

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

JUNE. 1988.

PAPER 'A'.

TIME ALLOWED 3 HOURS.

INSTRUCTIONS TO CANDIDATES:-

ANSWER FOUR QUESTIONS ONLY.

All questions carry equal marks.

Marks will be awarded for clear diagrams, where relevant.

1. In September, 1987 the Ministry of Agriculture Fisheries and Food announced the decision to reduce the level of "unproductive" routine inspections of bee colonies previously carried out by the Appointed Officers and to make financial savings by reducing by 50 % the numbers of Appointed Officers.
 - a) Discuss fully the possible implications of the decision for beekeeping.
 - b) Describe how beekeepers might organise themselves to ensure that pockets of foulbrood do not remain undetected indefinitely.
2. At present you own 20 colonies of honey bees and plan to increase to a full time operation of 300 colonies. Describe your plans to achieve this; your proposed time scale in relation to capital investment and cash flow; and the equipment you will need.
3. Describe the current legislation in the United Kingdom relating to the composition, packing and sale of honey bee products.
4. You have been invited to give a lecture to the local branch of the National Farmers Union on "*Bees and Farming*". List the main features of the lecture, the visual aids you would use, and describe the overall message you would hope to get over to your audience.
5. The production of a crop of heather honey requires special techniques. Describe these in detail including the management of the colonies, the methods of extracting the crop, and any particular problems involved.
6. The local authority has sought your help in choosing trees and plants useful to honey bees for planting in the local parks and road verges. List twenty such plants that you would recommend, and state the reasons for your recommendations. State the approximate flowering times of the trees and plants you have recommended.
7.
 - a) Describe how the honey bee overwinters, and list the essential points which the beekeeper must take into account if his colonies are to overwinter successfully.
 - b) Describe the conditions necessary before the first Spring inspection can be made, and the points that should be checked when making such an inspection.

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Paper 'B'.

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INSTRUCTIONS TO CANDIDATES:-

ANSWER FOUR QUESTIONS ONLY.

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1. *"In bee breeding we are confronted on all sides with an array of factors and difficulties which are simply unknown in animal breeding"* - Brother Adam :-"Breeding the Honey bee".
Critically discuss this statement.
2. Write notes on FIVE of the following: *Brassica nigra*; G.M. Doolittle; symbiosis; heterosis; oil immersion lens; the fat body of the honey bee; the sugars of honey.
3. Many notable individuals in the United Kingdom have contributed to our current knowledge of the honey bee and to beekeeping practices. Name ten of those who, in your opinion, have made the most notable contributions to the craft and briefly describe their achievements.
4. Since the early 1960s when *Varroa jacobsoni* was reported as a parasite of *Apis mellifera* in China, Japan and U.S.S.R., the mite has spread to most countries of the world.
 - a) Briefly describe the life cycle of the mite, and its effects on the colony.
 - b) Describe the chemical and practical treatments which can be used to detect and control the mite.
 - c) State your views on the likely impact on British beekeeping if the mite should be detected in this country.
5. Give an account of the composition of nectar and describe the various factors that influence nectar secretion in the flowering plants.
6. Explain the terms: monoecious; dioecious; bacteria; uni-sexual; hermaphrodite; and apomictic, and give illustrations from the plant kingdom.
7. Describe the structure of the egg of the honey bee and the development of the embryo within the egg until the hatching of the larva.