

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. or parts 4
- collected ~~to~~ a variety of plants such as leaves, cactus, roots, and stems
 - cut the specimens in longitudinal and transverse ways. specimens were kept
 - some ~~being~~ kept in plastic covers or bags to see if water came out
 - analysed and observed specimens
 - recorded information and data
- (b) Identify TWO safe work practices needed during this investigation. 2
- The use of protection such as gloves
- Handling of cutting apparatuses in an appropriate manner

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.

7

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: ..Blue...tongue...lizard.....

Animal	CHANGE ONE	CHANGE TWO
Kangaroo.	The Kangaroo would have more water intake there urine would be concentrated. Salt would be let out through secretion	Salt would be kept in the body. ADH would release sugars for energy. Go into huddling for warmth and energy to keep energy at it's maximum.
Blue Tongue Lizard.	The lizard would take in the sun, & would eventually move to somewhere cooler.	Cold blooded, it would nest underground to keep warm. Go into hibernation so less energy is used up.

Question 21 (4 marks)

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

4

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

Morgan's contribution to the chromosomal nature of inheritance had to do with sex-linkage. He found that some diseases were attached to the X chromosome - thus called sex-linked disease.

Sutton - he discovered found that genes ideas of the chromosomal nature of inheritance that nobody had predicted before. For example he concluded that genes occurred in pairs.