



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

If provided, stick your candidate barcode label here.

Friday 16 March 2018
09:30 – 11:30

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 14 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 On the Agriculture and Horticulture Development Board (AHDB) cereals and oilseeds recommended lists, wheat varieties are listed according to purpose. State the purpose of the following groups of wheat varieties grown in the UK.
- a) Group 1. (1 mark)

 - b) Group 2. (1 mark)

 - c) Group 3. (1 mark)

 - d) Group 4. (1 mark)

2 Describe the working principles for a named piece of harvesting machinery. (4 marks)

3 For **each** of the following crops, explain **one** reason why they are included in the Norfolk 4 Course rotation.

a) Wheat. (1 mark)

b) Turnips. (1 mark)

c) Barley undersown. (1 mark)

d) Grass. (1 mark)

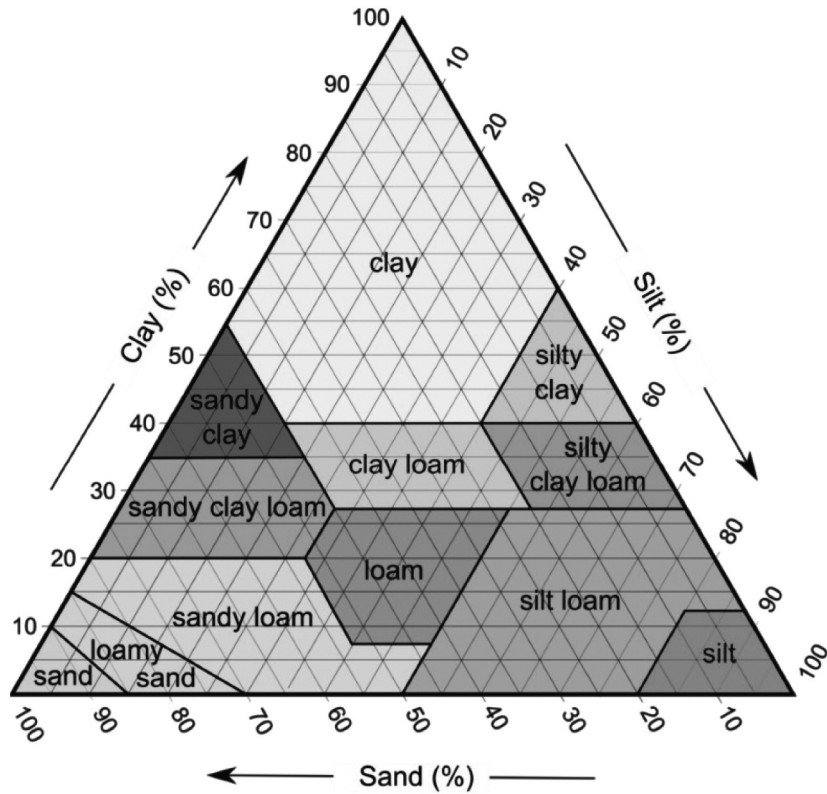
4 Explain **four key** functions of root systems of agricultural plants. (4 marks)

5 In the field, soil texture can be judged by rubbing a sample between the finger and thumb. With reference to this method, describe the texture of **each** of the following types of soil.
a) Silts. (1 mark)

b) Clays. (1 mark)

c) Sands. (1 mark)

- 6 A laboratory analysis has identified a soil containing
- 35% Silt
 - 20% Clay
 - 45% Sand



<https://www.tes.com>

Figure 1

- a) Using the soil texture triangle in Figure 1, identify the soil texture classification. (1 mark)
-
- b) Using a cross, indicate on the diagram how you came to your answer in 6a). (1 mark)

7 a) State **one** reason why a farmer might add lime to soil.

(1 mark)

b) Explain **two** possible effects of **not** using liming material when required.
Give an example for **each** effect.

(4 marks)

8 Explain how the following affects growth and development of crops.

a) Light.

(4 marks)

b) Temperature.

(3 marks)

9 a) A dairy Heifer is planned to calve at 2 years old. State the age when she will be mated.

(1 mark)

b) What does the calving index describe in the dairy production cycle?

(1 mark)

10 a) The Cheviot and Herdwick sheep are examples of which type of breed? (1 mark)

b) In a lowland sheep production system, what would be the reason for crossing a North Country Mule with a Texel ram? (1 mark)

11 State **three** key feeding regimes in an 18 month grass/cereal beef system. (3 marks)

12 For a dairy herd, describe **four** advantages of an all year round calving pattern. (4 marks)

13 Livestock breeds are often crossed with other breeds from the same species.
Explain the benefits of doing this.

(4 marks)
