

Senior Examination 29th September 2018

Beekeeping Theory (Scientific) Paper

Time Allowed: *three (3) hours.*

Answer **Question 1** and **any four (4)** other questions.

Draw diagrams and sketches where appropriate.

Write clearly and adhere strictly to the subject matter of the questions



1. Describe the life histories of the following species found in Ireland and compare them with that of the honeybee:

a social bee (other than *Apis Mellifera*)

a social wasp

[20 marks]

2. Write notes on five of the following seven items:

Hamuli, lancets, vision in the honeybee, parthenogenesis and honeybee chromosomes, royal jelly, the honeybee nervous system, metamorphosis of the honeybee larva.

[5 @ 4 marks ea.]

3. (a) With the aid of diagrams give a scientific account of the endocrine and exocrine glands of the honeybee. [10 marks]

(b) Write an account of the correct use of any two chemicals in the apiary. [10 marks]

4. (a) With the aid of a labelled diagram, describe the alimentary system in the honeybee. Include in your account a description of how waste products of metabolism are removed. [10 marks]

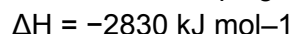
(b) Write a scientific account of the endocrine and exocrine glands of the honeybee. [10 marks]

5. With regard to *Varroa*:

(a) Describe its life cycle, the scientific basis of the current methods of treatment, and the possibility of immunity to treatment [10 marks]

(b) Describe honeybee paralysis and its relation to *Varroa*. [10 marks]

6. (a) What relevant beekeeping information can be obtained from the following equation ? [10 marks]



(b) Explain the factors involved in thermoregulation both at the level of the individual bee and that of the colony as a whole throughout the year. [10 marks]
