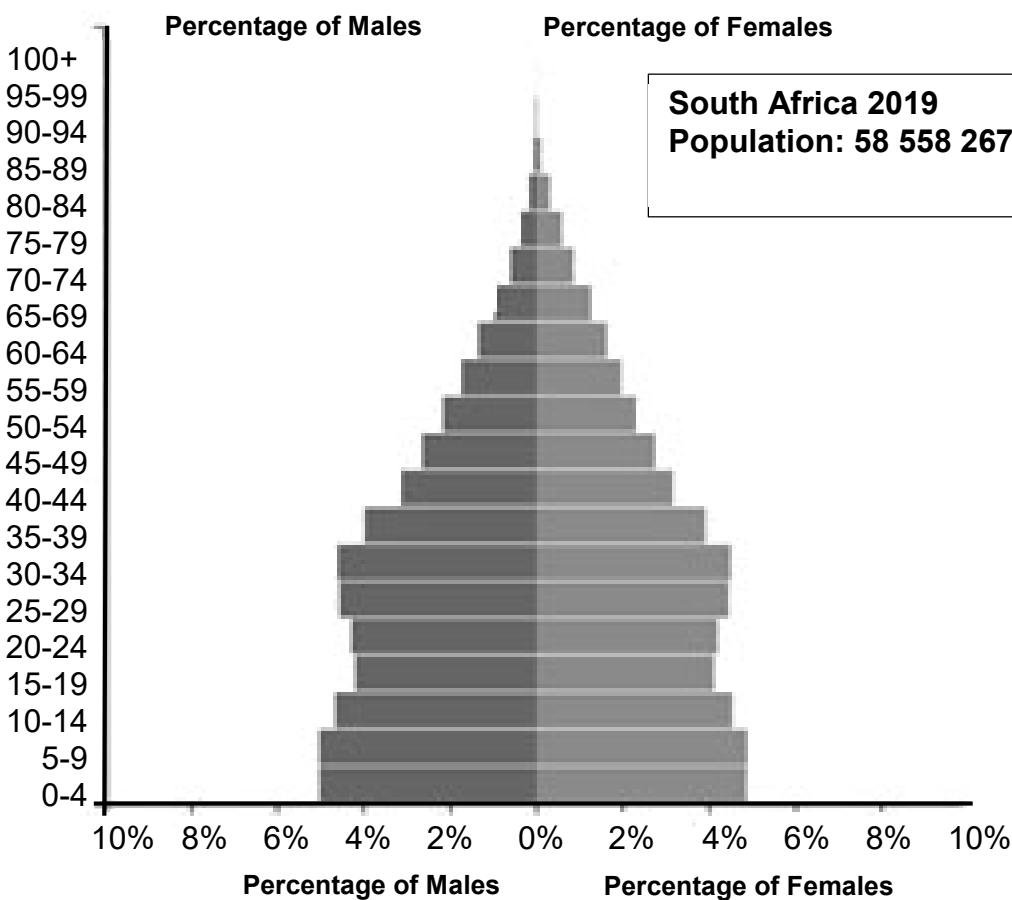
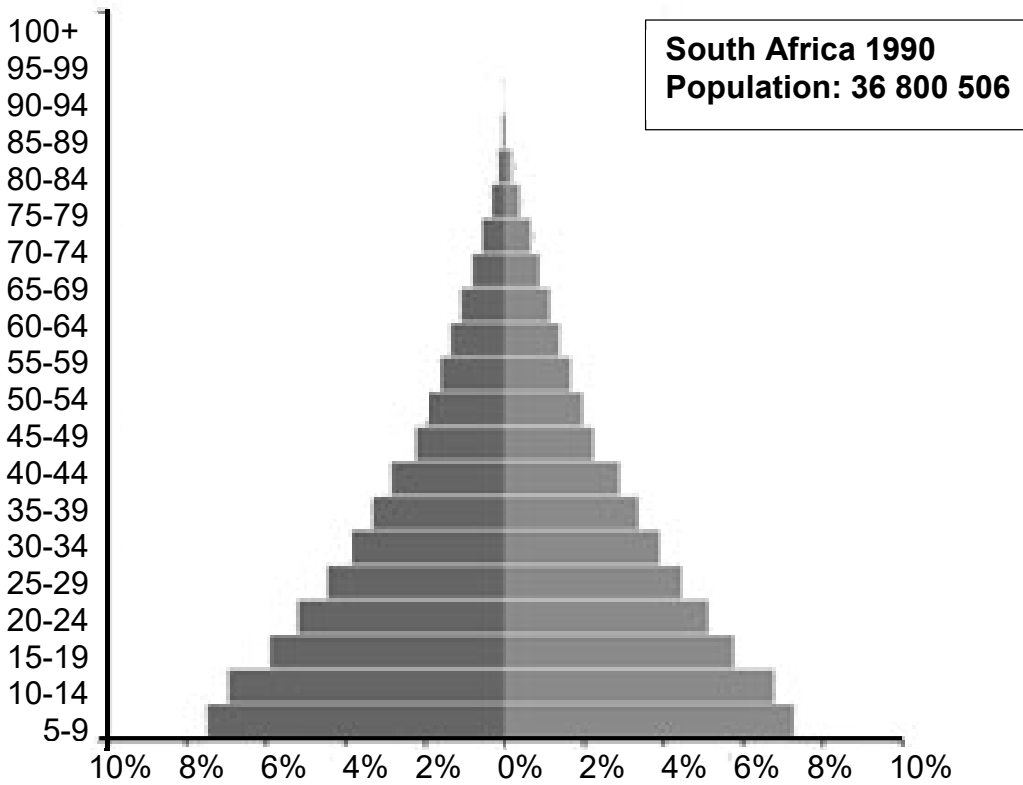
The results are shown in the table below.

<b>Invasive Alien Species</b>	<b>Water consumption (m<sup>3</sup> / hectare)</b>	<b>Area invaded by plants (hectares)</b>
<i>Arundo donax</i>	1 155	5 406
<i>Eucalyptus sp.</i>	1 250	116
<i>Pinus sp.</i>	2 550	752
<i>Populus sp.</i>	645	358
<i>Salix babylonica</i>	830	358

- 3.3.1 State the:
- (a) Independent variable (1)
- (b) Dependant variables (2)

- 3.3.2 What method could have been used to calculate the area invaded by the alien plants? (1)
- 3.3.3 How much water did *Pinus sp.* consume in the Olifant's River catchment area? Show ALL your calculations. (3)
- 3.3.4 Draw a suitable graph to show the water consumption of the various invasive alien species in the Olifant's River catchment area. (6)
- 3.3.5 Give THREE ways that can be used to get rid of invasive alien plants. (3)
- 3.3.6 Give ONE way you as an individual can reduce the number of invasive alien species in South Africa. (1)

3.4 The population pyramids below show the change in the South African population from 1990 to 2019. We can see that South Africa is moving from a developing country in 1990 to a more developed country in 2019. The data was collected by means of a census.





- 3.4.1 Define the concept *census*. (1)
- 3.4.2 Which group, males or females, have a higher life expectancy? (1)
- 3.4.3 Which pyramid (1990 or 2019) shows:
- (a) A rapidly increasing population (1)
  - (b) Low life expectancy (1)
- 3.4.4 Explain TWO reasons for the change in the shape of the pyramid from 1990 to 2019. (4)
- 3.4.5 Why is it important for governments to have the information shown in a population pyramid? (3)

**TOTAL SECTION B 100**  
**GRAND TOTAL: 150**





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**GRADE 11**

**NOVEMBER 2020**

**LIFE SCIENCES P2  
MARKING GUIDELINE  
(EXEMPLAR)**

**MARKS: 150**

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This marking guideline consists of 12 pages.

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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 a part of it is required**  
Read all and credit the relevant part.
4. **If comparisons are asked for but descriptions are given**  
Accept if the 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 are 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 unrecognised abbreviation but credit the rest of the 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 recognisable, accept the answer, provided it does not mean something else in Life Sciences or if it is out of context.
13. **If common names are given in terminology**  
Accept, provided it was accepted at the national memo discussion meeting.
14. **If only the letter is asked for but only the name is given (and vice versa)**  
Do not credit.

15. **If units are not given in measurements**  
Candidates will lose marks. Marking guideline 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 appear(s) 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.

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

- |     |       |                                |            |
|-----|-------|--------------------------------|------------|
| 1.1 | 1.1.1 | B ✓✓                           |            |
|     | 1.1.2 | B ✓✓                           |            |
|     | 1.1.3 | C ✓✓                           |            |
|     | 1.1.4 | A ✓✓                           |            |
|     | 1.1.5 | D ✓✓                           |            |
|     | 1.1.6 | B ✓✓                           |            |
|     | 1.1.7 | C ✓✓                           |            |
|     | 1.1.8 | C ✓✓                           |            |
|     | 1.1.9 | C ✓✓                           | 9 x 2 (18) |
| 1.2 | 1.2.1 | mutualism ✓                    |            |
|     | 1.2.2 | yeast ✓                        |            |
|     | 1.2.3 | phylogenetic tree ✓/ cladogram |            |
|     | 1.2.4 | cones ✓                        |            |
|     | 1.2.5 | eutrophication ✓               |            |
|     | 1.2.6 | biodiversity ✓                 |            |
|     | 1.2.7 | competitive exclusion ✓        |            |
|     | 1.2.8 | methane ✓                      | 8 x 1 (8)  |
| 1.3 | 1.3.1 | none ✓✓                        |            |
|     | 1.3.2 | A only ✓✓                      |            |
|     | 1.3.3 | B only ✓✓                      | 3 x 2 (6)  |
| 1.4 | 1.4.1 | Plantae ✓                      | (1)        |
|     | 1.4.2 | Bryophytes ✓                   | (1)        |

1.4.3	B ✓ D ✓	(Mark first TWO only)	(2)
1.4.4	Diagram 3 ✓✓	(Mark first ONE only)	(2)
1.4.5	Diagram 3 ✓✓	(Mark first ONE only)	(2)
1.5	1.5.1	(a) exponential growth ✓/accelerating/geometric/logarithmic	(1)
		(b) decelerating phase ✓	(1)
		(c) death phase ✓/ extinction phase	(1)
	1.5.2	Logistic growth ✓ form	(1)
	1.5.3	Graph 2 ✓	(1)
	1.5.4	(a) D ✓	(1)
		(b) B ✓	(1)
	1.5.5	Environmental resistance ✓	(1)
	1.5.6	Population must adapt to their new environment ✓ The population is small ✓ Organisms need to become sexually mature ✓ Organisms need to find mates ✓	(Any 2) (2)

**TOTAL SECTION A: 50**

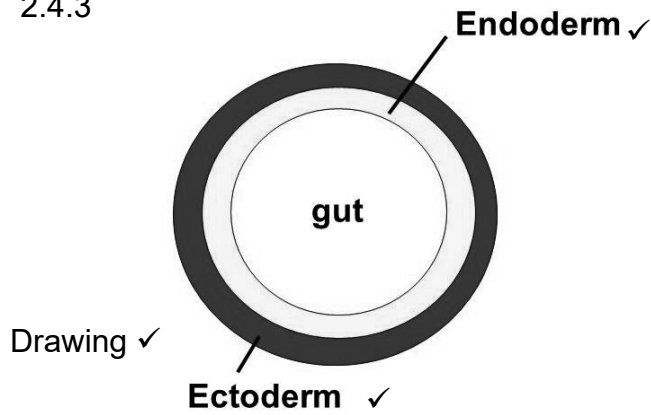
**QUESTION 2**

- 2.1 2.1.1 A – Protein coat ✓  
B – RNA ✓ (2)
- 2.1.2 Antibiotics are used to kill living organisms ✓  
Viruses are not living ✓ (2)
- 2.1.3 A person is given a weak strain of the germ ✓  
the body will produce antibodies to fight the infection ✓  
The antibodies will protect them against a new / stronger infection of  
the same germ ✓ (3)
- 2.1.4 The vaccine would need to go through trial ✓  
to ensure it has no negative effects ✓ (2)
- 2.2 2.2.1 Plasmodium ✓ (1)
- 2.2.2 mosquito ✓/ anopheles (1)
- 2.2.3 headache ✓  
fever ✓  
sweating ✓  
chills ✓  
muscular pain ✓  
abdominal pain ✓  
diarrhoea ✓  
nausea and vomiting ✓  
loss of appetite ✓  
cough ✓
- (Mark first TWO only)** (Any 2) (2)
- 2.2.4 Prevent getting bitten by mosquitoes ✓/ (or any example)  
Get rid of mosquitoes ✓/(or any example) (2)
- 2.3 2.3.1 Plantae ✓ (1)
- 2.3.2 U – corolla ✓  
V – calyx ✓ (2)
- 2.3.3 (a) R ✓ ovary ✓ (2)
- (b) S ✓ anther ✓ (2)
- 2.3.4 Insects ✓ (or example of an insect)/ wind / self-pollinated (1)



- 2.3.5 (a) Produces large amounts of food ✓ / easier farming as same treatment is given to whole crop (1)
- (b) A pest population will increase rapidly and destroy the entire crop ✓ / increase in amount of pesticides used (1)
- 2.3.6 - Crops could be wiped out/attacked by disease if they are all of the same variety. ✓  
- Seed banks may store variations of crops that may be hardier to the disease and can replace those wiped out. ✓  
- A seed bank stores unusual or rare varieties that are not commercially farmed ✓ to maintain biodiversity ✓  
- A seed bank keeps cultures of plants that are not usually grown from seed ✓ in case they are needed to replace plants that go extinct in the wild ✓  
- Endemic species need to be preserved ✓ as they do not occur elsewhere in the world ✓  
- Endangered species may be preserved ✓ In case they go extinct in the wild ✓  
- Species may have the potential to provide us with substances of medicinal value ✓  
- They must be preserved so that they can be studied before they go extinct. ✓
- (Mark first TWO only)** (Any 2 x 2) (4)
- 2.3.7 asexual ✓ (1)
- 2.3.8 - Crop grows faster than from a seed ✓ therefore can produce potatoes in shorter time ✓  
- Do not have to wait to see if seed germinates ✓ as potato tubers are already germinating ✓
- (Mark first ONE only)** (Any 1 x 2) (2)
- 2.4 2.4.1 Cnidaria ✓ (1)
- 2.4.2 radial ✓ (1)

2.4.3

**Mark allocation:**

Heading ✓

Correct drawing ✓

Labels ✓✓

**Body Plan of Cnidaria showing tissue layers** ✓

(4)

2.4.4 They are radially symmetrical, ✓ therefore they can sense food/danger equally well in all directions ✓

(2)

2.5 2.5.1 Yes ✓

(1)

2.5.2 It has a brain ✓

(1)

2.5.3 The body wall can work independently ✓ from the gut wall ✓

(2)

2.5.4 Due to separation of body wall and gut wall ✓/coelom diffusion is inadequate for transportation of food ✓/ waste / gases

(2)

- 2.5.5 - They eat decomposed/dead organic (plant) material. ✓/  
 Faeces 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)

**[50]**

**QUESTION 3**

- 3.1 3.1.1 They can capture prey too fast for them ✓  
and they can tackle prey too large for them ✓ (2)
- 3.1.2 predation ✓/ predator-prey (1)
- 3.1.3 A ✓ (1)
- 3.1.4 - Graph **A** increases / decreases after graph **B** ✓  
- There are fewer individuals in **A** than **B** ✓  
- There is less fluctuation in numbers in **A** than in **B** (Any 2) (2)
- 3.1.5 Drought ✓  
Flood ✓  
(Any relevant factor but NOT tsunami / earthquake / hurricane)  
**(Mark first ONE only)** (1)
- 3.1.6 Large numbers mean that an individual is less likely to be caught by a predator ✓/ prey have a better opportunity to escape.  
As there are many eyes to spot the predator early ✓/ as running in herds may reduce the ability of a predator to focus on one individual to attack (2)
- 3.1.7 If the prey numbers increase the predator numbers will increase ✓  
Causing the prey numbers to decrease ✓ which will cause the predator numbers to decrease ✓

**OR**

- The predator and prey numbers depend on each other ✓  
This helps to control the population size in each group ✓  
If one increases, the other one will cause it to decrease again ✓ (3)
- 3.2 3.2.1 (a) The increase in the average temperature on earth ✓ (1)
- (b) The access to enough ✓ nutritious ✓ food, at all times, ✓ by all people ✓ (Any 3) (3)
- 3.2.2 carbon dioxide ✓ (1)

- 3.2.3 - Changes in rainfall patterns ✓ cause
- desertification ✓/ increased flooding ✓/ wildfires ✓
- which increase soil erosion ✓ resulting in
- fewer crops to be planted ✓/ lower crop yield ✓
- there will be less food for livestock ✓
- Higher environmental temperatures negatively affect livestock ✓/ crops
- These factors decrease food availability ✓/ increase food prices (Any 5) (5)

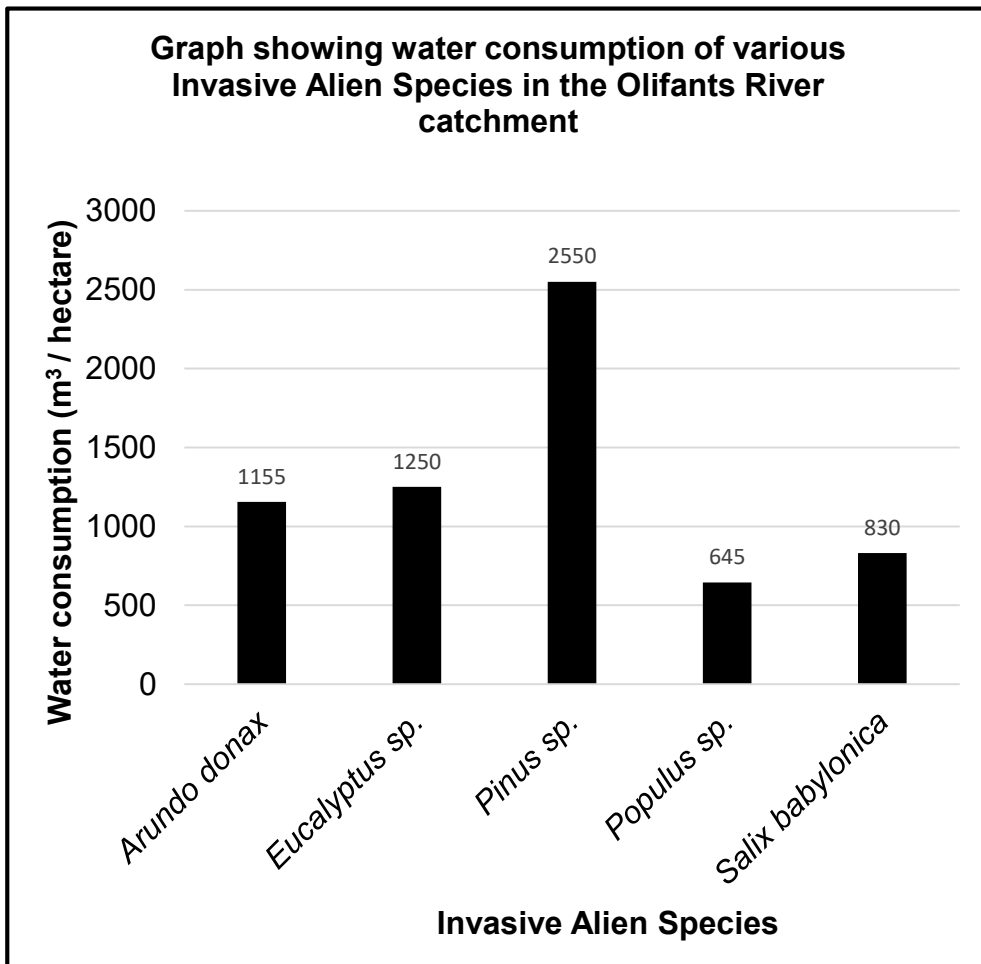
3.3 3.3.1 (a) Invasive alien species ✓ (1)

(b) Water consumption ✓  
Area invaded by plants ✓ (2)

3.3.2 Quadrat ✓/ simple sampling (1)

3.3.3  $(2550 \text{ m}^3/\text{hectare} \times 752 \text{ hectares}) \checkmark = 1\,917\,600 \checkmark \text{ m}^3 \checkmark$  (3)

3.3.4



**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)

- 3.3.5 Biological control ✓/ example  
Chemical control ✓/ example  
Mechanical control ✓/example (3)

- 3.3.6 Do not plant exotic plants in your garden ✓  
Remove exotic plants from your garden ✓  
Form a hacking club to chop down alien trees ✓  
(Mark first ONE only) (Any 1) (1)

- 3.4 3.4.1 The total count of all the individuals in a population ✓ (1)

- 3.4.2 Females ✓ (1)

- 3.4.3 (a) 1990 ✓ (1)

- (b) 1990 ✓ (1)

- 3.4.4 - There is a **decrease in birth rate** ✓ due to better education ✓/  
access to birth control / improved lifestyle with fewer children /  
better employment opportunities for women  
- There is an **increase in life expectancy** ✓ due to better health  
care available ✓  
(Mark first TWO only) (Any 2 x 2) (4)

- 3.4.5 Useful for planning:
- health care ✓
  - social welfare ✓
  - education ✓
  - creating employment ✓
  - provision of resources ✓
  - housing needs ✓

**(Mark first THREE only)**      (Any 3)      (3)  
**[50]**

**TOTAL SECTION B: 100**  
**GRAND TOTAL: 150**



