Certificate in Cattle Health and Production 2011

Please view the general documents to obtain copies of:

- Timetable
- B.1: Guidance Notes for candidates on general requirements.
- G. Role of Advisers to Certificate Candidates.

The following papers are enclosed:

- B.2: Specific Guidance Notes for the Certificate. These notes explain what is required in terms of experience and in terms of the content of the Certificate examinations.
- C: Syllabus and Commentary for the Certificate.
- D: Reading list.
- E: Application Forms E.1A, E.2.
  - E.1A - for specific details of practice
  - E.2 - for final approval of experience and for permission to submit an entry to the examination
- F: List of Advisers – also refer to Lists of Certificate holders in Register of Members.

A copy of the most recent Examination Question Paper is enclosed for your information.

April 2011
THE CERTIFICATE IN CATTLE HEALTH AND PRODUCTION

SPECIFIC GUIDANCE NOTES FOR CANDIDATES
[These notes must be read in conjunction with the B1 General Guidance Notes to Candidates]

MEMBERSHIP OF THE ROYAL COLLEGE OF VETERINARY SURGEONS

1. It is a requirement of the Cattle Health and Production Board that ALL Candidates entering for the Certificate are Members of the Royal College of Veterinary Surgeons (MsRCVS).

GENERAL ADVICE FROM THE BOARD

2. The Board wishes to stress the importance of extensive reading around the subjects of the syllabus, particularly of those books recommended in the reading list. It is suggested that candidates might find it helpful to make an opportunity to practice written examination techniques – particularly in the time allowed for the papers.

3. Particular attention is drawn to the fact that candidates will be expected to be competent in their knowledge of management and production systems, feeding and formulation of diets, the economics of agriculture.

4. If you are working on a day to day basis in veterinary activities such as the treatment and the economics of cattle production, and wish to have your knowledge and practical expertise tested and recognised at a level at least two years’ full-time or four years’ part-time beyond that of a newly qualified graduate, you can apply to the RCVS to enrol as a prospective examination candidate.

5. You must be prepared to gain the necessary theoretical knowledge called for in the syllabus by utilising the reading list, by private studies and by attending sufficient short courses and meetings. The Certificate examination is held annually – and you must apply to the RCVS for approval of your experience and permission to submit an examination entry not later than 1 November in the year preceding the examination.

6. Normally, graduates working in the field of cattle health and production should enrol at the beginning of the minimum experience period required prior to the Certificate examination. However, those veterinary surgeons who are already sufficiently experienced may combine an enrolment application with an application for final approval of experience. All prospective candidates are, however, urged to allow adequate time to study the syllabus and to prepare the three case reports. The latter are an important part of the examination and before embarking on the preparation of the reports, candidates should discuss their content and format with their adviser.

7. It is strongly recommended that all candidates should be in regular contact with their adviser during the course of their studies. In addition it is recommended that they have at least one talk with an individual who has been an Examiner for the Certificate in Cattle Health and Production.
SPECIFIC EXPERIENCE

8. Candidates may gain experience for a Certificate, (a) at an approved centre for their subject or (b) at an approved practice.

Approved Centre Route

9. "Approved centre" means a centre approved by the Board where the candidate works and is primarily occupied in the subject concerned, where there is one or more appropriately qualified colleagues, such as RCVS Specialists, RCVS Diplomates or those considered by the Board to have equivalent experience or qualifications, through which centre there can be shown to pass a substantial number and variety of relevant cases, where advanced veterinary work in the subject concerned is practiced, where there are appropriate ancillary support facilities, and where there is access to adequate library facilities. The Board may, at its discretion, approve a number of centres, each of which may offer experience in different parts of the syllabus.

10. Candidates following the approved centre route will not be permitted to enter for the examination until they have been Members of the College or held an approved veterinary qualification for at least two years and have gained experience in the subject over at least two years.

11. Applications for approval of a Centre must be made directly by the Centre to the RCVS and not by the candidate. An application form can be obtained from the RCVS.

Approved Centres for Cattle Health and Production

12. The following establishments have been granted Approved Centre status.

<table>
<thead>
<tr>
<th>CENTRE</th>
<th>DIPLOMATE/SPECIALIST</th>
<th>STATUS</th>
<th>APPROVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm Animal Practice University of Bristol</td>
<td>Dr A J Bradley MA VetMB DCHP PhD DiplECBHM MRCVS</td>
<td>Re-Approved November 2007 Expires November 2012</td>
<td>YES</td>
</tr>
<tr>
<td>University of Glasgow Division of Farm Animal Medicine and Production</td>
<td>Mr D C Barrett BVSc BSc DBR DCHP DiplECBHM MRCVS</td>
<td>Re-Approved November 2007 Expires November 2012</td>
<td>YES</td>
</tr>
<tr>
<td>Division of Livestock Health and Welfare University of Liverpool</td>
<td>Dr R F Smith BVSc BSc PhD DiplECBHM MRCVS</td>
<td>Approved November 2007 Expires November 2010</td>
<td>YES</td>
</tr>
<tr>
<td>University of Liverpool</td>
<td>Dr J N Huxley BVetMed PhD DCHP DiplECBHM MRCVS</td>
<td>Approved November 2008 Expires Nov 2013</td>
<td>YES</td>
</tr>
</tbody>
</table>
Approved Practice Route

13. “Approved practice” means general veterinary practice or another branch of the profession or area of veterinary employment approved by the Board in the case of the candidate.

14. Candidates following the approved practice route will not be permitted to enter for the examination until they have been Members of the College or held an approved veterinary qualification for at least three years and have gained experience in the subject over at least two years.

15. There is no separate application form other than the candidates’ applications forms enclosed within this information pack. Practices are approved for each individual candidate.

16. The Board has discretion to increase the requirements for experience for any candidate above the minimum specified if it is considered to benefit the candidate.

17. Experience offered must have been obtained within the previous five years, or after enrolment, and no period of experience can be offered to meet the requirements for more than one RCVS Certificate or Diploma. Applicants should, preferably, be studying for no more than one qualification at a time. Equally it is preferable for a candidate to take only one examination in any one year.

18. Candidates should refer to the introduction to the syllabus for an indication of the type of experience required, and this should include routine farm attendance on pre-arranged dates to a minimum of three herds. Candidates are asked to give as much detail as possible in their replies to the questions on forms E1, E1A and E2.

THE EXAMINATION

19. The examination consists of three Sections:
   (a) 3 case reports
   (b) TWO x 2 hour written papers, and
   (c) a clinical, oral and practical examination.

SUBMITTED WORK FOR EXAMINATION

Number and Format

20. Candidates are required to submit THREE case reports, of which one must deal with a herd fertility problem. The other two must not come from the same section of the syllabus as each other, but one may come from the same section as the herd fertility problem. Only one case report may deal with a single animal. It should be noted that most fertility problems are ongoing so a completely rounded answer to the problem will not be expected. Preparation of each case report should follow a clear format, using headings as appropriate, e.g.:

   Complaint/Summary of case/problem;
   Background information/presenting signs/history;
   Clinical examination/signs
   Necropsy examination
21. It is expected that in all cases economic consequences should be fully discussed.

**Word Count**

22. Each case report should be concise and **MUST NOT EXCEED 3000 words** (excluding references, appendices and tables). Candidates should indicate the Word Count on the front cover of each Case Report.

23. **Three copies** must be submitted of each of the three case reports. These should not bear the candidate’s name, and should be submitted direct to the RCVS with a covering letter (a compliments slip inside each set of three reports) by the closing date of 1 March, but under separate cover from the examination entry. Each report should be given a short title and numbered 1, 2 or 3. It is preferable for each set of 3 reports to be submitted using spiral or comb binding. The information contained in case reports should be presented clearly, concisely and accurately, in typed form. **Candidates are asked to submit an electronic version of their submitted work together with their hard copies.** This will be retained at RCVS unless requested by the examiners for purposes such as checking the word count. The electronic version should be Microsoft Office 2000 or XP compatible and should be submitted on CD. Please ensure that the disks are easily identifiable by placing them in an envelope with your name, and ‘Electronic version of submitted work for Certificate in Cattle Health and Production’ marked clearly on the front.

**Grading Scheme**

24. The submitted work will be graded “Good Pass”; “Pass” or “Fail”.

25. Certificate work that achieves a “Good Pass” may be used as a sample for prospective candidates.
WRITTEN EXAMINATION

Format

26. Candidates are warned that answers should be given specifically and that illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey.

27. The format of the written papers will be as follows:

**Paper I – (2 hours)**

- **Section A** - consists of two essay type questions chosen from three each lasting 30 minutes.
- **Section B** - consists of 6 x 10 minute questions

**Paper II – (2 hours)**

- **Section A** - consists of two problem-solving questions each lasting 45 minutes.
- **Section B** - consists of 3 x 10 minute questions.

Marks Scheme

28. **Paper I** will be marked out of 50 marks
   **Paper II** will be marked out of 50 marks
   Total Mark for this Section (b) = 100 marks

CLINICAL, ORAL AND PRACTICAL EXAMINATION

29. This extends over approximately two hours (maximum) for each candidate in the following format:
   Three practical stations of 30 minutes each:

   i. Rectal/ultrasound examination/fertility with one examiner.
   ii. Foot trimming/environment and husbandry/housing with one examiner.
   iii. Individual sick animal (using a cow/bovine as a model) with one examiner.

   Oral examination - with all three Examiners (30 minutes)
30. Candidates may be questioned on their case reports and on any area of the syllabus and may gain an idea of the format of the examination from candidates or examiners from previous years. The content of the examination will be at the discretion of individual examiners. **The candidates are reminded of the need within this examination for good communication skills.**

31. Candidates should take the following equipment with them to this section of the examination and must make sure all equipment is disinfected beforehand:

- Thermometer
- Stethoscope
- Protective Clothing: Boots
- Coats/Overalls
- Parturition Gown
- Pen Torch

The following are optional but candidates may prefer to use their own rather than those provided.

- Foot Knives
- Foot Clippers
- Ultrasound Machine for examination of genital tract per rectum.

The use of a scanner for the fertility component of the examination is **COMPULSORY.** Candidates must also be proficient at manual examination of the reproductive tract.

32. The candidate's case reports may be discussed.

**Marks Scheme**

33. **TOTAL Mark for this Section (c) = 100 marks**

**SYLLABUS AND READING LIST**

34. A fairly detailed syllabus is provided. The need to have a good knowledge of the industry, its structure and current changes is emphasised. There is a special need to be aware of the economics of the industry both at national and European level and on an individual farm animal basis. The candidate should know the effect of disease on performance, its current cost and the cost-benefit of prevention and treatment. The economic importance of a veterinary surgeon to a farm enterprise must always be borne in mind and his/her ability to influence that enterprise economically.

35. A reading list is provided. However, in view of the increased access to the internet, and the easy availability of on-line literature searches, the Board has agreed that the existing reading lists should be frozen in 2002 and that in 2-3 years’ time these lists will be withdrawn altogether. In future, candidates will be expected to do their own research and encouraged to seek advice on suitable reading matter from their advisers and the RCVS Library and Information Service.
ADVISERS

36. Candidates are requested to approach an adviser, and seek their agreement to act in this capacity, in advance of their enrolment. A list of Certificate and Diploma holders in Cattle Health and Production can be found at the back of the RCVS Register of Members. It is up to candidates to take the initiative and bear any expense involved in contacting their advisers.

MEMBERSHIP OF VETERINARY ASSOCIATIONS/SOCIETIES

37. Enrolled candidates are encouraged to become Members of the British Cattle Veterinary Association:

BCVA Secretariat
The Green
Frampton on Severn
Gloucestershire
GL2 7EP

Tel: 01452 740816
Fax: 01452 741117
E-mail: office@cattlevet.co.uk

ABBREVIATION FOR QUALIFICATION

38. Successful candidates are permitted to use the abbreviation “CertCHP” after their names, in the RCVS Register and Directory, on practice plate, stationery, etc. Certificate holders who obtain the Diploma in the same subject cease to use the Certificate abbreviation.

Revised November 2001
Revised November 2002
Revised November 2003
Last Revised April 2008
THE ROYAL COLLEGE OF VETERINARY SURGEONS

CERTIFICATE IN CATTLE HEALTH AND PRODUCTION

Syllabus

The syllabus shall be of a standard of theoretical knowledge at least equivalent to the well-informed new graduate after some three years of experience in cattle health and production. The course is divided into the various stages of development of cattle in both beef and dairy systems. This stresses the relationship between production and disease. Within each section of the syllabus candidates would be expected to know about:

(a) Production systems  
(b) Production targets and economics  
(c) Nutrition and digestion  
(d) Feeding systems  
(e) Husbandry and hygiene  
(f) Welfare and Legislation  
(g) Recording and monitoring of disease and production  
(h) Disease control strategies

Section 1. Welfare

Ethics and animal use. Cattle needs and the 5 freedoms. Codes of recommendations for the welfare of cattle. Bodies involved in cattle welfare.  
Legislation affecting cattle welfare.  
Advantages and disadvantages of intensive and extensive systems at all stages of production.  
Welfare in relationship to stockmanship, housing nutrition and breeding. Welfare standards on the farm, during transport, in the market place and at the slaughterhouse.  
Care and welfare of sick and injured cattle. Transport of casualty cattle. Impact of biotechnology on welfare.

Section 2. The National Herd

Legislation affecting the veterinary profession which relates to cattle and their diseases.  
Disease control measures - national and international. Zoonoses.

Disease control programmes, principle and method of application on an international, national, multiple herd and individual herd basis, export and import certification.  
Disinfection and disinfectants.
Formulation and monitoring of a detailed herd health plan.

Section 3. The Artificially Reared Calf - Birth to Weaning

(a) Problems at birth, passive immunity and colostrum.
(b) Common calf diseases, especially alimentary and respiratory; their epidemiology, recognition, treatment, prevention and control.

Section 4. Fattening Cattle

(a) Feeding systems including grassland requirements and management and forage crop production, harvesting and storage.
(b) Common diseases of fattening cattle, their epidemiology, recognition, treatment, prevention and control.
(c) Carcass quality and composition. Meat trade, structure and organisation.

Section 5. Suckler Cow and Calf

(a) Problems at birth, passive immunity and colostrum.
(b) Nutritional problems of cow and calf.
(c) Feeding systems including grassland requirements and management, forage crop production, harvesting and storage.
(d) Commonly occurring diseases of the suckler cow and calf

Section 6. The Dairy Heifer -- Weaning to Calving

(a) Feeding systems especially grassland requirements and management and forage crop production, harvesting and storage, and growth rate of heifers.
(b) Common diseases at grass; their epidemiology, recognition, treatment, prevention and control.
(c) Common diseases in housed animals; their epidemiology, recognition, treatment, prevention and control.

Section 7. The Dairy Cow

(a) An understanding of nutritional requirements and how they are calculated.
(b) A knowledge of the characteristics of common foodstuffs.
(c) Feeding systems including grassland requirements and management. Forage crop production, harvesting and storage.

(d) Nutritional problems and their recognition.

(e) Common and emerging diseases, their epidemiology, recognition, treatment, prevention and control, with particular reference to mastitis and lameness. Need to know about ultrasound pregnancy diagnosis.


(g) Lactogenesis. Factors influencing milk yield and composition.

(h) A knowledge of housing systems, herd economic assessment and herd/health preventive medicine schemes (including health recording monitoring) is required.

Section 8. The Bull

(a) Husbandry, management and safety/security.

(b) Genetic selection: a knowledge of the genetic assessment of dairy and beef bulls


(d) Common diseases of bulls with particular reference to lameness.

Section 9. Manipulation of Reproduction

(a) Artificial insemination. Current legislation, semen collection and storage; Al techniques including DIY; reasons for poor fertility with AI; organisation of AI in the UK.

(b) Embryo transfer.
Code of practice, applications of embryo transfer, methods of embryo transfer, embryo preservation and micromanipulation, Karyotyping, twinning.
THE ROYAL COLLEGE OF VETERINARY SURGEONS

D

SPECIALISATION AND FURTHER EDUCATION

CERTIFICATE AND DIPLOMA IN CATTLE HEALTH AND PRODUCTION

Candidates should note that the reading list for the Cattle Health and Production was frozen in 2002 and will eventually be withdrawn. Candidates are expected to research the literature for themselves and are recommended to make use of the RCVS Library and Information Service for this purpose (http://www.rcvslibrary.org.uk, e-mail - library@rcvs.org.uk or telephone 020 7222 2021). Candidates should also seek advice on suitable reading matter from their advisers.

READING LIST


  Dated but easy to read.


  A good general book but poor in some areas of infectious diseases.


  Section on cattle – useful to practitioners


Excellent herd health text.


Easy to read book on fertility. Terminology is now not completely accepted.


In-depth book on lameness but hard to read. It does contain useful references.


Easy to read and can be used to supplement other books, such as Blood and Radostits.


A good guide to fertility.


Very useful introduction to herd health.


Difficult to read but supplies information on most surgical techniques. Much briefer, cheaper and easier to read than Greenough et al.

**WELFARE**


Well worth reading.


A good section on husbandry.

In addition to the above, **Certificate** candidates are advised to read relevant articles such as:

“In Practice”
Veterinary Record
Publications from the British Cattle Veterinary Association including Cattle Practice, The Veterinary Clinics of North America, UK Vet.

Also


**Legislation Affecting the Veterinary Profession in the United Kingdom (£8.00) available from RCVS.**

**Diploma** candidates: Journals such as Journal of Dairy Science and others.

**Highly recommended**
Other books are good for background and reference.
PUBLICATIONS AVAILABLE FROM DEFRA

PB Number

4661  Treatment and Prevention of Mastitis in Dairy Cows
0074  Codes of Recommendations on Welfare of Livestock (Cattle)
0621  Farm Fires: Advice on Farm Animal Welfare
1147  EMERGENCIES ON Livestock Farms
1151  Lameness in Beef Cattle and Dairy Followers
1381  Guidance on the Transport of Casualty Farm Animals
2531  Summary of the Law relating to Farm Animal Welfare
2594  Explanatory Guide to the Welfare of Animals (Slaughter or Killing) Regulations 1995
3335  Improving Calf Survival
3426  FAWC Report on the Welfare of Dairy Cattle
4020  Lameness in Dairy Cattle
4516  TB in Cattle – Reducing the Risk
4517  Farm Biosecurity – Protecting Herd Health

Copies of the above and other publications can be obtained, free of charge, from:-

DEFRA Publications
ADMAIL 6000
London
SW1 2XX
Tel: 0645 556000

Also
SI 1709 Welfare of Livestock (Amendment) Regulations 1998 is available from HMSO (price £1.55).
Details of the veterinary practice in which experience is being gained over at least two calendar years to meet the requirements of the byelaws for the Certificate in Cattle Health and Production:

(If more than one practice please photocopy this form and complete in respect of each such practice)

1. Name of practice and address

________________________________________________________________________

________________________________________________________________________

2. Date of joining the practice ________________________________ (and

Date of leaving, if you are no longer employed at this address):

________________________________________________________________________

3. Numbers of veterinary surgeons usually working in the practice

________________________________________________________________________

4. Approximate percentage time of practice and applicant devoted to:

<table>
<thead>
<tr>
<th>Practice</th>
<th>Practice</th>
<th>Applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Cattle clinical work</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>b. Cattle herd health work (e.g. routine visits)</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>c. Cattle advisory work</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>d. No. dairy herds seen on routine visits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. No. beef herds seen on fertility visits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. No. of beef finishing herds attended</td>
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</table>
5. Description of your work insofar as cattle health and production is concerned (in relation to the syllabus) indicating numbers of herds/farms with which you personally have veterinary contact and numbers of visits and for what purposes:

6. Brief description of your other duties:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

7. Any special equipment or facilities in the practice, in relation to cattle health and production:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

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________________________________________________________________________

________________________________________________________________________

Signature ___________________________ Date ___________________________

Please enclose a SAE for acknowledgement.

PLEASE RETURN ORIGINAL FORM PLUS FOUR COPIES
THE ROYAL COLLEGE OF VETERINARY SURGEONS

E.2

Specialisation and Further Education

CERTIFICATE IN CATTLE HEALTH AND PRODUCTION
Application for FINAL approval of experience and for permission to submit an entry to the next examination

to be completed and returned to the RCVS, Belgravia House, 62-64 Horseferry Road, London SW1P 2AF by 1 November prior to the examination which you wish to enter.

NO LATE APPLICATIONS WILL BE ACCEPTED.

1. TITLE ____________________________________________

2. NAME in full (block letters)

3. DEGREES/DIPLOMAS/CERTIFICATES ____________________________________________ in abbrev.form

4. ADDRESS for all correspondence (block letters)

5. TELEPHONE NO(s) for contact during day

FAX NO(s) for contact during day

EMAIL ____________________________________________

6. DATE OF ENROLMENT ____________________________________ (MONTH/YEAR)

7. PERIODS OF EXPERIENCE BEING OFFERED to meet the requirements of the byelaws

<table>
<thead>
<tr>
<th>Veterinary Practice or Centre (name and address)</th>
<th>Period of employment (from/to)</th>
<th>Certified by employer</th>
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<td></td>
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</tbody>
</table>

If there has been any change in the work-load of the practice/centre, or in your personal work-load, since you applied for enrolment, please give details below:
8. ATTENDANCE AT RELEVANT SHORT COURSES

Title of course attended: 

__________________________________________________________

__________________________________________________________

Please send a photocopy of your RCVS CPD Record Card covering the period of experience being offered.

9. OTHER INVOLVEMENT IN RELATION TO CATTLE HEALTH AND PRODUCTION

List any attendances at relevant congresses, conferences, meetings, symposia, etc., with dates:

__________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________

10. PUBLICATIONS/ARTICLES/PAPERS/LECTURES

Give details below (including any involvement in the instruction of others):

__________________________________________________________

__________________________________________________________

__________________________________________________________

11. OTHER POSTGRADUATE STUDIES

During the period of experience being offered, have you been or are you studying for any other postgraduate qualification? YES/NO

If yes, please give brief details:

__________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________
12. **I HEREBY APPLY FOR APPROVAL OF EXPERIENCE AND FOR PERMISSION TO SUBMIT AN ENTRY TO THE NEXT CERTIFICATE EXAMINATION IN CATTLE HEALTH AND PRODUCTION.**

I certify that the period of experience being offered has not been/is not being offered to meet the requirements of the byelaws for any other RCVS Certificate or Diploma.

13. **CONFIRMATION OF INTENT TO SIT THE EXAMINATION**

If approval of experience is granted, I do/do not (delete as appropriate) intend to submit an entry to the next examination (closing date for receipt of entries is 1 March).

Signature __________________________________ Date ____________________________

*Please enclose a SAE for acknowledgement.*

**PLEASE RETURN ORIGINAL FORM PLUS FOUR COPIES**

The following section should be completed by your Adviser.

I have agreed that this candidate will be advised by me and note that it is the candidate's responsibility to approach me as necessary.

Name (block capitals)

________________________________________________________________________

Signature __________________________________ Date ____________________________
CERTIFICATE IN CATTLE HEALTH AND PRODUCTION ADVISER LIST

Candidates should consult the RCVS Register of Members for a suitably willing and qualified individual (someone holding a Certificate or Diploma or equivalent) who is familiar with the RCVS Certificate or Diploma examination system and clinically active.

For ‘Role of Advisers’ see Common Documents
THE ROYAL COLLEGE OF VETERINARY SURGEONS
CERTIFICATE IN CATTLE HEALTH AND PRODUCTION

WEDNESDAY 21 JULY 2010

PAPER I
(2 hours)

This Paper is in two Sections (A and B) and instructions relating to the number of questions to be answered are given at the head of each Section

SECTION A

Candidates are required to answer TWO of the following THREE questions.

Allow 30 minutes per question.

Illegible handwriting or failure to answer the question in the form requested may result in examiners being unable to award marks for information which candidates intended to convey.

1. A dairy farmer, recently returned from a buying group visit overseas, and was impressed with what he saw. He now wishes to implement a fresh cow management group on his 200 cow all year round calving herd.

Describe in detail the steps you would consider in the implementation and day to day management of a fresh cow program.

2. Johnes disease is increasingly recognised as a problem for the United Kingdom cattle industry.

Why is Johnes disease considered important?

Outline the options, with pros and cons for each, for controlling the disease in a 150 cow endemically infected Autumn calving commercial suckler herd which rears its own replacements.

3. A client asks for your advice on a new enterprise in which he wants to source week-old cross bred calves from the dairy industry and contract rear them for sale to other rearers at 12 to 14 weeks of age.

Describe the advice you would give to optimise the health and welfare of the calves.

P.T.O. FOR SECTION B
4. An 85 cow dairy herd with an annual yield of 8500 litres per cow, feeds on average four tonnes of concentrates per cow per year. On average, the farmer is paid 25 pence per litre of milk and the concentrate costs £180 per tonne.

What is:

a) The concentrate feed rate per litre? Is this high or low for a 8500 litre herd?

b) The concentrate cost per litre?

c) Margin over concentrate per litre?

5. What are the predisposing factors for hypomagnaesaemia (“grass staggers”)? A 120 cow suckler herd suffers two cases of staggers in a week in late spring, outline possible methods that could be used to prevent further cases.

6. What methods are available for the slaughter of cattle for human consumption in the United Kingdom?

Briefly describe the signs of an effective captive bolt stun.

7. List the clinical diagnostic aids which are available to the practitioner to assess rumen function in a dairy herd.

Briefly describe ONE in more detail and indicate the result you would expect in a cow with rumen acidosis.
8. List the main components of milk. Indicate the quantities you would expect to find in:

   a. Milk from a Friesian / Holstein cow giving 50kg of milk per day at peak lactation

   b. Milk collected from the same cow at her first milking after calving.

1. You are asked to review the fertility performance of an 800 cow dairy herd in South East England and are provided with the information below. The herd is housed throughout the year and has an all year round calving pattern. Current 305 day yields are 9544kg. Routine fertility visits take place every week and cows are scanned for pregnancy diagnosis from 35 days post insemination. No natural service is used and fixed time insemination is carried out using a synchronisation program based on GnRH and prostaglandin (“Intercept” program).

Voluntary waiting period: 50 Days
1st service submission rate: 97%
Average days to first heat: 39
Average days to first service: 60
Average days to conception: 129
Overall conception rate: 27% (or 3.8 services per pregnancy)

Analysis of heat intervals

<table>
<thead>
<tr>
<th>Heat Interval</th>
<th>1-3 days</th>
<th>4-17 days</th>
<th>18-24 days</th>
<th>25-35 days</th>
<th>36-48 days</th>
<th>Over 48 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of</td>
<td>39</td>
<td>334</td>
<td>938</td>
<td>519</td>
<td>551</td>
<td>84</td>
</tr>
<tr>
<td>heats</td>
<td>2%</td>
<td>14%</td>
<td>38%</td>
<td>21%</td>
<td>22%</td>
<td>3%</td>
</tr>
<tr>
<td>------------</td>
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<td>-----</td>
<td>-----</td>
</tr>
</tbody>
</table>

**Reasons for submission or action taken at service**

<table>
<thead>
<tr>
<th>Reason for service/action taken</th>
<th>Conception Rate</th>
<th>Serves per pregnancy</th>
<th>Total serves</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receptal given at service to standing heat</td>
<td>18%</td>
<td>5.5</td>
<td>16</td>
<td>0.5</td>
</tr>
<tr>
<td>Heat observed am/pm breeding applied</td>
<td>22%</td>
<td>4.5</td>
<td>534</td>
<td>20</td>
</tr>
<tr>
<td>Served as soon as standing heat observed</td>
<td>25%</td>
<td>4.0</td>
<td>1020</td>
<td>37.5</td>
</tr>
<tr>
<td>Fixed time Insemination</td>
<td>30%</td>
<td>3.3</td>
<td>1142</td>
<td>42</td>
</tr>
</tbody>
</table>

Graph showing calving to conception interval (days open) for cows currently pregnant in the herd
Graph Demonstrating Conception Rate by Month of Service

Conception rates achieved on cows which spent less than 17 days in the close up group pre calving (<17) or more than 17 days in the close up transition group (>17)
Comment on each of the results obtained and suggest where there may be problems.

Indicate areas where improvements are possible and briefly indicate how you would implement them.

P.T.O. for Question 2

2. You are asked by one of your neighbouring mixed practices to perform a consultancy visit on one of their four remaining dairy farms. The family owned and run farm (father and son) milks 105 Fr/H dairy cows with an average 305 day yield of 7850L per cow. The farm has increased in size from around 75 cows over the last 3 years. Cows calve all year round although historically the herd was Autumn calving, a trend which can still be identified.

During Winter, cows are housed in 76 “kennels” cubicles which are bedded with straw on a concrete base. To accommodate the increase in cow numbers, freshly calved cows are housed in a new straw yard, measuring 20m by 5m, together with lame cows, “sick” cows and cows which do not lie in cubicles. As cows are dried off, cows in early lactation are transferred from the straw yard to the cubicles so that the cubicles always contain 76 animals. Dry cows are managed as one group, at pasture during Summer and in a straw yard (9m by 9m) during Winter.

Over the last year or so the farm reports that the number of cases of mastitis that occur has increased dramatically, particularly during the Winter months. Over the last 12 months, the medicine records indicate that 68 cows have been treated for 131 cases of mastitis; no record is kept of which quarters are affected. Sixty percent of cases occurred between October and March.
The bulk milk somatic cell count has remained relatively stable at around 200,000 cells/ml. The farm does not undertake individual cow milk recordings. The target dry period is 56 days, all cows receive a dry cow tube containing cloxacillin; during lactation, cases of mastitis are treated with a tube containing potentiated amoxicillin.

**Describe** your approach to investigating this problem.

**Outline** your approach for reducing the incidence of mastitis in the future.
3. **Outline** the current legislation regulating disbudding / dehorning and castration of cattle in the United Kingdom?

4. A hill farmer complains of lameness and stiff gait in a group of 4-6 month-old Autumn born suckler calves.

   **List** the differential diagnoses.

   For **ONE** possible diagnosis give **brief details** of what procedure(s) you would carry out to investigate the problem.

5. **List** zoonotic diseases which can be transmitted between cattle and Man in the United Kingdom.

   Place an asterix by the **THREE** which currently cause the greatest number of human cases each year in the United Kingdom.