

Harper Adams University

AMTRA SQP Assessments:

Sample Questions with Answers



Harper Adams
University



ANIMAL MEDICINES TRAINING REGULATORY AUTHORITY

18 July 2017

Veterinary Nurse Top-Up Examinations

Example Scenario: 40% (40 marks)

You are working as a C-SQP in a veterinary surgery that is registered as an approved premise with the VMD.

A lady, recently moved to the district and who has never been to a local vet practice, brings her collie into your parasite clinic. She expresses concern over a white caterpillar-like thing she has seen moving over her dog's bottom. Her neighbour says it is a tapeworm. She is concerned for the health of her children.

Discuss the information you must obtain from her, what you must record and what sort of product or products, if any, you would supply. Discuss the limitations on the products you could currently supply as an SQP. What advice would you give her and why?

Answers to scenarios will vary There are lots of "right" answers, but they should include the following information:

- General advice specific to any question the "customer" may ask in the scenario. This may include information about specific parasites, human health risks, management methods to reduce risk e.g. hand washing and poop scooping etc.
- The questions that should be asked in order to gain enough information to make an appropriate product decision (if the candidate chooses to do this in a question and answer way, this is fine, but a short explanation on why the question is relevant would gain more marks).
- An explanation of what the chosen product will, or will not do.
- Any relevant contra-indications and warnings relevant to the specific product chosen
- Details of administration of the chosen product: dose, frequency and exactly HOW to administer the product. Confirmation you are satisfied the owner is competent.

- How to Store the chosen product.
- Disposal of remainder of product and packaging.
- Best practice on records.
- Please note mark less than a pass mark will be awarded for this question if insufficient information is given, significant errors made, or if the animal is endangered by supply of a product that is not licenced for it, disregard of relevant contraindications (e.g. potential pregnancy and some products), or inappropriate dose rates.

Example Short Answer/Multi-Choice questions – 60% (60 marks) more than half Legislation, Some Parasite/Product, administration etc. based.

1) Draw lines to link the category of medicine with the group who may **SUPPLY** it

(2)

Medicine Category	Who can supply the medicine category?
POM-V	Anyone
POM-VPS	SQP
NFA-VPS	Vet and Pharmacist
AVM-GSL	Vet Only
	Vet, Pharmacist and SQP

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- 2) The supply of products permitted to be supplied by a suitably qualified person must take place from premises approved by the Secretary of State. Outline the requirements for such a building.

(4)

- Permanent building. Not have any areas for sale, supply or storage within residential house. Must be made secure, constructed to meet product storage criteria. Regularly maintained and cleaned. Action to minimise pest and vermin entry.
- Store POM-VPS's in area which public do not have access to. Can display AVM-GSL products for customer self-service. Storage of meds away from area used for storage, supply and consumption of human foods and not in the toilet.
- Contain firefighting equipment. Clear emergency exits and access maintained. Smoking prohibited in storage areas

- 3) Discuss the criteria which a medicine has to satisfy to be granted a marketing authorisation under EU law.

(3)

- Safety – Animal, User, Public, Environment
- Quality – Control of manufacture
- Efficacy – Does what it says it will

- 4) When a customer reports to you that they believe that there may have been a suspected adverse reaction to a medicine purchased from you, you should;

(1)

- A. Advise them to contact the manufacturer
- B. Advise them to use another product in future
- C. Report this to VMD**
- D. Advise them to report the problem to AMTRA

- 5) A C-SQP must not infringe the Veterinary Surgeons Act. This means they must not;
- (1)
- A. Give advice on parasites
 - B. Advise on medicines
 - C. Diagnose a disease condition
 - D. Work out the correct dose for the client
- 6) Which of the following statements is **false**?
- (1)
- A. A SQP must keep records of all outgoing transactions of POM- VPS products, which includes products sold and out of date products disposed of.
 - B. A SQP must keep the following information for all products sold for a minimum of 5 years – name and quantity of product sold, batch numbers, name and address of customer, identify of animal, date of supply.
 - C. A SQP must keep the following records for all authorised medicines coming into the registered premises – name of product quantity, name of supplier, batch numbers.
 - D. A SQP must do at least an annual physical check of the authorised medicines held in their store
- 7) Why is control of tapeworms important in dogs exercised on farm land?
- (2)
- Both *Taenia* and *Echinococcus* tapeworms of dogs use sheep as an intermediate host. Sheep can be infected from infected dog faeces can damage their health and productivity.
 - If dogs eat material from infected sheep carcasses or offal they can become infected with *Taenia* or *Echinococcus* tapeworms and for *Echinococcus* this could be transmitted to man through an infected dogs faeces.

- 8) Suggest a product (or active ingredient) that you, as a SQP supplying on your own responsibility, could supply to control all tapeworms in a cat.

(1)

Correct answers would include – Droncit Spot On, Droncit tablets, Drontal Cat or Prazitel, Cazitel, Extrontel etc but NOT Panacur or any POM-V product

AMTRA SQP: Base Module Examinations

In the Base module exam, of the 100 marks available, approximately 45 will be based on the legislation section of the manual, (Section 1) the code of practice, other supporting documents and the SQP Compendium. Approximately 15 marks will be based on Section 2 of the manual and other supporting documents. Approximately 40 marks will come from Section 3 of the Manual and related elements of the SQP compendium.

The following questions are a sample of the styles of questions that may be asked in the Base exam. Ninety minutes are allocated for this exam.

- 1) APHA is responsible for which of the following? (1)
- A. Keeping a new register of SQP's
 - B. Inspecting new licensed premises
 - C. Identifying the need for new medicinal products and registering them
 - D. Controlling endemic and exotic diseases**
- 2) Which of the following statements are correct? Choose A, B, C or D. When prescribing and supplying a POM-VPS or NFA-VPS medicine, a SQP must: (1)
- i) Be satisfied the user is competent to use it safely.
 - ii) Specifically advise on contraindications and warnings for the product supplied.
 - iii) Be satisfied the person intends to use it for the authorised use.
 - iv) Talk to the customer face to face.
 - v) Take any available health plan into account.
 - vi) Only supply a customer if they are over the age of 18.
 - vii) Keep products in a locked cabinet until sold.
 - viii) Advise on safe administration of the product supplied.
- A. All of these
 - B. i), ii), iii), iv) and viii)
 - C. ii), vi), vii) and viii)
 - D. i), ii), iii), v) and viii)**

- 3) Draw lines to link the category of medicine with the group who may **SUPPLY** it
(2)

Medicine Category	Who can supply the medicine category?
POM-V	Anyone
POM-VPS	SQP
NFA-VPS	Vet and Pharmacist
AVM-GSL	Vet Only
	Vet, Pharmacist and SQP

Medicine Category	Who can supply the medicine category?
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- 4) An SQP is required to be able to use the SQP compendium. Using the compendium available to you, indicate which of these products is to be administered orally.

(1)

- A. Frontline Spot on Cat
- B. Panacur Equine Granules**
- C. Ovipast Plus
- D. Animec Super

- 5) Which pair of organs is contained in the thoracic cavity

(1)

- A. Lungs and heart**
- B. Liver and spleen
- C. Liver and lungs
- D. Heart and pancreas

- 6) Name two abdominal organs that are not part of the gastro intestinal tract , but contribute to digestion

(2)

- i) **Liver- secretes bile to intestines for fat digestion**
- ii) **Pancreas – secretes enzymes into intestines for digestion of food**

- 7) Describe how a baby animal gets the maximum benefit from colostrum.

(3)

A newborn animal must drink the first milk = colostrum in initial 24 hours – preferably less than 6 hours post parturition In this time period antibodies are absorbed then circulate and protect animal for significant duration as passive immunity. After 24 hours post parturition antibody absorption is much less effective. Aim to consume 5% body weight colostrum in initial 6 hours then a further 5% before 24 hours old. Colostrum may be of benefit after this time in reducing gut disease – even though antibodies no longer absorbed.

- 8) What are pheromones?

(1)

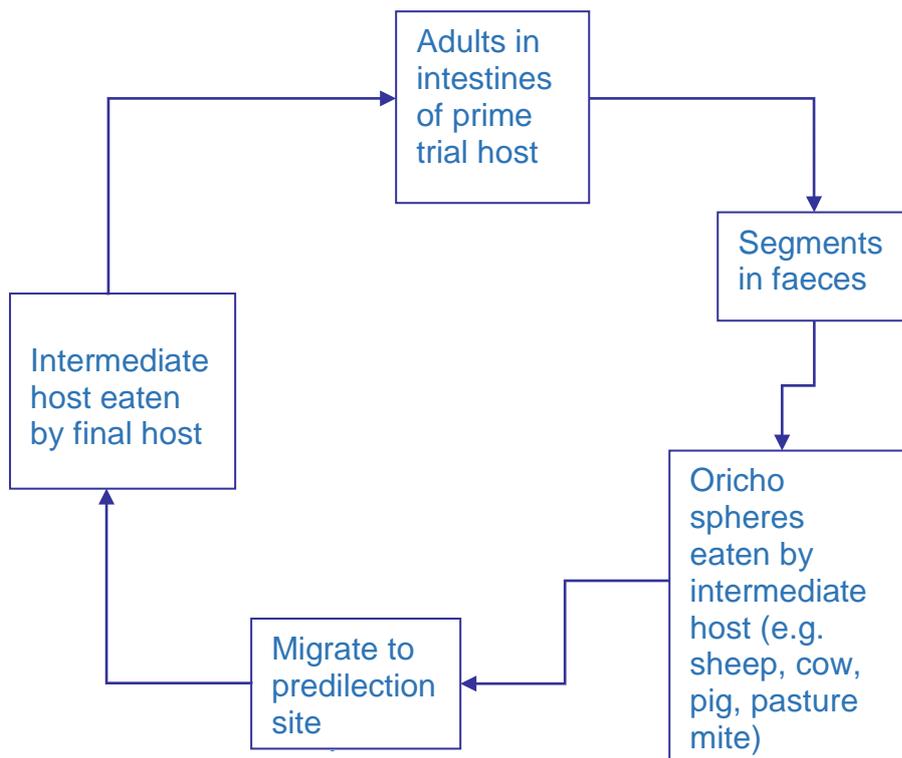
Scent transmitted from specialised skin glands to give other animals information re territories, reproductive status etc.

- 9) Name a protozoa of your choice, state an animal species it may infect and a potential ill effect of a heavy infection in that animal (2)

Lots of possible correct answers e.g. Coccidian, infect calves (or poultry, lambs, rabbits etc.) and heavy infections can cause severe gut damage and scours.

- 10) Briefly describe (or draw) the life cycle of a tapeworm, say where it lives and how it feeds. Suggest how an animal can become infested for the first time. (5)

Uses an intermediate host in its lifecycle which have eaten eggs from the adult tapeworm passed out in definitive hosts faeces. The adult lives in the gut of its definitive host and feeds by absorbing food digested by host therefore competes for it leading to weight loss in animal. Intermediate host infested by picking up eggs from environment; inside the intermediate host the eggs develops to a tissue cyst stage. Prime host only infected by eating this cyst, usually with the intermediate host.



- 11) Briefly describe three reasons why underdosing an animal with a medicine is undesirable (3)

Any three from:

- i) Lead to poor efficacy, compromising animal welfare
- ii) Lead to poor efficacy requiring repeated treatments
- iii) Reduce the duration of protection, if the product has persistent activity
- iv) Be a risk factor in the selection of resistance

- 12) What are nutraceuticals and what is the position on these regarding VMD licencing? (2)

Oral products to create an effect or correct a deficiency. Some are medicines licenced by VMD, others are marketed as nutritional supplements and are not licenced medicines.

- 13) What is the difference between a “Notifiable Disease and a “Zoonotic Disease” and give an example of each (3)

Zoonotic diseases can be transmitted naturally between animals and humans. Notifiable Diseases are listed under the Animal health Act 1981, which, in practice, must be notified to APHA if an animal is suspected of having one. They may, or may not be zoonotic.

Any of a large number of examples:

Zoonoses: Salmonella, campylobacter, ringworm, sarcoptic mange, Bovine Tb etc.

Notifiable: Foot and mouth disease, rabies, Bovine Tb, BSE, Equine Infectious Anaemia. Avian Influenza.

AMTRA SQP: Farm Animal Module Examinations

There is no project in the new farm animal module. It is replaced with a new section in the exam paper. Section A is based on a farm scenario with questions which MUST be answered using the data and subsequent information from the case study farm you will be sent on registering for your farm animal exam date.

The farm scenarios will vary over time so ensure you are tying your answer to the specific farm scenario you have been given. This scenario will also be provided in the exam room.

One of the following questions will appear on your exam paper. There will be no choice.

(40%)

- 1) *Suggest any further questions you should ask and any management advice you would give in the control of ectoparasites in all cattle on the farm.*

Create and justify a control plan for ectoparasites in all cattle of all ages on this farm for an entire season. Justify your plan and product choices.

Detail the advice you would give to the Browns on supply of these products and for this farm and these products indicate what else you should do as an SQP

- 2) *Suggest any further questions you should ask and any management advice you would give in the control of ectoparasites in all sheep on the farm.*

Create and justify a control plan for ectoparasites in all sheep of all ages on this farm for an entire season. Justify your plan and product choices.

Detail the advice you would give to the Browns on supply of these products and for this farm and these products indicate what else you should do as an SQP.

- 3) *Suggest any further questions you should ask and any management advice you would give in the control of endoparasites in all cattle on the farm.*

Create and justify a control plan for endoparasites in all cattle of all ages on this farm for an entire season. Justify your plan and product choices.

Detail the advice you would give to the Browns on supply of these products and for this farm and these products indicate what else you should do as an SQP

- 4) *Suggest any further questions you should ask and any management advice you would give in the control of endoparasites in all sheep on the farm.*

Create and justify a control plan for endoparasites in all sheep of all ages on this farm for an entire season. Justify your plan and product choices.

Detail the advice you would give to the Browns on supply of these products and for this farm and these products indicate what else you should do as an SQP

- 5) *Suggest any further questions you should ask and any management advice you would give in the use of POM-VPS vaccines in all cattle on the farm.*

Create and justify a plan on the use of POM-VPS vaccines in all cattle of all ages on this farm for an entire season. Justify your plan and product choices.

Detail the advice you would give to the Browns on supply of these products and for this farm and these products indicate what else you should do as an SQP

- 6) *Suggest any further questions you should ask and any management advice you would give in the use of POM-VPS vaccines in all sheep on the farm.*

Create and justify a plan on the use of POM-VPS vaccines in all sheep of all ages on this farm for an entire season. Justify your plan and product choices.

Detail the advice you would give to the Browns on supply of these products and for this farm and these products indicate what else you should do as an SQP

Answers will depend upon the scenario but should include appropriate questions, general advice to control the issue including husbandry and management, product choice and specific advice that should go with that product. The programme should include specific products that are suitable for that farm and choice should be explained and use justified. There will be a wide range of possible “correct answers”. Sustainable use of medicines should always be considered. Other requirements of the role of a farm animal SQP must be included, such as storage, administration techniques disposal of waste product/ needles records etc.

Section B. There will be no choice in the questions. The questions will relate to the scenario farm you have been given and will cover a range of species and topics. Answers are expected to be specific to the farm given, and if relevant should include specific example products

(30%)

- 1) Discuss how management of the poultry on this farm may predispose to an outbreak of coccidiosis and suggest ways to avoid this.

(6)

The answer to this will depend upon the specific farm given and should be made relevant to the farm. It should not be just general principles but include specific advice and specific example products where appropriate, but could include relevant points such as repeated use of the same buildings for different groups, Intensive housing, lots of young stock together, lack of a vaccination programme

Ways to avoid would include using steam cleaning between batches and/or a disinfectant product effective against coccidial oocysts such as "coxicur", vaccination e.g paracox for the chickens , though this does not come in less than 1,000 doses, use of medicinal feed additives etc. Timing of use of products should be included if relevant

- 2) What questions should you ask Mr Brown before prescribing and supplying wormers for his pig herd?

(4)

The answer to this question should relate directly to the description of the pig enterprise discussed in the farm scenario given.

Relevant questions may include:

Any Farm Health plan, Numbers, weights and ages of pigs, management (in or out), last products used, any indications of sarcoptic mange infestation, any evidence from slaughter of worm infection in past, any WEC done, general health, handling facilities, preference/ competence for injectable or in feed medication.

Example Short Answer/Multi-choice Questions – 30%. May include relevant farm animal legislation

- 3) In the control of sheep scab, what must you also supply if the active ingredient of a veterinary medicinal product is an organophosphorus compound? (1)

A double sided laminated notice of at least A4 size, meeting specs of VMD and two pairs of appropriate gloves.

- 4) Briefly describe TWO ways of eradicating sheep scab from a flock. Be specific if you intend to suggest using pharmaceutical products. (2)

Use of organophosphorous (OP) - dip to all sheep in the flock, ensuring all sheep are in the dip for 1 minute and the head is under the dip once.

Avermectin injection – 2 doses of shorter act product or 1 dose of longer to all sheep in the flock

- 5) When and in what class of animal does Nematodirus disease occur? Suggest **TWO** ways it could be prevented. (3)

Specific infection of lambs in spring – usually late April to early June.

Controlled by not grazing this year's lambs on ground grazed by lambs the previous year until the pasture is cleared of infective larvae in July.

Treatment – 3 weekly worming of lambs reduces damage and reduces contamination of the ground for next year.

- 6) Under what sort of conditions is it most common to see acute fluke disease in sheep? (1)

Late autumn/early winter sheep grazing on wet, muddy fields therefore those that support intermediate host = snail *Galba truncatula*.

- 7) A farmer comes to you concerned about the possibility of rumen fluke in his herd of beef stores. It is November. What should you suggest and why? (2)

He should speak to his vet as there is no product licenced for treatment of rumen fluke so an SQP could not supply a product. A vet could advise if treatment is necessary and either supply a product or a prescription for a product “off licence” under the cascade

- 8) Mrs Smith is concerned to check whether there is anthelmintic resistance to her current anthelmintic. Describe how she can get a rough indicator of any resistance currently present (3)

Rough indicator can come from a post-dosing faecal egg count (“Drench Test”). Taking 10 samples 7-16 days after dosing (interval will depend on anthelmintic used) pooling them and having worm egg count done, A better assessment will include taking a pooled sample on the day of dosing too – to demonstrate there was a positive worm egg count to start with. The FECRT will provide more accurate results if the “drench” test proves suspicious.

- 9) A farmer asks for some bolus for worm control in his cattle. Give 4 questions you should ask which are relevant to this request. (2)

Questions could include 4 of the following:

- Animal Health Plan
- Weight of animals
- Number
- Handling facilities
- Competence of staff to administer
- When are they going to calve(dairy) / go to slaughter (beef)
- Need / management (risk of parasites)

AMTRA SQP: Equine Module Examinations

Example Scenario (20 marks) (Choice of 1 out of 2)

In September a new (pony) owner, with no previous experience of horses, has just purchased a pony from a large riding stables. She has not yet taken delivery. She has heard about tapeworms, thinks they sound disgusting, but wants to know what they are and what she can do about them. The pony was recently wormed with “Panacur.” Her new pony will be grazed on a field that has never had horses on it. Describe what tapeworms are to this new owner, how they might affect her pony and how she could control them. Discuss what she should do, if anything, now (September). If you recommend the use of any product explain how and when to use or administer it. Give any other advice relevant to your SQP role. What information must you obtain from the new owner?

There are lots of “right” answers to this question, however they should include the following points:

- General advice specific to any question the “customer” may ask in the scenario. This may include information on epidemiology of specific parasites, management methods to reduce risk e.g. pooh picking, use of quarantine dosing if applicable, use of FEC or other available tests and the issues on wormer resistance, how to get equine weight.
- The questions that should be asked in order to gain enough information to make an appropriate product decision (if the candidate chooses to do this in a question and answer way, this is fine, but a short explanation on why the question is relevant would gain more marks).
- An explanation of what the chosen product will, or will not do.
- Any relevant contra-indications and warnings relevant to the specific product chosen.
- Code of Practice section 34 information on supply of chosen product relevant to passport status.
- Details of administration of the chosen product: dose, frequency and exactly HOW to safely administer the product.
- How to Store the chosen product (risks to other species).
- Disposal of remainder of product and packaging.
- Records required.
- Please note mark less than a pass mark will be awarded for this question if insufficient information is given, significant errors made, the animal is endangered by supply of a product that is not licenced for it, disregard of relevant contraindications (e.g. potential pregnancy and some products), inappropriate dose rates or failure to undertake section 34 of Code of Practice.

Example Short Answer/Multi-choice Questions – 50% (30 marks)

- 1) What should a J-SQP do when presented with a prescription for a POM-VPS animal medicine for a sheep?

Advise the client that they are unable to supply this product and recommend another SQP – R-SQP/L-SQP/K-SQP/G-SQP, vet or pharmacist

- 2) Complete filling in the table giving the group name / code of the **three major anthelmintic groups** used to control nematodes in horses, an example of the active ingredient, an example trade name and a parasite against which they are effective.

(3)

Class	Active Ingredient	Product example	Example Parasite Controlled
1BZ	Fenbendazole	Panacur	Strongyles
2LM	Pyrantel	Pyratape - P	Tapeworms
3AV	Ivermectin	Equivalan	Bots

- 3) What is the difference between a concentrate and a roughage?

(2)

Concentrate feeds (e.g. competition mix for horses) are those which provide proportionately larger amount of nutrients compared to a roughage (e.g. grass, hay etc.). A concentrate has been manufactured so that it appears in pellet or mix form or could be straight grains. Significantly less concentrate needs to be feed than roughage to provide the required energy. Roughage feeding, e.g. hay, grass, haylage, is essential to maintain digestive health in the horse (and there has been considerable research into the link between high concentrate diets and gastric upset particularly in Thoroughbred racehorses)

- 4) Briefly explain three ways the risk of development of an anthelmintic resistance problem on a livery yard could be reduced.

(3)

- Three from the following (or other suitable answers):
- Quarantine treatment of new horses coming onto the premises.
- Faecal egg counts to identify high egg shedders.
- Saliva test to identify need for tapeworm doses.

- Don't worm without established need i.e. Faecal Egg Counts (FECs) to identify positive counts.
- Poo pick or machine pick pastures.
- Rotate graze with other stock species.
- Each horse / small group to have dedicated paddock (reduce sharing of pasture and parasites).
- Ensure horses are weighed (weigh taped +10%) to ensure full dose of wormer given.
- Competent staff to oversee worming to ensure good technique and horses get full dose.
- Change wormer groups where practical

AMTRA SQP: Companion Animal Module Examinations

Example Scenario (50%) (Choice of 1 out of 2)

A new client comes into your approved premises. She has recently moved into the area and wishes to worm her cat. It is a cat which hunts and eats mice, though it lives in the house. When it was vaccinated as a kitten her vet told her to ensure it was wormed regularly.

Discuss what information you would give the cat owner, what product or products, if any, you would sell and what advice you would give about how and when to administer the product or products. Give any other advice relevant to your SQP role. What information must you obtain from the new owner and what must you record?

Answers to scenarios will vary There are lots of “right” answers, but they should include the following information:

- General advice specific to any question the “customer” may ask in the scenario. This may include information about specific parasites, human health risks, management methods to reduce risk e.g. hand washing and poop scooping etc.
- The questions that should be asked in order to gain enough information to make an appropriate product decision (if the candidate chooses to do this in a question and answer way, this is fine, but a short explanation on why the question is relevant would gain more marks).
- An explanation of what the chosen product will, or will not do.
- Any relevant contra-indications and warnings relevant to the specific product chosen.
- Details of administration of the chosen product: dose, frequency and exactly HOW to administer the product.
- How to Store the chosen product.
- Disposal of remainder of product and packaging.
- Best practice on records.
- Please note a mark less than a pass mark will be awarded for this question if insufficient information is given, significant errors made, or if the animal is endangered by supply of a product that is not licenced for it, disregard of relevant contraindications (e.g. potential pregnancy and some products), inappropriate dose rates, or animal not being sufficiently heavy for product chosen.

Example Short Answer/Multi-choice Questions – 50% (30 marks)

- 1) Briefly describe the options on how to safely administer tablets to a dog (4)

The safest way is to offer as a treat, or wrapped in a little flavoured food, or in a small amount of tasty food when the dog is hungry. If that does not work ask an assistant to hold the dog gently but firmly sitting on a non-slip surface. Grasp the muzzle of the dog and raise the nose vertically upwards. The mouth will start to open. With your second hand open the lower jaw and place the tablet at the very back of the tongue. Close the mouth and hold it closed while stroking the throat to encourage swallowing and praise the dog. Offer a treat after to make it easier next time. Wash your hands

- 2) Suggest a product (or active ingredient) that you, as a SQP supplying on your own responsibility, could supply to control all tapeworms in a cat. (1)

Correct answers would include – Droncit spot on, droncit tablets, Drontal Cat or Prazitel, Cazitel, Extrontel etc but NOT Panacur or any POM-V product.

- 3) If a new client walked into your premises and said they thought their dog had mange and asked your advice, what would you do?

Diagnosis always needed and no appropriate products currently in VPS range. Suggest client consults a vet.

- 4) Why is control of tapeworms important in dogs exercised on farm land? (1)

Both Taenia and Echinococcus tapeworms of dogs use sheep as an intermediate host. Sheep can be infected from infected dog faeces can damage their health and productivity.

If dogs eat material from infected sheep carcasses or offal they can become infected with Taenia or Echinococcus tapeworms and for Echinococcus this could be transmitted to man through an infected dogs faeces.

AMTRA SQP: Avian Animal Module Examinations

Example scenario (50%) Choose one out of two

Mrs White has a backyard flock of chickens. She uses eggs from the laying birds primarily for home use and baking. The birds are housed in small groups in “arks” on pasture which are moved on a regular basis. Some of these birds are commercial layers, others are rare breeds. Every year she uses bantams to rear some chicks from the purebred birds, keeps some and sells others as point of lay “trios”.

Mrs Jones has been talking to her friends who suggest a regular worming programme may improve her egg output. He asks for your advice and if suitable something to worm the birds.

Describe what poultry worms are, the effects they may have and how she could control them. Discuss what she should do, if anything, now (September). If you recommend the use of any product explain how and when to use or administer it. Give any other advice relevant to your SQP role. What further information must you obtain from the owner?

Answers to scenarios will vary There are lots of “right” answers, but they should include the following information:

- General advice specific to any question the “customer” may ask in the scenario. This may include information about specific parasites, human health risks, management methods to reduce risk e.g. disinfection, quarantine.
- The questions that should be asked in order to gain enough information to make an appropriate product decision (if the candidate chooses to do this in a question and answer way, this is fine, but a short explanation on why the question is relevant would gain more marks). This really must include some confirmation on whether the birds, or products from the birds will be sold, as if so this reduces the products available.
- Numbers, management, quarantine procedures replacement strategy.
- Flock Health plans may all be relevant depending on the information already given.
- An explanation of what the chosen product will, or will not do.
- Any relevant contra-indications and warnings relevant to the specific product chosen.
- Details of administration of the chosen product: dose, frequency and exactly HOW to administer the product.
- How to Store the chosen product.
- Disposal of remainder of product and packaging.
- Records for SQP and bird owners.
- Please note, a mark less than a pass mark will be awarded for this question if insufficient information is given, significant errors made, if the animal is

endangered by supply of a product that is not licenced for it, disregard of relevant contraindications, supply of a product not licenced for that use (e.g. home “pet” flock differs from flock with any commercial use).

- 1) Briefly give three reasons why control of red mites in a backyard poultry flock can be difficult (3)

Three from:

- The mites are on a bird at night to feed, but live in cracks in the housing during the day.
- The life cycle is short (can be 7 days) so infestations build up quickly.
- As the mites can survive without feeding for 5-6 months, housing can remain infested for a long time, even if not used.
- There is no licenced medicine to treat the birds.
- It is difficult to get suitable disinfectants down into the tiny cracks the mites live in.
- Other relevant points.

- 2) Describe three ways a poultry vaccine can be administered, giving an example of a vaccine that is administered by that route for each (6)

Description of method of administration	Example vaccine
In drinking water via in line dose medicators or through header tanks. Water should be withheld for two hours first to improve uptake	Nobilis MA IB5
Course Spraying the chicks at the hatchery using a food dye to increase uptake of the spray drops by the birds	paracox
Intramuscular injection into either thigh or breast muscle	Cryomarex rispens

Note there are many other right answer that could include a description of subcutaneous injections, in feed oculonasal drops.

- 3) Give three risks in handling aviary birds (3)

Any three from:

- Wings are delicate and must be held in their natural position.

- Birds use airsacs to breath and thus must not be held too tightly.
- Some such as parrots and parakeets can bite hard. Raptors may use their talons to damage the handler.
- Birds that are not used to being handled can suffer badly from stress and die.