

THE BRITISH BEEKEEPERS' ASSOCIATION

Founded in 1874

Registered Charity No. 212025

EXAMINATION FOR PROFICIENCY IN APICULTURE MODULE 3 HONEYBEE DISEASES, PESTS AND POISONING

9th November 2013 Time Allowed 1½ hours

Candidate Number:

Instructions to Candidates

Read the questions carefully. Answer All Sections. It is recommended not to spend more than 10 minutes on Section A, 50 minutes on Section B or 30 minutes on Section C.

Unless stated otherwise questions apply to Honeybees.

Use **BLACK** pen for text. **Black** pencil may only be used for diagrams. **DO NOT USE COLOURS.**

Examiner Use Only

Question	Sec A	B11	B12	B13	B14	B15	C16	C17	Total
Mark									
Moderated									

SECTION A (10 marks, 1 for each question)

Answer **ALL** the questions in this section. Use one or two word or short phrase answers.

- Q1 Name one of the viruses associated with Nosema.
- Q2 Which part of the bee is damaged by Nosema?
- Q3 Give the scientific name of an insect that attacks stored comb.
- Q4 State a feature that identifies the larva of Small Hive Beetle in a beehive.
- Q5 How does EFB cause the death of a honeybee larva?
- Q6 What is the duration of the statutory standstill order in the UK if AFB is diagnosed?
- Q7 Name a biological control for wax moth.
- Q8 What is the maximum size of the aperture to prevent entry of mice to a hive?
- Q9 At what stage in the honeybee's life do the signs of Sacbrood appear?
- Q10 Name a vertebrate pest associated with winter beekeeping other than mice.

PLEASE HAND IN THIS SHEET AT THE END OF THE EXAMINATION

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SECTION B (60 marks, 15 for each question)

Answer any **FOUR** questions from this section. Write short notes for your answers.

Marks

- Q11 (a) Briefly describe how to collect a sample of bees for the diagnosis of Acarine and Nosema. 2
- (b) List the steps that should be taken to perform the diagnosis of:
i) Acarine; 7
ii) Nosema. 6
- Q12 (a) Who should beekeepers legally inform if they suspect their colonies have foul brood? 1
- (b) Both EFB and AFB result in a poor brood pattern. List the other signs of EFB. 6
- (c) List 4 other diseases, conditions or situations, with a brief description of **the signs** that can lead to a poor brood pattern. 8
- Q13 A beekeeper finds small removable hard mummified larvae in the cells of a colony.
- (a) Name the disease, giving the scientific name, and type of organism likely to be present. 3
- (b) Outline how the beekeeper could reduce the incidence of this disease. 6
- (c) Name 2 conditions that could be confused with the early stages of this disease and describe how a differential diagnosis is made. 6
- Q14 (a) Draw a labelled diagram to show how hive boxes and comb may be fumigated using ethanoic (acetic) acid. 3
- (b) State ALL the precautions which must be taken when using this acid to protect the user, the equipment and the surroundings. 8
- (c) List the diseases and pests that are controlled using this acid? 4
- Q15 A colony fails to build up in the spring and severe Nosema is confirmed.
- (a) What remedial action should be taken by the beekeeper to return this colony to good health. 13
- (b) List two other infectious diseases which might impair spring build up in a colony. 2

SECTION C (30 marks)

Answer **ONE** question from this section. Give *labelled* diagrams where applicable.

- Q16 (a) In summer there are a large number of dead and dying bees outside the entrances of some colonies in an apiary. Give 2 possible reasons for this phenomenon. 2
- (b) How should these two conditions be differentiated and describe what remedial action should be taken by the beekeeper? 28
- Q17 (a) Describe, in detail, the life cycle of Varroa destructor. Include ways in which this pest moves from one colony to another without human intervention. 12
- (b) List 4 non chemical methods which have been used to reduce mite numbers within a colony other than the artificial swarm and shook swarm methods. 4
- (c) Describe in detail the artificial swarm and shook swarm methods of reducing mite numbers. 14