

THE BRITISH BEEKEEPERS' ASSOCIATION

Founded in 1874

Registered Charity No. 212025

EXAMINATION FOR PROFICIENCY IN APICULTURE MODULE 8 HONEYBEE MANAGEMENT, HEALTH AND HISTORY

23rd March 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 What is a substance produced by an insect species that can have an effect on another member of the same species?.....
- Q2 What is the function of the Nasenov gland?
- Q3 Which German scientist has published on how bees find new homes?
- Q4 What is the name for a gel like substance that becomes runny when stirred or agitated?
- Q5 What were sulphur pits used for?
- Q6 Who wrote the 'Biology of the Honey Bee'?
- Q7 Who first discovered that bees made wax from honey and not pollen?
- Q8 What is the minimum height of the type font for the weight of 454g (1lb) on the label of a jar of honey?
- Q9 What is the recommended number of colonies per acre, for pollination in an apple orchard?
- Q10 What is melissopalynology?

PLEASE HAND IN THIS SHEET AT THE END OF THE EXAMINATION

MODULE 8 HONEYBEE MANAGEMENT AND HISTORY

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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 Write brief notes on three of the following four beekeepers. Include approximate dates when they lived and important aspects of their contribution to beekeeping. 15
- (a) Eva Crane
 - (b) Ted Hooper
 - (c) R O B Manley
 - (d) Samuel Simmins
- Q12 (a) What are the causative organisms of Nosema infection in bees? 2
(b) What type of organisms are they? 1
(c) If a high infection of Nosema is confirmed, describe the action that should be taken to bring the colony back to strength. 12
- Q13 (a) Describe how to identify pollen grains 8
(b) Describe the preparation of a slide of pollen grains 4
(c) How do pollen grains from wind pollinated plants vary from those that are insect pollinated? 3
- Q14 (a) What are exocrine glands? 2
(b) Describe how the functions of the hypopharyngeal glands change during the life of a worker bee. 6
(c) Where are wax glands situated and how many are there? 1
(d) What factors affect the production of beeswax? 2
(e) What are the main constituents of beeswax? 4
- Q15 (a) What are the factors affecting the crystallisation of honey? include in your answer – speed of crystallisation, size of crystals and type of honey. 8
(b) What are diastase and HMF and what is the significance and importance of their presence in different types of honey? 7

SECTION C (30 marks)

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

- Q16 (a) Compare the life cycle of a social honey bee with that of a bumble bee and a solitary bee. 25
(b) List 5 adaptations that have enabled all three species to be good pollinators. 5
- Q17 (a) Give a brief account of the historical and modern aspects of the theories behind swarming. 15
(b) List the principles behind swarm prevention and swarm control. 5
(c) Give 1 named method of swarm prevention, and 1 of swarm control. List the advantages and disadvantages of these methods. 10