



The Federation of Irish Beekeepers Associations clg

Intermediate Examination Scientific 14.00 -17.00. 28 March 2026

Answer Q 1 and 4 other questions.

Draw diagrams and sketches as appropriate. Write clearly and adhere strictly to the question. Start a new question on a new page. All treatments must comply with DAFM and HPRA.

Q1. (a) Compare *Nosema Apis* and *Nosema Ceranae* under the following heading

- I. Spread (4 marks)
- II. Treatment of frames and equipment (4 marks)
- III. Effects on the colony (2 marks)

(b) Explain with the aid of diagram/s how you would take a sample from one of your own colonies and test Nosemosis using your own microscope. (10 marks)

Q2. Write notes on five out of seven of the following: Antenna, wings, sting, VMP records, queen-mating, Nasonov glands, Malpighian tubules. (5 x 4 marks)

Q3. Explain with the aid of drawings all listed below

- a) Waggle Dance (5 marks) Round dance (5marks).
 - b) Parts of the flower (10marks).
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Q4.

(a) Give a detailed description including diagram/s of the digestive system of the honeybee (10marks)

(b) Give a detailed description of conversion of nectar to honey including the enzymes added by the bee from the time the bee visits the flower to the capping in the colony(10marks)

Q5. (a) A colony has been diagnosed with **chalkbrood**;

Name the causative agent (1 mark), how to recognise it (2 marks), how is it spread (4 marks), what treatments/options are available to the beekeeper. (3 marks)

(b) Give an account of how pollen is collected, carried and stored by the honeybee (10marks)

Q6. Answer **two out of three below**

- a) List the main constituents and main properties of beeswax (10 marks)
 - b) Give an account of the uses for and the marketing of beeswax (10 marks)
 - c) Preparation of a 227g- 250g cake of beeswax for show (10marks)
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Senior Examination Scientific 14.00 -17.00. 28 March 2026

Answer Q 1 and 4 other questions.

Draw diagrams and sketches as appropriate. Write clearly and adhere strictly to the question. Start a new question on a new page. All treatments must comply with DAFM and HPRA.

Q1. Compare and contrast AFB and EFB (20 marks).

Q2. Give a detailed description of;

- a) Life cycle of *Vespa Velutina* (10marks)
 - b) Life cycle of Varroa Mite (10marks)
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Q3. Explain with the aid of drawings a method of diagnosing your bees for either AFB or EFB using your own microscope (20 marks).

Q4.

- a) Explain with the aid of a diagram the sting mechanism of the honeybee (10 marks)
 - b) List the components of the sting venom (10 marks)
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Q5. Explain five out of the 7 listed below hygrosopic, diploid drones, royal jelly, sacbrood, extra floral nectaries, chalkbrood, how bees use polarised light (5 x 4 marks)

Q6. Answer **two out of three below**

- a) A labelled diagram of the reproductive system of the queens (10 marks)
 - b) A labelled diagram of the reproductive system of the drone (10 marks)
 - c) Give an account of the mating behaviour of the honeybee queen and drone including the pheromones involved in the process (10marks)
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