0171-502 JUNE 2018
Level 3 Technicals in Agriculture
Level 3 Agriculture – Theory exam (1)

Candidate name (first, last)
First
Last
Candidate enrolment number
Date of birth (DDMMYYYY) Gender (M/F)
Assessment date (DDMMYYYY) Centre number Candidate signature and declaration*

- If any additional answer sheets are used, enter the additional number of pages in this box.
- Please ensure that you staple additional answer sheets to the back of this answer booklet, clearly labelling them with your full name, enrolment number, centre number and qualification number in BLOCK CAPITALS.
- All candidates need to use a black/blue pen. Do not use a pencil or gel pen.
- If provided with source documents, these documents will not be returned to City & Guilds, and will be shredded. Do not write on the source documents.

*I declare that I had no prior knowledge of the questions in this assessment and that I will not divulge to any person any information about the questions.

You should have the following for this examination
- a pen with blue or black ink

General instructions
- Use black or blue ball-point pen.
- The marks for questions are shown in brackets.
- This examination contains 13 questions. Answer all questions.
- Answer the questions in the spaces provided. Answers written in margins or on blank pages will not be marked.
- Cross through any work you do not want to be marked.
1. Describe **two** ways that a machine operator can minimise the impact on the environment. (4 marks)

2. For a winter wheat crop, state the proportion of nitrogen fertiliser, as a percentage, applied at each of the following growth stages. (1 mark each)
   a) Tillering (growth stage 20).
   b) Stem extension (growth stage 30).
3  a) State one way of measuring the moisture content of a grain sample. (1 mark)

b) State the maximum moisture content for the effective long term storage of wheat. (1 mark)

c) Explain two implications of storing wheat above the optimum moisture content. (4 marks)
Describe the uptake, transport and loss of water from plants. (6 marks)
5 a) State **four** soil characteristics that can affect plant growth and development. (4 marks)

b) Give an example of how **each** of these characteristics can affect plant growth and development. (4 marks)

6 a) Describe the life cycle of a named agricultural annual crop. (2 marks)

b) Describe the life cycle of a named agricultural perennial crop. (2 marks)
7. With reference to common couch grass, explain how asexual reproduction can take place. (3 marks)

8. a) What is the normal body temperature of a lamb? (1 mark)

b) State, in days, the gestation period in ewes. (1 mark)

9. a) A finished bacon pig at slaughter will weigh approximately how many kilograms live-weight? (1 mark)

b) What is the definition for a Gilt? (1 mark)

10. State three beef finishing systems available in the UK. (3 marks)
11 Describe **four** features of a block calving dairy herd. (4 marks)

__________________________
__________________________
__________________________
__________________________
__________________________
__________________________
__________________________

12 Preparation for the breeding season (tupping) is important for achieving high lambing percentages.

Describe **two** checks that would be carried out as part of the preparation for tupping in **each** of the following.

a) Rams or Tups. (2 marks)

__________________________
__________________________
__________________________
__________________________
__________________________
__________________________
__________________________

b) Ewes. (2 marks)

__________________________
__________________________
__________________________
__________________________
__________________________
__________________________
__________________________
13 Discuss the impact of poor drainage on crops and livestock, how this can be improved and what the benefits might be. (12 marks)