

# THE BRITISH BEEKEEPERS' ASSOCIATION

Founded in 1874

Registered Charity No. 212025

## EXAMINATION FOR PROFICIENCY IN APICULTURE MODULE 1 HONEYBEE MANAGEMENT

21<sup>st</sup> March 2015 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 a hive which uses 10 frames in the brood box. ....
- Q2 Name one type of queen excluder. ....
- Q3 What part of the bees' diet is nectar? .....
- Q4 What should bees be fed if the hive is found to be light in January? .....
- Q5 What is the best time of day to return extracted supers? .....
- Q6 Give one reason for choosing a hive with top bee space. ....
- Q7 Give the name of one device used to clear supers. ....
- Q8 What month of the year should a mouse guard be fitted? .....
- Q9 State the width of bee space in millimetres. ....
- Q10 Describe one symptom experienced when stung by a honeybee. ....

**PLEASE HAND IN THIS SHEET AT THE END OF THE EXAMINATION**

# MODULE 1 HONEYBEE MANAGEMENT

21<sup>st</sup> March 2015

## SECTION B (60 marks, 15 for each question)

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

Marks

- Q11 Explain how to:
- (a) mark a queen; 5
  - (b) clip a queen. 5
  - (c) Why might each of these procedures be carried out? 4
  - (d) What colour should the queen be marked in 2016 according to the International Queen Marking Code? 1
- Q12 On examination of a colony at the end of July, the queen cannot be found.
- (a) What are the signs of queenlessness? 4
  - (b) How would this be determined? 2
  - (c) If the situation of queenlessness is ignored, what are the most likely consequences before the colony dies out? 2
  - (d) How would these consequences be recognised? 7
- Q13
- (a) Why should comb be changed regularly in the brood box? 3
  - (b) Name two methods of transferring the colony onto clean comb. 2
  - (c) Using diagrams, explain one method by which this can be achieved. 10
- Q14 During a routine inspection of a colony of honeybees in May, a large number of unsealed queen cells have been discovered. The queen is still present.
- (a) What is most likely to be happening within this colony? 1
  - (b) What could the beekeeper have done to attempt to prevent this situation arising. 9
  - (c) What are the principles behind swarm control? 3
  - (d) At any time of year, what other situations could queen cells in a colony indicate 2
- Q15 A home apiary has become too small for the number of colonies.
- (a) Give the criteria to be used in the selection of an out apiary. 12
  - (b) Draw a diagram to show how four colonies could be sited in the apiary. 3

## SECTION C (30 marks)

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

- Q16 A member of the public has phoned to say that they have a swarm of bees in their garden.
- (a) What information should be ascertained and given before going to collect the swarm? 8
  - (b) How might modern technology be used to confirm that they are honeybees? 1
  - (c) List the equipment that should be taken. 6
  - (d) Explain how a swarm hanging one metre from the ground could be taken and hived at an apiary. 15
- Q17 A friend has decided that they would like to keep a couple of colonies of bees.
- (a) What should they do before getting bees? 4
  - (b) Give a breakdown of the equipment they will need in the first two years and the possible costs involved. 8
  - (c) Describe the Smith and the Modified Commercial hives, so that the beginner could choose between them, listing the similarities and difference between these two hives. 14
  - (d) What possible sources of information are available to beginner beekeepers? 4

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## EXAMINATION FOR PROFICIENCY IN APICULTURE MODULE 1 HONEYBEE MANAGEMENT

14<sup>th</sup> November 2015 Time Allowed 1½ hours

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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 a piece of equipment for bulk feeding sugar syrup .....
- Q2 What is the horizontal spacing between frames, centre to centre, when using 11 frame castellated spacing in a super? .....
- Q3 What type of foundation should be used for cut comb production? .....
- Q4 Give one way to reduce the risk of robbing. ....
- Q5 Approximately how many worker cells can be raised on one side of BS brood comb? .....
- Q6 Using the international queen marking system, what will be the colour used to mark queens raised in 2018? .....
- Q7 What is the use of a clearer board? .....
- Q8 Give a reason why bees collect water. ....
- Q9 What is a cast? .....
- Q10 Give one way that honeybees use propolis within the hive. ....

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# MODULE 1 HONEYBEE MANAGEMENT

14<sup>th</sup> November 2015

## SECTION B (60 marks, 15 for each question)

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

- |     |     |  |    |
|-----|-----|--|----|
| Q11 | (a) | List criteria you would consider when assessing the suitability of a site as an out apiary.  | 12 |
|     | (b) | What criteria would be considered when designing hive stands for an apiary?  | 3  |
| Q12 | (a) | Explain how to create a nucleus for retaining an established queen for future queen rearing. The nucleus will remain in the same apiary.   | 9  |
|     | (b) | Give 6 other uses for a nucleus colony.  | 6  |
| Q13 |     | A strong colony of bees in a brood box and one super over a queen excluder, situated in a remote rural apiary, belonging to an experienced beekeeper has become vicious and a nuisance. List the steps to be taken by the beekeeper to re-queen this colony. | 15 |
| Q14 | (a) | List the similarities and differences between a colony containing a drone laying queen and one containing laying workers.  | 9  |
|     | (b) | What steps could be taken to remedy a colony with a drone laying queen?  | 6  |
| Q15 | (a) | List five uses of drawn comb to the beekeeper.   | 5  |
|     | (b) | Explain how extra drawn brood comb can be produced for future use  | 6  |
|     | (c) | Under what circumstances would colonies be unable to draw foundation?  | 4  |

## SECTION C (30 marks)

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

- |     |     |  |    |
|-----|-----|--|----|
| Q16 |     | List the steps, with a rough time schedule:  |    |
|     | (a) | to prepare a colony to be taken to the heather moors;  | 15 |
|     | (b) | to transport 4 colonies of bees inside a vehicle to the heather moors 50 miles away.   | 15 |
| Q17 |     | Charged open queen cells are found during the inspection of a brood chamber in late May. To prevent the colony from swarming the beekeeper wishes to apply the artificial swarm method of control but cannot find the queen. Describe how the beekeeper should proceed with this manipulation and maintain the foraging force for the start of the target flow at the beginning of July. Your answer should include reasons for the actions taken. | 30 |

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19<sup>th</sup> March 2016 Time Allowed 1½ hours

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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 Give one method of spacing brood frames. ....
- Q2 How wide is bee space? .....
- Q3 Name a method of replacing all the brood frames at once. ....
- Q4 What nutrient does pollen provide as a component of the honeybee diet? .....
- Q5 Using the International Queen Marking system, what colour will queens be marked this year? .....
- Q6 In which month does the main UK heather flow take place? .....
- Q7 What is meant by drifting? .....
- Q8 What could be fed to a colony to stimulate the queen to lay in spring? .....
- Q9 Name one type of feeder. ....
- Q10 Supply the missing word in this piece of bee equipment. Porter bee \_\_\_\_\_ .....

**PLEASE HAND IN THIS SHEET AT THE END OF THE EXAMINATION**

# MODULE 1 HONEYBEE MANAGEMENT

19<sup>th</sup> March 2016

## SECTION B (60 marks, 15 for each question)

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

*Marks*

- |     |  |    |
|-----|--|----|
| Q11 | Briefly describe a procedure for moving a strong colony of bees to a new apiary, 25 miles away, in June. | 15 |
| Q12 | List the uses for nuclei.  | 15 |
| Q13 | What factors should be considered when selecting an apiary site?   | 15 |
| Q14 | Explain briefly the importance of good apiary hygiene and how this is achieved.                          | 15 |
| Q15 | Describe briefly how to unite two colonies of bees using the newspaper method.                           | 15 |

## SECTION C (30 marks)

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

- |     |  |    |
|-----|--|----|
| Q16 | Giving reasons, describe the preparations necessary to ensure successful overwintering of a honeybee colony. | 30 |
| Q17 | (a) Discuss the factors that encourage swarm preparation in a colony and how swarming can be prevented.      | 15 |
|     | (b) Explain how to make an artificial swarm.   | 15 |

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## EXAMINATION FOR PROFICIENCY IN APICULTURE MODULE 1 HONEYBEE MANAGEMENT

12<sup>th</sup> November 2016 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.

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### 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 the size of the bee space? .....
- Q2 Give one difference between a commercial and a modified national brood chamber. ....
- Q3 Using the international queen marking system what colour should a queen reared in 2017 be? .....
- Q4 If queenlessness in a colony is suspected how may this be verified? .....
- Q5 What provides carbohydrate for bees? .....
- Q6 Give one use for a nucleus colony. ....
- Q7 What is a cast? .....
- Q8 What is the difference between pollen supplement and pollen substitute? .....
- Q9 Give one way of cleaning wooden hive boxes for hygiene reasons. ....
- Q10 How much stored honey does the average colony need to pass the winter successfully in the UK? .....

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# MODULE 1 HONEYBEE MANAGEMENT

12<sup>th</sup> November 2016

## SECTION B

(60 marks, 15 for each question)

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

Marks

- Q11 An aspiring beekeeper asks whether to begin beekeeping with a nucleus, a swarm or a full colony.
- (a) What are the advantages and disadvantages of starting with a swarm? 5
  - (b) What are the advantages of starting with a nucleus? 4
  - (c) What are the disadvantages of starting with a full colony? 3
  - (d) List three reputable sources of information about beekeeping for the novice. 3
- Q12 Frame spacing in hives.
- (a) Specify the spacing between the midribs of brood combs and explain why this distance is important? 2
  - (b) Name two types of self spacing frame. 1
  - (c) Use a table to specify the advantages and disadvantages of each of the following types of spacing; metal/plastic ends, self spacing frames, castellated spaces, finger spacing. 12
- Q13
- (a) List six beekeeping practices that prevent the spread of disease between hives. 6
  - (b) How should the beekeeper clean clothes and tools between each apiary visit? 3
  - (c) You are given a number of cedar hives, including frames and comb by a retiring beekeeper. How would you prepare them for use in your apiary? 6
- Q14 A beekeeper receives a call from a member of the public who thinks there is a swarm of bees in their garden.
- (a) What questions would the beekeeper ask the caller and why? 6
  - (b) List the equipment needed to collect the swarm from a low branch of a sapling in a garden. 7
  - (c) On site, what precautions would need to be taken before collecting the swarm? 2
- Q15
- (a) What precautions can a beekeeper take to prevent robbing? 7
  - (b) What are the signs that hives are being robbed? 4
  - (c) If robbing by wasps is suspected, how can it be curtailed? 4

## SECTION C

(30 marks)

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

- Q16
- (a) What measures can a beekeeper adopt to minimise the likelihood of swarming? 8
  - (b) On examining a colony queen cells are found. Describe with the aid of a diagram, **one method** of swarm control. 18
  - (c) Why is cutting out queen cells an unreliable method to prevent swarming 4
- Q17
- (a) Explain the precautions the beekeeper should undertake to prepare bees going into winter. 18
  - (b) Describe briefly the most important things to look for in a colony at the first spring inspection. 12



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## EXAMINATION FOR PROFICIENCY IN APICULTURE MODULE 1 HONEYBEE MANAGEMENT

18<sup>th</sup> March 2017      Time Allowed 1½ hours

Candidate Number:

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Question	Sec A	B11	B12	B13	B14	B15	C16	C17	Total
<b>Mark</b>									
<b>Moderated</b>									

### 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 two hive types that use British Standard brood frames. ....
- Q2 How wide is bee space? .....
- Q3 When would a Snelgrove board be used? .....
- Q4 What do bees collect other than nectar and pollen? .....
- Q5 What is the best time of day to feed bees? .....
- Q6 What is unwired foundation used for? .....
- Q7 What is anaphylactic shock? .....
- Q8 What are castellations used for? .....
- Q9 How much stored honey does the average colony need to survive the winter? .....
- Q10 Give one reason why drifting of honey bees should be avoided. ....

**PLEASE HAND IN THIS SHEET AT THE END OF THE EXAMINATION**

# MODULE 1 HONEYBEE MANAGEMENT

18<sup>th</sup> March 2017

## SECTION B (60 marks, 15 for each question)

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

*Marks*

- Q11 List the main factors that should be considered when setting up a new out-apiary. 15
- Q12 An amateur beekeeper is given some second hand beekeeping equipment. The equipment includes wooden frames containing comb, wooden floors and rooves, wooden and polystyrene brood boxes and supers, plastic and metal queen excluders and wooden crown boards.
- (a) What actions, with reasons should the beekeeper take prior to using any of this equipment? 12
- (b) What precautions should the beekeeper take whilst cleaning the equipment? 3
- Q13 (a) Describe briefly the newspaper method for uniting two colonies, both with supers. Include any precautions that should be taken. 12
- (b) Describe a different method to the one above that could be used to unite two, three-framed nuclei colonies. 3
- Q14 (a) Why might a beekeeper suspect that a colony is queenless? 2
- (b) How could the beekeeper test the colony to confirm whether it is queenless? 1
- (c) Describe what is observed if a drone laying queen is present and what are the conditions that lead to the development of a drone laying queen? 5
- (d) Describe what is observed if laying workers are present in the colony and what conditions lead to the development of laying workers? 5
- (e) Briefly describe how to rectify each situation. 2
- Q15 (a) Give 3 symptoms that someone who is stung by a honey bee and has a mild reaction might experience. 3
- (b) What signs could be observed in someone experiencing a more severe allergic reaction? 6
- (c) What actions should be taken if a very severe allergic reaction is suspected? 3
- (d) What can the beekeeper do to minimise stings? 3

## SECTION C (30 marks)

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

- Q16 (a) Describe in detail the conditions in the colony that lead to swarming and how the impulse to swarm can be reduced? 10
- (b) During an inspection multiple unsealed queen cells are found in the brood chamber. Describe, with the aid of diagrams, how to undertake an artificial swarm, with the aim that honey production from that colony is not compromised. 20
- Q17 A beekeeper wishes to take some colonies of bees to the heather for heather honey production. Describe the management of these colonies to maximise honey production stating when preparations would commence. Include details of the timing, preparation and moving of the hives to the heather, how they are managed while at the crop and what happens on their return to the home apiary. 30

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11<sup>th</sup> November 2017 Time Allowed 1½ hours

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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 How wide is bee space? .....
- Q2 Using the International Queen Marking System, what colour will queens be marked in 2018? .....
- Q3 Name the parallel sided frames for use in supers which are named after a famous beekeeper. ....
- Q4 Name one type of non-mechanical equipment for clearing bees from supers. ....
- Q5 Where is a Boardman feeder used with a hive? .....
- Q6 Pollen is the source of which principal nutrient for bees? .....
- Q7 Name one reason for the use of thin foundation. ....
- Q8 Give one difference between the Smith and National hive? .....
- Q9 What is meant by the term "warm-way" in relation to bee hives? .....
- Q10 Why should a hived swarm not be fed for several days? .....

**PLEASE HAND IN THIS SHEET AT THE END OF THE EXAMINATION**

# MODULE 1 HONEY BEE MANAGEMENT

11<sup>th</sup> November 2017

## SECTION B (60 marks, 15 for each question)

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

Marks

- Q11 A level compact south facing apiary site has been selected as a new suburban apiary site. List eight other criteria which may be used to create this ideal site giving reasons for seven of these. 15
- Q12 A farmer has given an expected date of mid April for an Oil Seed Rape crop to be in flower.
- (a) Assuming 4 week months, which week/month of the year should colony brood rearing begin to be stimulated and what will stimulation achieve? 3
  - (b) Draw a simple time-line to explain the brood rearing cycle relevant to April flowering OSR. 4
  - (c) Give four other reasons for feeding bees. 4
  - (d) List 4 criteria to be considered when moving bees. 4
- Q13 At a colony inspection in mid August the only brood seen is unsealed larvae and sealed brood.
- (a) What could have happened? 4
  - (b) What test could the beekeeper do to check the colony status? 1
  - (c) State the possible outcomes of the test and the action the beekeeper could take with each outcome. 10
- Q14 A beekeeper has decided to unite two strong colonies each with one super:
- (a) Give 4 precautions the beekeeper should take before uniting the colonies. 4
  - (b) Describe one method by which these two colonies may be united. 6
  - (c) Describe a different method by which two nucleus colonies may be united. 5
- Q15 During a regular inspection in May, it is found that a colony is producing queen cells. Other than by the removal of queen cells or making a nucleus, describe the steps to be taken to maximise honey production and to prevent the possible loss of a swarm. 15

## SECTION C (30 marks)

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

- Q16 A beekeeper has an apiary of 6 strong colonies.
- (a) Explain how to make up three nucleus colonies from them to remain in the apiary with each nuc containing four frames. Your answer should discuss the differences in the methods used to introduce a queen cell and a recently mated queen to such nucs. 28
  - (b) How might this manipulation differ if the nucs were being offered for immediate sale? 2
- Q17 A honey production colony has lost a prime swarm in early June. Explain what the beekeeper should do to prepare the colony to be a viable unit for the next winter. 30  
Your answer should address management of the colony during June and July, giving reasons, and embrace the principles and practice of autumn winter preparation