

Intermediate Examination 29 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



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1. (a) Draw a labelled diagram of the exocrine glandular system of the honeybee. [10 marks]
- (b) In your opinion, what are the three most important glands in the honeybee? Why do you think they are the most important? Describe their function. [10 marks]
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2. “Honey is an unstable solution of sugars and other substances”
_ discuss this statement in detail and describe “the other substances”. [20 marks]
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3. (a) Make a sketch of the internal abdomen of the honey bee and label five important organs. [10 marks]
- (b) Describe the functions of the five items you have named in (a). [10 marks]
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4. (a) Describe, with the aid of a diagram, the circulatory system of the honeybee. [10 marks]
- (b) Describe the importance and the principal functions of the haemolymph [10 marks]
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5. (a) Make a sketch of the hind leg of the worker bee and label five parts. [10 marks]
- (b) Using your sketch in (a) describe how pollen is collected, transported back to the hive and stored. [10 marks]
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6. (a) Show with the aid of a diagram, the life-cycle of the honeybee and indicate clearly how it forms the basis of the nine/ten day inspection interval used by beekeepers during swarm control. [15 marks]
- (b) Write a short account of *parthenogenesis* in the honey bee. [5 marks]
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