

**EXAMINATION BOARD FOR THE NATIONAL DIPLOMA IN BEEKEEPING AND THE  
UNITED KINGDOM CERTIFICATE IN BEEKEEPING.**

March 1990.

Paper 'A'.

Time allowed 3 hours.

*INSTRUCTIONS TO CANDIDATES:-*

Time allowed 3 hours.

**ANSWER FOUR QUESTIONS ONLY.**

All questions carry equal marks.

Marks will be awarded for clear diagrams, where relevant.

1. a) Describe fully the setting up and management over the year of a multiple queen colony.  
b) Discuss the advantages and disadvantages of such a colony.
2. Briefly discuss FIVE of the following:
  - a) Swarm prevention & control.
  - b) British Standard specifications in beekeeping.
  - c) The current legal requirements for the labelling of honey for sale.
  - d) The control of Acarine disease.
  - e) The value of "visual aids" in beekeeping teaching.
  - f) The uses of beeswax.
  - g) Honeydew.
3. Draw a graph to show the possible changes in the weight of a typical hive of honey bees in your apiary from January to December 1989. Interpret the information revealed by the graph as you would to an audience of experienced beekeepers.
4. Write an essay on trophallaxis with particular reference to its significance in the honey bee colony.
5. Various deductions can be made from observations of activities or phenomena on the alighting board or in the vicinity of a hive. Describe such observations, the deductions that can be made, and the actions, if any, to be taken.
6. You are to give an hour's talk to a local beekeeping association on "*The History of Beekeeping from early times*". Write a synopsis of your talk to include - outstanding events, personalities, and discoveries.
7. You have been asked to organise the necessary arrangements for the pollination of a 100 acre apple orchard. Describe fully the arrangements you would make with the grower, and, if necessary, with other beekeepers, to ensure that the task was performed efficiently, and profitably.

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Paper 'B'.

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*INSTRUCTIONS TO CANDIDATES:-*

ANSWER FOUR QUESTIONS ONLY.

All questions carry equal marks.

Marks will be awarded for clear diagrams, where relevant.

1. *"The prime essential of social life is the communication of the needs of the society from one individual to another."* V. B. Wigglesworth - "The Life of Insects". Describe fully how the honey bee colony meets this prime essential.
2. a) Define metamorphosis.  
b) Describe with diagrams the process from larva to adult in the honey bee.
3. Write notes on six of the following: meiosis; beeswax; *corpora allata*; the endocrine glands; *Achroia grisella*; Hemiptera; sensilla; symbiosis; glycogen.
4. Give an account of the work of any four of the following: J. Dzierzon; Brother Adam; Dr. E. Crane; C. R. Ribbands; F. W. L. Sladen; E. B. Wedmore.
5. European foulbrood is thought by some authorities to be an endemic disease which erupts only under certain conditions, and in addition the case is sometimes made for the beekeeper to be allowed to treat the disease with antibiotics. Discuss these statements in detail giving the reasons for and against them.
6. Give an account of pheromone production within the honey bee colony, and the functions these pheromones serve.
7. Describe the role played by pollen in the metabolism of the honey bee colony with special reference to:-
  - a) The development and feeding of the brood.
  - b) The ageing of the worker honey bee and the protein levels within its body.
  - c) The general symptoms of pollen shortage in the colony development.