

Pearson BTEC Level 3 Nationals Extended Diploma

January 2019

Paper Reference **31644H**

Animal Management

Unit 1: Animal Breeding and Genetics

Part A

You do not need any other materials.

Instructions

- **Part A** contains material for the completion of the preparatory work for the set task.
- **Part A** may be given to learners as soon as it is received so that learners can start the preparatory period in advance of the supervised assessment session.
- **Part A** is specific to each series and this material must only be issued to learners who have been entered to undertake the task in the relevant series.
- **Part B** materials for the set task will be issued prior to the start of the supervised assessment period according to the guidance in the specification.

Turn over ►

W62926A

©2019 Pearson Education Ltd.

1/1




Pearson

Instructions to Teachers/Tutors

Centres should refer to the ICEA document for full information on the correct conduct of monitored and formally supervised assessment.

This set task has a preparatory period. **Part A** sets out how learners should prepare for the completion of the task under supervised conditions.

Part B contains unseen material and is issued to learners at the start of the formal supervised assessment session specified by Pearson.

For **Part A**, learners should be monitored over **3 hours** provided by the centre, to read **Part A**, carry out research and compile notes. During this time they may only have access to research materials including books, journals, the internet and notes from prior learning. Learners must work independently and must not be given guidance or feedback on the completion of the preparatory work. Learners must not prepare potential responses, and only notes produced in monitored sessions may be used during the formal assessment. Learners may produce up to **two sides** of A4 notes, which should be handwritten or typed in a 12pt font. Notes should be short, bullet-point style information, and cannot contain long narrative pieces of text.

Learner notes produced under monitored conditions must be checked by teachers/tutors to ensure that they comply with the limitations.

Learner notes should be retained by the centre between the monitored sessions and the formal supervised assessment.

Learner notes should be retained by the centre after the completion of the assessment and may be requested by Pearson.

Instructions for Learners

Read the set task information carefully.

Part A contains the information you need to prepare for the **Part B** set task.

You will be given **3 hours** of monitored preparation. Your tutor will advise you of the scheduled sessions for this work.

During these sessions you will prepare summary notes to support you during the supervised assessment. Your notes should:

- be individually and independently prepared by you
- contain a maximum of two sides of A4, either handwritten or typed in a 12pt font
- use short, bullet-point style information, and cannot contain long narrative pieces of text.

Your notes will be checked by your centre and retained after the completion of the formal supervised assessment.

You must work independently and must not share your work with other learners.

Your teacher cannot give you feedback during the preparation period.

Set Task Brief

You are required to carry out research into the standards and practice of breeding;

- **Dogs / Service Dogs**

Please check the examination details below before entering your candidate information

Candidate surname	Other names
Pearson BTEC Level 3 Nationals Extended Diploma	Centre Number <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>
	Learner Registration Number <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>
Window for supervised period: Monday 7 January 2019 – Friday 11 January 2019	
Supervised hours: 2 hours	Paper Reference 31644H
<h1 style="margin: 0;">Animal Management</h1> <h2 style="margin: 0;">Unit 1: Animal Breeding and Genetics</h2> <div style="text-align: right; font-weight: bold; font-size: 1.2em; margin-top: 10px;">Part B</div>	
You do not need any other materials.	Total Marks <input style="width: 50px; height: 30px;" type="text"/>

Instructions

- **Part A** will need to have been used in preparation for completion of **Part B**.
- **Part B** contains material for the completion of the set task under supervised conditions.
- **Part B** should be undertaken in one session timetabled by Pearson.
- **Part B** is specific to each series and this material must only be issued to learners who have been entered to undertake the task in that series.
- **Part B** should be kept securely until the start of the supervised assessment periods.
- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and learner registration number.
- Complete **all** activities.
- Answer the activities in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 80.
- The marks for **each** activity are shown in brackets
– *use this as a guide as to how much time to spend on each activity.*

Advice

- Read each activity carefully before you start to answer it.
- Try to answer every activity.
- Check your answers if you have time at the end.

Turn over ►

P52796A

©2019 Pearson Education Ltd.

1/1/1/1



Instructions to Teachers/Tutors

This set task is a formal external assessment and must be conducted with reference to the instructions in this task booklet and the *Information for Conducting External Assessments (ICEA)* document, to ensure that the supervised period is conducted correctly and that learners have the opportunity to carry out the required activities independently.

Part B set task is undertaken under formal supervision in a single session of **2 hours** timetabled by Pearson.

Part B materials must be issued to learners for the specified session. Work should be completed in this task and answer booklet.

Part B set task requires learners to apply understanding gained through familiarisation with the context. Learners should bring in notes as defined in **Part A**.

The teacher/tutor needs to ensure that the notes comply with the requirements.

All learner work must be completed independently and authenticated by the teacher/tutor and/or invigilator before being submitted to Pearson.

Learners must not bring anything into the supervised environment or take anything out without your approval.

Centres are responsible for putting in place appropriate checks to ensure that only permitted material is introduced into the supervised environment.

Maintaining security

- The assessment areas must only be accessible to the individual learner and to named members of staff.
- Learners can only access their work under supervision.
- Any work learners produce under supervision must be kept secure.
- Only permitted materials for the set task can be brought into the supervised assessment.
- During any permitted break and at the end of the session, materials must be kept securely and no items removed from the supervised assessment.
- Learners are not permitted to have access to the internet or other resources during the supervised assessment period.

Outcomes for submission

A completed task and answer booklet.

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



Instructions for Learners

Read the set task information carefully.

This session is of **2 hours**. Plan your time carefully.

You have prepared for the set task given in this **Part B** booklet. Use your notes prepared during **Part A** if relevant. Attempt all of **Part B**.

Your notes must be your own work and will be retained by your centre until results are issued.

You will complete this set task under supervision and your work will be kept securely during any breaks taken.

You must work independently throughout the supervised assessment period and should not share your work with other learners.

Outcomes for submission

Completed task and answer booklet.

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



Set Task

You must complete ALL the activities in this task booklet.

The activities in this task booklet relate to **Dogs / Service Dogs**

Part A Set Task Information

Dogs / Service Dogs

Part B Set Task Information

Steve would like to breed pups for a charity that specialises in training hearing dogs for people who are deaf.

Steve has come to you for advice about the best breed he could use.

He is considering the following breeds:

- Standard Poodle
- French Bulldog
- Afghan Hound
- Labrador Retriever

You are to advise Steve about the requirements and suitability of the breeds.

You must also consider selection and management of breeding stock, care plan, mating and reproductive behaviours.

You can then advise Steve which breed would be most suitable for his plans.

Use your notes from any preparatory work completed in **Part A**.

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



Answer ALL questions. Write your answers in the spaces provided.

1 To breed from his dogs, Steve has to check they are healthy and fit to breed from.

(a) State **two** body parts of a dog to be considered when body condition scoring.

(2)

1

2

(b) Explain **one** reason why it is important to assess temperament when breeding dogs.

(2)

.....

.....

.....

(c) Explain **two** behaviours that would be desirable in hearing dogs for the deaf.

(4)

1

.....

.....

.....

2

.....

.....

.....

(Total for Question 1 = 8 marks)



2 (a) Give **four** ways a dog's diet should be changed during pregnancy.

(4)

1

2

3

4

Steve is ready to buy his first bitch and is going to use your recommendations about the breeds he is considering.



Standard Poodle



Labrador Retriever



Afghan Hound

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



(b) Discuss the suitability of these **three** dog breeds and recommend a breed to use as hearing dogs for the deaf. You should provide reasons for your choice.

Use your research notes to help you make a recommendation.

(12)

Area with horizontal dotted lines for writing the answer.

(Total for Question 2 = 16 marks)



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

3 While Steve is looking at different breeds he realises that the same breed of dog can come in different colours.

He finds that coat colour is controlled by two genes.

Gene A for coat colour, has two alleles,
 A^y is dominant for sable,
a is recessive for black

Gene K, for coat pattern, has two alleles,
 K^{br} is dominant for brindle (mixed red and any other colour)
k is recessive for solid coloured (single colours)

The breeder tells him that a dog who is homozygous for black (aa) cannot look brindled whatever the genetics of the K gene are.

A solid sable dog and brindle sable bitch have been mated. Both dogs are heterozygous for colour, the bitch is heterozygous for coat pattern.

The bitch is expecting a litter.

(a) Calculate the phenotypic probabilities of the coat colour of the expected pups using the dihybrid template.

(8)

Phenotypic probability

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



(b) Coat colour is inherited.

Other conditions can also be inherited from parents.

Describe **two** congenital or hereditary conditions pups may be born with.

(4)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(Total for Question 3 = 12 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



4 (a) Explain the use of **three** pieces of equipment or materials that keep new born pups safe and healthy.

(6)

1

.....

.....

2

.....

.....

3

.....

.....

Legislation is in place to protect the well-being of dogs in breeding kennels.

(b) Describe **two** ways legislation ensures the welfare of breeding dogs.

(4)

1

.....

.....

2

.....

.....

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



(c) Explain **one** reason the inbreeding coefficient is important when breeding pedigree dogs.

(2)

.....

.....

.....

(d) Explain **one** way that reproductive technology can be used to prevent heritable conditions.

(4)

.....

.....

.....

.....

.....

.....

.....

.....

.....

(Total for Question 4 = 16 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



5 (a) Describe **three** of the stages in the process of genetic modification of plasmids.

(6)

1

2

3

(b) Explain how knockout mice are used to identify the action of a specific gene.

(4)

(Total for Question 5 = 10 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

BLANK PAGE

QUESTION 6 BEGINS ON THE NEXT PAGE.



6 Artificial insemination is a process that is being used more often when breeding pedigree dogs.

(a) Discuss the use of artificial insemination to improve breeding outcomes.

(6)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



(b) Discuss why breeding pedigree dogs, such as French bulldogs, may affect their health and long-term future of the breed.

(12)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 6 = 18 marks)

TOTAL FOR TASK = 80 MARKS



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

BLANK PAGE

