

2001 HIGHER SCHOOL CERTIFICATE EXAMINATION

Biology

Section I – Part B (continued)

Marks

Question 19 (6 marks)

In your Biology course, you performed a first-hand investigation to gather information about structures in plants that assist in the conservation of water.

(a) Describe the procedure you followed.

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procedure I find a plant ~~with~~
2. gather some of the leaves in a bucket
(kept on tree) 3. put a plastic bag
around them
4. leave them for a number of
days.
5. come back and cut leaves
off with knife

(b) Identify TWO safe work practices needed during this investigation.

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- be careful whilst using the knife
- Do not run, you could push or come in contact with someone holding a knife.

Marks

Question 20 (7 marks)

Name ONE example of an Australian endothermic animal and ONE example of an Australian ectothermic animal, and summarise their responses to the following environmental changes. Give your answer in the form of a table.

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Change 1: The ambient temperature rises well above the average daily temperature range.

Change 2: The ambient temperature drops well below the average daily temperature range.

Endothermic animal: Kangaroo

Ectothermic animal: Lizard

Changes	Endothermic	Ectothermic
Change (1) (Kangaroo)	<ul style="list-style-type: none"> - metabolic rate increases - excretion of wastes - high consumption of water - less activity 	<ul style="list-style-type: none"> - little excretion of wastes - conserving water + urine - metabolic rate <u>increases</u>
Change (2) (Lizard)	<ul style="list-style-type: none"> - metabolic rate <u>slows down</u> - little consumption of liquid + food - increase in activity 	<ul style="list-style-type: none"> - excretion of wastes - little consumption of liquid + food - metabolic rate <u>decreases</u>

Question 21 (4 marks)

Sutton, Boveri and Morgan worked in the field of genetics.

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Describe the contribution made by TWO of these scientists to the understanding of the chromosomal nature of inheritance.

The Scientists stated that genes are on chromosomes and that there are many genes in a living organisms. Mendel showed experiments to prove it eg Pea Plants and Sutton, Boveri and Morgan showed how it occurred on chromosomes in living organisms.