

Candidates Guide to the BBKA Microscopy Certificate Assessment

Are you ready to take the assessment?

You have attended a course in beekeeping microscopy or have worked independently to gain the skills and knowledge required and you feel at ease with all aspects of the latest microscopy syllabus. You have also acquired all the necessary microscopy equipment and are totally familiar with its use. Time has been invested in the preparation of the slides required and you have repeatedly practised the dissections to the point where you feel able to carry these out swiftly and effectively whilst being observed by others. If you have reached this stage then you are ready to take this assessment. If you wish this to take place in the current year your application form and fee must reach the BBKA examinations secretary before the closing date of 31st August.

Presenting yourself for assessment

The assessment is carried out at several centres around the country during the autumn period. You will be invited to attend the nearest available centre and need to arrive at least 30 minutes before the assessment is due to start. This time is needed to familiarise yourself with the centre and its facilities, introduce yourself to the assessors, complete some administrative paperwork, receive procedural instructions and set up your equipment at a designated work station. You may also welcome a few minutes to unwind and take a comfort break before the assessment process commences.

What do I need to bring?

You are responsible for bringing with you all of the following equipment.

- Two suitable microscopes, one for dissection and one for the examination of microscope slides (a compound microscope with x400 magnification and eyepiece graticule.
If you are intending to use borrowed microscopes for this assessment then you need to ensure they are in full working order, know how to use them and are familiar with their construction.
- Dissecting tools / instruments, Spare slides and cover slips
- Six labelled pollen slides and four labelled anatomy slides as required by the syllabus
On arrival you will be asked to complete a form listing these 10 slides and submit the slides so that they can be assessed while you are setting up.
- Approximately 40 freshly killed worker bees.
- **A few pollen loads.**
- **The equipment required to make a pollen slide from a pollen load.**
- Equipment required to embed a bee in wax to carry out an abdominal dissection and mount a dissected bee at the correct angle for viewing its thoracic trachea
Note that naked flames are not allowed in the assessment
- Any other equipment you may require e.g. an extension lead and protective clothing

Examination conditions will apply

You will not be permitted to bring use any books, notes or other memory aides during the assessment period. Your mobile phone must be switched off throughout. You must not discuss any aspect of the assessment with other candidates during the assessment period or assist them in any way. You will also be expected to work safely at all times. Failure to adhere to the above restrictions may result in disqualification. When you require the attention of an assessor raise your hand.

Who else will be present?

There will generally be two assessors and up to 4 candidates being assessed in the same session. In addition, a trainee assessor may be present. It is also possible that a moderator could attend to ensure the maintenance of assessment standards. In some centres a local organiser will be there to unlock doors, provide refreshments etc but will not be involved in the actual assessment.

How is the assessment organised?

The assessment is subdivided into a series of tasks undertaken by the candidates in the order decided by the assessors. Candidates are given individual task sheets detailing the order in which these tasks are to be carried out. The tasks involve the carrying out of specific practical exercises and discussing aspects of these practical exercises and/or answering oral questions on topics outlined in the syllabus.

How long will the assessment take?

The whole series of tasks should normally be completed within a maximum period of 3 hours. Some candidates can work faster than others but it is expected that no more than 15 to 20 minutes should be spent on any one individual task (Task 3 may take a little longer than this) Things do not always go to plan and, for example, more than one bee may be needed to complete a dissection task. The assessor will take note if you take excessive time taken over a task or if you need to use more than two bees to complete a specific dissection. There may be occasions when an assessor is engaged with another candidate and so not immediately available to attend to you. You may be able to use this time profitably by carrying out preparatory work for the next task or take the opportunity to take a short comfort break. At all time you will be expected work safely and should be prepared to answer questions on safe working while carrying out any of the tasks.

Outline of the tasks

Task 1 Microscopes

You will be asked a series of oral questions to test your knowledge and understanding about the construction and functions of parts of your microscopes, the principles and theory of light microscopes and the fundamental differences between the microscopes that you brought with you. You will also be expected to set up your compound microscope.

Task 2 Thoracic tracheal dissection

You will be asked to dissect a freshly killed bee to reveal both the lateral and vertical branches of the pair of 1st thoracic trachea and prepare it for viewing under a suitable microscope.

The assessor will discuss your dissection with you and ask questions relating to Acarine disease and diagnosis.

Task 3 Pollen Slides

Your six prepared pollen slides may well have been assessed at the beginning of the session but you will be asked questions about their preparation and labelling. The assessor will provide three slides of pollen for you to examine under the microscope (or this may be carried out on the pollen slide you make) and you must be prepared to describe and comment on their features. (Note: identification of these pollens is not required and pollens unfamiliar to you may be provided).

Making a Pollen Slide. You will be asked to make a pollen slide from the pollen loads you have provided.

Questions will also be asked about how the microscopic analysis of honey can be used to determine its sources.

Task 4 Abdominal dissection

This task involves the embedding of a freshly killed worker bee in wax, covering it with dissection fluid and carrying out an abdominal dissection to display the alimentary canal and excretory system. You will also be expected to identify and discuss the function of any abdominal organs selected by the assessor.

Task 5 Anatomy slides

You will set up each of your 4 pre-prepared labelled anatomy slides under the microscope at a suitable magnification for the assessor to view. Questions on the preparation and storage of these slides will be asked. You should be prepared to discuss briefly the functions of the anatomical specimens and be able to identify component parts selected by the assessor. In addition, you will be asked to discuss aspects of safe working with regard to the preparation of your slides and the carrying out of any part of the assessment.

Task 6 Nosema diagnosis

This task involves the preparation of a slide for the detection of Nosema /Amoeba in a sample of freshly killed worker bees. You will be expected to set up the microscope to view the contents of the slide and make an appropriate diagnosis with regard to the presence or absence of these pathogens. Questions about sampling and control measures relating to Nosema will also be asked

Award of the microscopy certificate

To be awarded the BBKA microscopy certificate you must demonstrate a high level of competence, knowledge and skill when completing the above tasks and especially in those tasks associated with adult bee disease diagnosis as this certificate grants you exemption from the microscopy element of the Advanced Husbandry certificate