

# THE BRITISH BEEKEEPERS' ASSOCIATION

Founded in 1874

Registered Charity No. 212025

## EXAMINATION FOR PROFICIENCY IN APICULTURE

### MODULE 3 HONEY BEE DISEASES, PESTS AND POISONING

24th March 2018 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 and 30 minutes on Section C.

Unless stated otherwise questions apply to honey bees.

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. Please write your answers on the question paper.

- Q1 How many statutory notifiable pests and diseases are there in the UK? .....
- Q2 Which out of the foul brood disease causing organisms form spores? .....
- Q3 What is the size of a Nosema spore? .....
- Q4 What does IPM stand for? .....
- Q5 *Aethina tumida* is commonly known as the \_\_\_\_\_ ?
- Q6 What size samples of bees should be taken in the case of a spray damage incident? .....
- Q7 Give one non-disease cause of dysentery? .....
- Q8 Who would issue a statutory standstill order? .....
- Q9 What type of microscope would you recommend for the diagnosis of Amoebiasis? .....
- Q10 Several viruses such as DWV are associated with Varroosis. Name one other. ....

**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) Complete the table provided to highlight the visible differences between the Asian and native UK hornet to aid their identification. 5
- (b) In some areas of the country Varroa mites have become resistant to synthetic pyrethroid varroacides. Describe a method to determine if there are resistant mites in an apiary. Include in your answer how the results are interpreted. 10
- Q12 (a) Examine the diagram of the bee's alimentary canal provided and identify parts A to E. 5
- (b) Name a disease causing organism that would be found in part E. 1
- (c) Which virus is associated with this disease? 1
- (d) What affect does this organism have on an individual bee and the colony? 4
- (e) What authorised treatments are available for this disease? 1
- (f) Which management techniques can be used if this disease is diagnosed in a colony. Details of the procedures are not needed. 3
- Q13 (a) Name two diseases whose presence in a hive can be confirmed using a LFD? Give both common and scientific name for each of these organisms. 2
- (b) Outline the authorised treatments that would be carried out for each of these diseases by the statutory body. 13
- Q14 (a) Which species of woodpecker attacks hives? 1
- (b) Describe a method of protecting hives from woodpecker damage. 3
- (c) When would you recommend fitting such protection. 1
- (d) Describe the life cycle of the greater wax moth. 10
- Q15 (a) Name one field crop which may be treated with a chemical hazardous to bees. 1
- (b) A beekeeper has been notified by the farmer that he intends to spray a crop next to their apiary. List the step(s) the beekeeper should take to protect their bees? 12
- (c) The BBKA has two schemes to aid beekeepers avoid spray damage. Name both. 2

## SECTION C (30 marks)

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

- Q16 (a) What signs exhibited by a colony might suggest it is suffering from Acarapisosis? 6
- (b) Name the causative organism. 1
- (c) To which group of animals does it belong? 1
- (d) How large is this organism and exactly where is it found in the bee? 2
- (e) When taking a sample of bees to confirm Acarapisosis which bees should be selected and why? 2
- (f) Using an appropriate sample of freshly killed bees, describe in detail how to confirm this disease in the laboratory. Illustrate the description with suitable diagrams. 13
- (g) What treatments and management techniques are available to deal with this organism? 5
- Q 17 You have a small weak colony which is suffering from Nosemosis.
- (a) Name the possible causative organisms 2
- (b) Which group of organisms do they belong to? 1
- (c) Describe a suitable treatment regime for this colony. 17
- (d) Drawn comb is a valuable resource. Outline how stored supers of drawn comb can be treated to reduce the likely hood of them containing pathogens. 10

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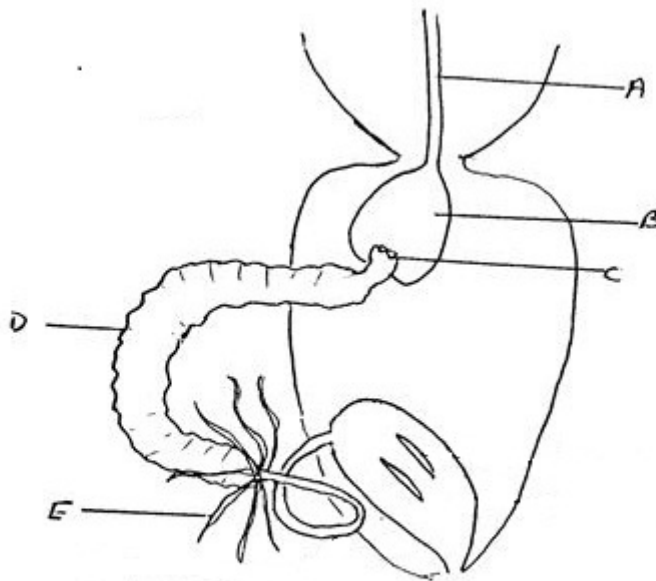
Q11 (a) Complete the table below to highlight the visible differences between the Asian and native UK hornet to aid their identification.

5

Feature	<i>Vespa velutina</i>	<i>Vespa crabro</i>
Head/face	Head black with an orange-yellow face	Yellow both above and front
Legs		
Size		
Abdomen		
Thorax		
Activity		

12 (a) Examine the diagram of the bee's alimentary canal and identify parts A to E.

5



- A .....
- B .....
- C .....
- D .....
- E .....

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