



NATIONAL SENIOR CERTIFICATE EXAMINATION
SUPPLEMENTARY EXAMINATION 2015

LIFE SCIENCES: PAPER II

EXAMINATION NUMBER

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ANSWER BOOKLET

There are (vi) pages in this Booklet.

QUESTION 1

Answer this question in the spaces provided. Place this Answer Booklet inside the Answer Book in which you answer the rest of the examination paper.

- 1.1 Select the term in Column B that best matches a description in Column A. Write the letter of the matching term in the corresponding space provided between the brackets. Each letter may only be used once.

Column A

Column B

- | | |
|---|-----------------------------|
| [] The term used to refer to death rate in a population | A mark-recapture |
| [] The movement of individuals into an area | B natality |
| [] A group of organisms of the same species living in the same area | C mortality |
| [] A direct method of counting individuals to determine population size | D population |
| [] The organisms that are first to inhabit disturbed land | E community |
| [] A group of different species living together in an area | F intraspecific competition |
| [] A grasshopper affected by how much other grasshoppers in the area eat | G census |
| [] Feeding relationship between a cat and the mice in a hut | H emigration |
| [] A method used to estimate the size of a population | I pioneer species |
| [] Vultures and hyena feeding off a buffalo carcass | J interspecific competition |
| | K immigration |
| | L predation |

(10)

- 1.2 Write the letter of the most correct answer to Questions 1.2.1 – 1.2.5 in the answer box below.

1.2.1	1.2.2	1.2.3	1.2.4	1.2.5

- 1.2.1 An example of a density independent factor that will decrease a zebra population's size is:

- A an increase in rainfall that causes increased production of grass.
- B a disease that kills some of the lions in the area.
- C a veld fire that destroys half of the ecosystem.
- D lack of breeding space for the zebra. (2)

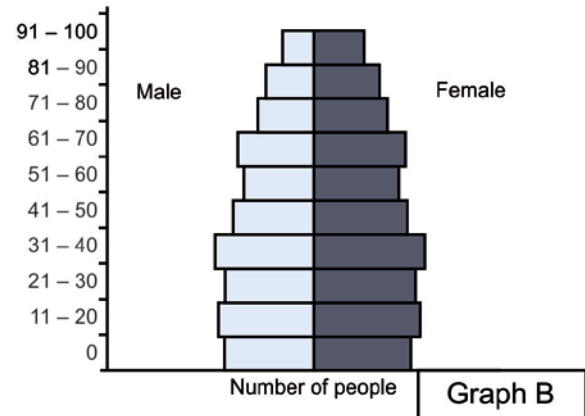
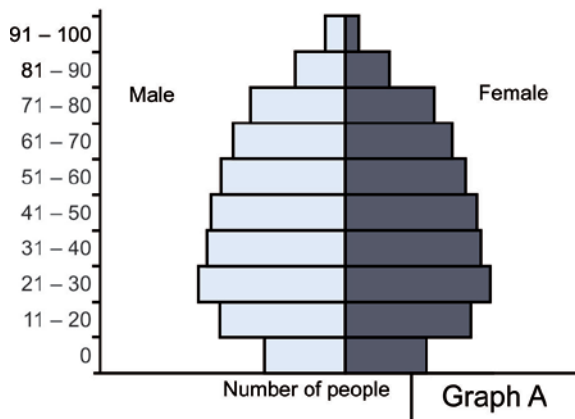
- 1.2.2 An example of resource partitioning occurs when:

- A animals move out of an area when food is scarce.
- B plants in a forest have different root systems to reduce competition for water.
- C plants grow in different areas of the country to reduce competition for space.
- D individuals of a population die and stronger ones live. (2)

- 1.2.3 Termites are a very successful group of animals because of their social behaviour. A reason for this is:

- A Only the strongest female becomes a queen and reproduces.
- B They out-compete ants for space and resources.
- C The colony contains drones that are specialised to defend the colony from enemies.
- D The hierarchical social system allows the colony to exploit resources that would not be available to the individual. (2)

Use the graphs and data given below to answer Questions 1.2.4 – 1.2.5 in the answer box.



1.2.4 Graph A represents a country which is showing:

- A A reduction in the number of new births.
- B People do not live long.
- C There are significantly more females than males in each age group.
- D The country will need to build more schools in the future. (2)

1.2.5 Graph B represents a country with a population that is:

- A developing and stable
- B undeveloped and increasing
- C developed and stable
- D undeveloped and decreasing (2)

1.3 The following diagrams represent parts of a flower.

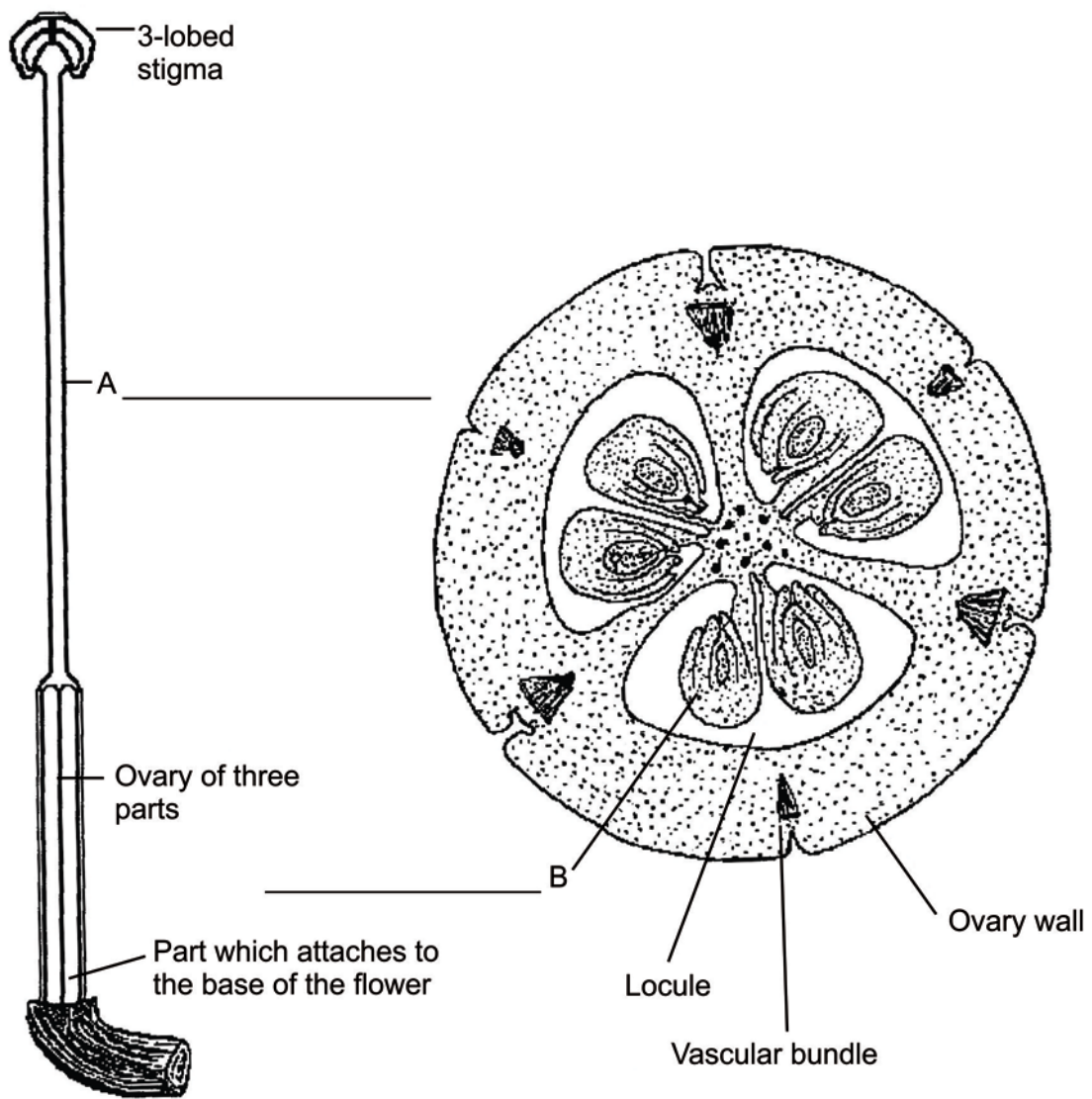


Figure 1

Figure 2

Drawing of a section through
the ovary

[<<http://www.uq.edu.au>>]

- 1.3.1 Supply the labels for A and B on the drawings above. (2)
- 1.3.2 Complete the heading for Figure 1 on the line given above. (1)
- 1.3.3 Draw a line across Figure 1 to show the place from where Figure 2 might have been taken. (1)
- 1.3.4 Describe the function of the stigma.

(2)

1.3.5 Complete the sentences below. After fertilisation ...

the ovary becomes a _____ (1)

the structure B becomes a _____ (1)

1.3.6 Which drawing is a transverse view of a structure?

_____ (1)

1.3.7 Define sexual reproduction.

_____ (3)

1.3.8 In what way does sexual reproduction produce improved food crops?

_____ (3)

1.4 Use the data in the following table to answer the questions below.

Table: Total population by province, Censuses 1996, 2001 and 2011.

Province	Census 1996	Census 2001	Census 2011
Western Cape	3 956 875	4 524 335	5 822 734
Eastern Cape	6 174 244	6 278 651	6 562 053
Northern Cape	1 011 864	991 919	1 145 861
Free State	2 633 504	2 706 77	2 745 590
KwaZulu-Natal	8 572 302	9 584 129	10 267 300
North West	2 727 223	2 984 098	3 509 953
Gauteng	7 834 125	9 388 854	12 272 263
Mpumalanga	3 123 869	3 365 554	4 039 939
Limpopo	4 576 566	4 995 462	5 404 868
South Africa	40 583 573	44 819 778	51 770 560

[Census 2011 Statistical release – P0301.4]

1.4.1 Which province had the majority of South Africa's population in:

1996? _____ (1)

2011? _____ (1)

- 1.4.2 In your opinion, explain ONE reason for the demographic shift noted in Question 1.4.1.

(2)

- 1.4.3 The Eastern Cape shows a marked decline from 15% in 1996 to 12,7% in 2011 of the South African population. Give an example of a consequence for the Eastern Cape.

(1)
[40]