Dear Mrs Heath,
Congratulations on achieving a Credit in your Module 1 paper. I have as requested revisited your paper which has been marked by two examiners, and then moderated. These modules are set at a high standard with the aim to have proficient beekeepers that are able to discuss/teach beekeeping in all parts of the country, not just the are in which they live
It is important to read the instruction at the top of Section B. It states write short notes, ie you could use bullet points with a brief explanation of the point. Doing this will give you more time to check the answers. I will give a full resume of the paper and where appropriate will mark the answers you gave with an * and my comments in *italics.*

Section A

Q1. What is the dimension of spacing with Hoffman spacers?
1 3/8" – 1 7/16 or 35mm – 36mm; (1.5), not 1¾"

Q5. Name two types of feeder used for autumn feeding.
Rapid feeders such as Ashforth/Miller, contact feeders such as inverted bucket, frame feeder for nucs, etc. Ashforth and Miller as variations of the same type of feeder.

Q6. How often should a colony with a clipped queen be inspected during summer to control swarming
14 days - ref. Hooper. Every 9 to 10 days once queen cells have been removed. (1.16)

Section B

Q11. (a) Briefly describe a method, and precautions needed, when using hands to catch, hold the queen and then to clip the wings of the queen. **6**

Do not clip a virgin
*Queen should be picked up using clean thumb and forefinger, ensuring that the queen is held by the wings **not the abdomen.**
*Queen is then held by the legs, generally on the ball of the thumb using first and second fingers to hold the
*legs, or gently held by the head and thorax.
Place the open scissors round the part of the wing to be removed and wait.
Aim to remove one third to half one or both wings
*Often the queen will raise a leg up to her wing and if not careful the leg will get cut off.
Once it is certain that there is no leg problem the wing can be clipped

The queen is then released to go back down into the colony – onto frame or down gap.
It is difficult to do this wearing gloves – tent to propolise queen
Good answer.

(b) Give two other methods of restraining a queen for marking. Outline the advantages and disadvantages of each method. **9**

i)*Queens can be trapped on the comb using a press in cage. (crown of thorns),workers escape through prongs
*Care must be taken not to stab the queen, or to squash her by pressing to hard.
Cages made of solid plastic are unsuitable for marking purposes as may damage the queen, use cages

made with fine mesh *(Baldock type).
*Advantage no need handle queen
*Disadvantage, damage brood, could prong queen

ii)*Queens can be trapped in "plunger" marking cages.
Difficult to coral the queen into the cage.
The mesh is hard plastic and is too coarse.
*Difficult to place her in position ready to mark
Using either of these types of cages can be done wearing gloves
Ref: Hooper Guide to bees and honey p 155/6/7, de Bruyn Practical beekeeping p 271/2
Good answer.

Q12. Once queen cells are present in a colony, outline a method of swarm control suitable for a small scale beekeeping enterprise. 15

*The artificial swarm - Pagden type.
As documented in Hooper
*Move original colony to one side, *find queen on comb she is on and place into second brood chamber *minus any queen cells on that comb. *Fill brood chamber with **mainly drawn comb** and place on original site. This is the a.s. *You did say or foundation, see below reasoning.*
Needs to have mainly drawn comb in the a.s. as bees will be reluctant to draw the comb and will build renewed queen cells and swarm early.
*Supers replaced on new box, old site, containing queen, *if containing stores will not need to be fed..
If using foundation in the a.s., the supers should remain with the brood, and the a.s. should be fed to draw the comb.
*The second move of original box to the other side should be done ***only if open ready to seal queen cells** have been selected – max of 2, and all sealed queen cells have been removed..
Reason for this move is further leaching of the original box so that they will not swarm with the first virgin out, as frames of brood will have been emerging if this was a strong colony and in my experience will swarm.
*as well as boosting the queenright colony.
Feeding, if necessary, of the original should be left for a few days to avoid robbing, as older bees return to home site
A timescale up to when new queen will be laying is required.
*Old queen can be removed and colonies united once new queen laying or colonies can be run independently
*diagram *good*
Good answer, but took 2 plus pages.
Ref: Hooper Ch 7, de Bruyn Ch 18, p 200/1/2

14 List the steps to be taken to make up a nucleus for sale to a beginner beekeeper, for delivery in mid summer. 12

Select strong, good tempered disease free stock
Find an isolate the queen in the donor colony (so that she is not included for the present)
*Place 3 frames of brood of all stages with adhering young bees into a nuc box
*Add 1 frame of stores – honey and pollen, preferably sealed
Add 1 frame of clean drawn comb
*Shake in 2 – 4 frames of young bees, *not specified how many.*
2 frames if the nuc is to be moved off site, 4 if the colony is to remain on site
If remaining on site give the combs a gentle shake over the donor colony to dislodge the older bees then a vigorous shake into the nuc box.
This will prevent the older flying bees returning home and possibly start robbing the nuc.
*Now add the queen.
Seal with sappy grass so remained confined for a while
Feed after period to of at least 48 hours to avoid robbing

There are three choices, only one is need with the explanation

*Add the donor queen caged and let to donor colony rear its own queen – a good choice if there are queen cells in the donor colony
Or one of the original frames had a ripe queen cell. This comb should not have been shaken
Or *Add a mated queen
Or Add a ripe queen cell from queen rearing or other colony three days after making up the nuc having destroyed any queen cells of their own
Ref: de Bruyn Practical Beekeeping p 156/7

b) How would a mating nucleus differ from the nucleus for sale? 3
Note: It is NOT good practise to let the nuc make its own queen *as you stated.* ***Result in a scrub queen as not enough bees to feed adequately and will often use and older larva.***
Queens mate quicker from small units, usually used when queen raising having produced sealed q. cells
Standard mating nucs have 1 – 2 frames of brood and one of food (sealed) and additional young bees
Mini nucs are a cupful of bees in a small polystyrene box – needs supervision, feeding, brood removal

Q15a). Explain the signs of queenlessness and how a beekeeper could confirm this condition.7

***No queen, virgin or queen cell seen on inspection**
***The appearance of emergency queens cells**
***No eggs and eventually no brood**
After about 24 hours of queenlessness the foraging will be reduced
*Apathy among the workers, or increased aggression
Cells not polished ready for laying
Colony sounds different when opened – distinctive roar.
Colony starts to dwindle in size after about 3 weeks.
Pollen does not usually go mouldy as they will still use it.
Not answered this part of the question:
Confirmation is to put in a frame of eggs and young brood from another colony.
If there is no queen, either virgin or fertile, queen cells will be started.

b) Describe the differences between a colony containing a drone laying queen and laying workers. 8

***Drones in worker cells with typical raised dome cappings**
Drones produced are small and stunted – cell too small.
Eventually as workers die off brood will be neglected showing signs similar to EFB, known as Neglected Drone Brood

DLQ: Queen may be seen to be present
***The brood pattern will be orderly (compact patches of brood)**
*If running out of semen, normal worker brood will be interspersed with drones in worker cells

LW: Brood pattern is scattered and haphazard.
***Laying workers lay more than one egg/larvae in a cell and on the side walls.**
Laying workers endeavour to build charged queen cells

Ref: Hooper Ch 9

Section C 30 marks

Q17 Outline the content of an 'Introduction to beekeeping' talk to a group of potential new beekeepers to cover the following topics: - the reason for keeping bees, acquisition of bees, acquisition of ALL necessary equipment, and advice on selecting the apiary site. **30**

Why keep bees – interesting hobby, get a return in honey/hive products, pollination, , environment, make friends/companionship, joining an association, insurance, being mentored, work with someone for a season, get stung, *read about the subject, learn

Acquiring bees:
*Course before starting with bees/*go spend time with beekeeper
Danger second hand, disease, never use second hand comb not accompanied by bees
*Sourcing bees – *local if possible, *disease free,
*Beekeeping suppliers
*Suggest starting small – *nuc, grow with the beekeepers experience
Suggest two as basic number of colonies and why
Cost
Training and BeeBase for advice etc
*Swarm and advantage and disadvantage
Charge/reimbursement of expenses for collection swarms– go with mentor
*Package

Protective equipment type and cost:
*Overall and veil, *boots, gloves – *disposable or disposable over fine leather – reason for
Manipulating equipment:
*Hive tool and *smoker, as minimum including cost
bucket for wax bits, bucket for washing soda solution/hygiene
bee bits – queen cage, paint
Hive furniture:
*Problems with second hand (*disease, poor fit etc)
*Could put onto clean comb
Types of hive : where to source, cost, etc
Different hive type used locally
*Minimum: *OMF, *brood body, *queen ex., supers (2), frames and foundation, *cover board, *roof, feeders
Additional for swarm control, floor, brood, frames and foundation, cover and roof.
Nuc box, and swarm collecting box/skep/cardboard box
Recording progress – record cards

Dealing with the honey crop – costs of equipment.
Removal of supers:
*Escape boards or Porter escapes
*Basic need, extractor, settling tank, strainer, buckets, jars
*Use of association equipment might be included
Location for extraction – need to keep the peace with the family if using kitchen

Shed or storage facility – bee tight

Location of apiary:
home or out apiary or association apiary whilst learning and for mentoring
*Home consideration of family and neighbours and how to keep the peace
*Flight line up
Avoid footpath/public/*public view
Swarm prevention
*water supply
Out apiary – permission, *security from vandals and livestock
*In both cases the forage that would be available throughout the season, eg??
*Vehicular access, apiary not too far from home, petrol price
Location of hives on site – space to manipulate, prevent drifting,*avoid frost pocket, wind, *have winter sunny spot, access to water, *avoid areas that flood
*Layout to avoid drifting

Ref: Thornes catalogue for costs, Hooper Total 30 marks

This may seem an easy question, but it is easy to leave out relevant details, such as the reason for acquiring bees and the cost involved. My advice would be to pencil an outline to the question so as not to miss points.

In general your paper was well answered, indicating some experience handling stocks of bees, but a lack of experience writing down answers for this examination. You gave full sentences in section B.

Joining the BBKA Correspondence Course would help with getting your thoughts organised and get you used to answering questions. The course is currently run by Chris Utting, Coden, Golf Links Road, Westward Ho, Bideford, Devon EX39 1HH . Another way is to set up a group of beekeepers and answering previous question papers and/or using one member who has joined the correspondence course. ~This is a very enjoyable way of getting experience answering these modular examinations.

Well done again for achieving a credit in this paper.
I hope you find my comments useful and wish you all the best and success with future modules.

Yours sincerely,

Margaret Thomas (BBKA Examinations Moderator).