

# THE SCOTTISH BEEKEEPERS' ASSOCIATION

Registered Charity No. SC009345

## EXAMINATION FOR PROFICIENCY IN APICULTURE

### MODULE 3 HONEYBEE DISEASES, PESTS AND POISONING

*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.  
Adhere strictly to the subject matter of the questions. Unless stated otherwise  
questions apply to Honeybees. Use only **BLACK** pen for text.  
**Black** pencil may only be used for diagrams. **DO NOT USE COLOURS.**

19<sup>th</sup> March 2011

Time Allowed 1½ hours

#### 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 Give the scientific name of the organism which causes chalk brood in honeybee colonies. ....
- Q2 What is the recommended sample size for diagnosis of nosema disease? .....
- Q3 At what stage in its lifecycle does the honeybee larva usually die after infection by the bacterium *Paenibacillus larvae larvae*? .....
- Q4 What are the approximate dimensions of the adult female varroa mite? .....
- Q5 Where in the honeybee does the acarine mite reproduce? .....
- Q6 Give the scientific name of one exotic pest of honeybees which is notifiable in the UK. ....
- Q7 Which organic substance is recommended to fumigate combs? .....
- Q8 To which order of insects does *Braula coeca* belong? .....
- Q9 To whom would you report a suspected case of poisoning in a hive of honeybees? .....
- Q10 Which disease may be spread in the hive by dysentery? .....

**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) Describe the life cycle of *Varroa destructor*. 10  
(b) Explain why colonies of *Apis mellifera* succumb to Varroosis whereas colonies of *Apis ceranae* are able to co-exist with the parasite. 5
- Q12 (a) What are the statutory requirements for the importation of honeybees into the UK from countries outside the European Union? 11  
(b) What are the post-import controls regarding imported queen honeybees from third countries? 4
- Q13 (a) Why are wax moths (i) a problem to modern beekeeping but (ii) may be regarded as beneficial to feral colonies. 9  
(b) List the methods by which stored combs may be protected from infestation by wax moth. 3  
(c) Give the scientific and common names for the two species of wax moth which affect honeybee colonies. 2
- Q14 (a) List five viruses to which honeybees are commonly susceptible. 5  
(b) Give the description of any physical signs within and outside the colony for each virus and note any association with other pests or diseases. 10
- Q15 (a) Tabulate the visible signs of EFB and AFB on a brood frame. 9  
(b) How do larvae become infected by these organisms? 1  
(c) Why is apiary hygiene so important in combating these diseases? 5

### SECTION C (30 marks)

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

- Q16 A large pile of dead and dying bees appears in front of a hive. Give possible explanations as to the causes and the actions that should be taken. 30
- Q17 Write a detailed Integrated Pest Management plan for varroa for the beekeeping year. 30

END