



# 0171-521 MARCH 2022

## Level 2 Technical Certificate in Agriculture

### Level 2 Agriculture – Theory Exam

**Monday 14 March 2022**  
**09:30 – 11:30**

**You should have the following for this examination**

- a multiple-choice answer sheet
- a pen with black or blue ink

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**This question paper is the property of the City and Guilds of London Institute and is to be returned after the examination.**

#### **Read the following notes before you answer any questions**

- You **must** use a pen with black or blue ink to complete **all** parts of the answer sheet.
- Check that you have the correct answer sheet for the examination.
- Check that your name and candidate details are printed correctly at the top of your answer sheet.
- Inform the invigilator if your name or examination details are not correct.
- Each question shows **four** possible answers (lettered 'a', 'b', 'c' and 'd'); only **one** is correct.
- Decide which **one** is correct and mark your answer on the **answer sheet** with your pen.

For example if you decide 'a' is correct, mark your answer like this

101	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Cancel	Cancel	Cancel	Cancel

If you want to change your answer, cancel your first choice by filling in the 'cancel' box below the circle like this

101	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Cancel	Cancel	Cancel	

Then mark the answer which you have now decided is correct. For example if you now decide 'c' is correct, mark your answer like this

101	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
	Cancel	Cancel	Cancel	

Any other marks on the form may invalidate some of your answers.

- Any calculations or rough working can be done on the question paper.
- Attempt all questions. If you find a question difficult, leave it and return to it later.

**This paper contains 50 questions. Answer them using the 'boxes' numbered 1 to 50 on the answer sheet.**



Source: [www.field-studies-council.org](http://www.field-studies-council.org)

**Figure 1**

- 1 What is the name of the grass shown in Figure 1?
  - a Ryegrass.
  - b Timothy.
  - c Clover.
  - d Cocksfoot.
  
- 2 When is winter barley typically sown?
  - a September to October.
  - b February to March.
  - c June to July.
  - d December to January.
  
- 3 Which one of the following is classed as a field vegetable?
  - a Maize.
  - b Miscanthus.
  - c Cauliflower.
  - d Triticale.
  
- 4 What is the **main** benefit of growing mustard as a green manure?
  - a It increases weed populations.
  - b It improves soil structure.
  - c It improves nitrogen fixation.
  - d It decreases water holding capacity.

- 5 **Statement 1**  
Seed potatoes cannot be grown in Scotland.

**Statement 2**

The east of England is an ideal grass growing area.

Which of the following is correct for the above statements?

	<b>Statement 1</b>	<b>Statement 2</b>
a	True	False
b	False	False
c	True	True
d	False	True

- 6 How should harvested wheat be stored?
  - a In a grain store.
  - b In a clamp.
  - c In the ground.
  - d Under insulated covers.
  
- 7 Which **two** of the following are minor plant nutrients?
  - 1 Selenium.
  - 2 Phosphorus.
  - 3 Potassium.
  - 4 Sulphur.
  - a 1 and 2
  - b 2 and 3
  - c 3 and 4
  - d 4 and 1
  
- 8 When would be the **best** time to apply the first nitrate application to a winter cereal crop?
  - a Spring.
  - b Summer.
  - c Autumn.
  - d Winter.
  
- 9 What is the **best** way to control Septoria in wheat?
  - a By using a growth regulator.
  - b By using a herbicide.
  - c By using a resistant variety.
  - d By using an insecticide.

- 10 Which one of the following is classed as a crop residue?
- Slurry.
  - Manufactured fertiliser.
  - Straw.
  - Farmyard manure.
- 11 Which one of the following is the **most** environmentally friendly method to apply slurry?
- Using a sprayer.
  - Using a dribble bar.
  - Using a spreader.
  - Using an injector.
- 12 Where should pesticides be stored?
- In a locked vehicle.
  - In a locked bunded store.
  - In a locked workshop on a bench.
  - In a locked fridge with animal medicines.
- 13 What effect does a plant growth regulator have on a crop?
- It prevents lodging.
  - It encourages flowering.
  - It prevents pests and disease.
  - It encourages drought resistance.
- 14 Which one of the following breeds of goats would be **best** suited for meat production?
- Toggenburg.
  - Saanen.
  - Alpine.
  - Boer.
- 15 Which one of the following is a native breed of cattle?
- Limousin.
  - Holstein.
  - Charolais.
  - Shorthorn.

- 16 Which one of the following **best** describes how a farmer can follow the basic welfare needs for weaned lambs?
- Ensure they have enough food.
  - Ensure they have restricted access to minerals.
  - Ensure they are kept with their mother.
  - Ensure they are always kept inside 24 hours a day.
- 17 Which one of the following is a cause of lameness in dairy cattle?
- Ringworm.
  - Scab.
  - Digital Dermatitis.
  - Fog fever.
- 18 How can toxoplasmosis be prevented in sheep?
- Drench.
  - Vaccine.
  - Pour on.
  - Bolus.



Source: <https://geomedia.top>

**Figure 2**

- 19 What is the breed of pig shown in Figure 2?
- Landrace.
  - Duroc.
  - Tamworth.
  - Pietrain.

20 **Statement 1**  
A calf with a body temperature of 38.7 degrees Celsius is considered to be healthy.

**Statement 2**  
A day old piglet lying under a heat lamp is considered to be ill.

Which of the following is correct for the above statements?

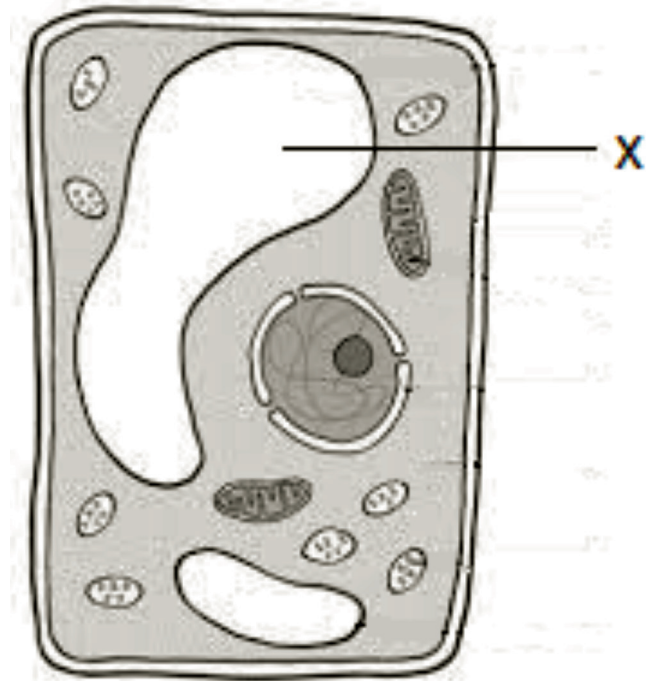
	Statement 1	Statement 2
a	True	False
b	False	False
c	True	True
d	False	True

21 Which one of the following is caused by an external parasite?

- a Milk fever.
- b Coccidiosis.
- c Joint ill.
- d Scab.

22 Which **two** of the following are needed for photosynthesis?

- 1 Glucose.
  - 2 Water.
  - 3 Carbon dioxide.
  - 4 Oxygen.
- a 1 and 2
  - b 1 and 3
  - c 2 and 3
  - d 4 and 1



Source: loplana.umap.mohammedshrine.org

**Figure 3**

23 What is the name of the structure labelled X in Figure 3?

- a Cell wall.
- b Cytoplasm.
- c Chloroplast.
- d Vacuole.

24 Which one of the following is a dicotyledon (dicot)?

- a Italian rye grass.
- b Oil seed rape.
- c Wheat.
- d Oats.

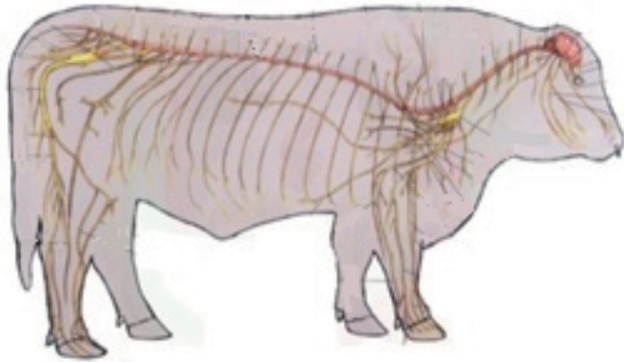
25 What plant life cycle does maize have?

- a Annual.
- b Perennial.
- c Biennial.
- d Ephemeral.

26 Which one of the following has an influence on the germination of wheat?

- a Translocation.
- b Photosynthesis.
- c Moisture.
- d Transpiration.

- 27 Which is the **main** plant nutrient needed for healthy root growth and stem vigour?
- Carbon.
  - Phosphorus.
  - Potassium.
  - Nitrogen.



Source: <https://www.slideshare.net>

**Figure 4**

- 28 What is the name of the system shown in Figure 4?
- Circulatory.
  - Reproductive.
  - Digestive.
  - Nervous.
- 29 What is the function of the abomasum in cows?
- To help extract waste.
  - To help absorb water.
  - To help mobilise fats and lipids.
  - To help breakdown and absorb protein.
- 30 Which **two** of the following are late maturing breeds of cattle?
- 1 Angus.
  - 2 Hereford.
  - 3 Charolais.
  - 4 Simmental.
- 1 and 2
  - 1 and 3
  - 2 and 3
  - 3 and 4

- 31 Which one of the following is a sign of oestrous in cattle?
- Increased cuddling.
  - Standing to be ridden.
  - Decreased temperature.
  - Water bag presence.
- 32 Which one of the following breeds is a monogastric?
- Texel.
  - Saddle back.
  - Welsh black.
  - Scottish Blackface.
- 33 What is the correct order of the stages of parturition in sheep?
- Mucus present, water bag ruptured, nose and feet present and lamb born.
  - Water bag ruptured, mucus present, nose and feet present and lamb born.
  - Water bag ruptured, nose and feet present, mucus present and lamb born.
  - Mucus present, nose and feet present, water bag ruptured, lamb born.
- 34 A system in which landowners rent their land to be farmed by another business is known as
- share farming
  - allied trading
  - tenant farming
  - sole trading.
- 35 Which one of the following job roles are classed as higher level?
- Farm worker.
  - Herd's person.
  - Stockman.
  - Director.
- 36 What is the role of the Agriculture and Horticulture Development Board (AHDB)?
- To safeguard food production standards.
  - To provide insurance and support the farming industry.
  - To administer Common Agricultural Policy (CAP) payments in England.
  - To provide professional representation for farmers, growers and others in the supply chain.

- 37 How long does a farmer have to register a calf for a passport from birth?
- a Within 10 days.
  - b Within 27 days.
  - c Within 30 days.
  - d Within 42 days.

38 **Statement 1**

It is a legal requirement to report a notifiable disease to the Department for Environment, Food and Rural Affairs (DEFRA).

**Statement 2**

There is a limit to the average amount of Nitrogen which can be applied to crops each year in a Nitrate Vulnerable Zone (NVZ).

Which of the following is correct for the above statements?

	<b>Statement 1</b>	<b>Statement 2</b>
a	True	False
b	False	False
c	True	True
d	False	True

- 39 Which **two** of the following are classed as crop yields?

- 1 Tonnes per hectare.
- 2 Litres per day.
- 3 Kilograms per day.
- 4 Kilograms of dry matter.

- a 1 and 2
- b 2 and 3
- c 3 and 4
- d 4 and 1

- 40 Which one of the following should be used to bench mark a dairy business?

- a Barley yield.
- b Key Performance Indicators.
- c Farm profit and loss.
- d Abattoir supply and demand.

- 41 Which one of the following is a commercial use of drones?

- a Monitoring the growth of crops.
- b Grading of a beef carcass.
- c Loading pigs into a wagon.
- d Milking cows.

- 42 Which one of the following terms is used to set the market price of beef?

- a Calving interval.
- b Carcass classification.
- c Farm profit and loss.
- d Feed conversion ratios.

**To answer questions 43-46 you must refer to scenario 1.**

**Scenario 1:**

A farmer is keen to improve the quality and fertility of the soils on their 300 ha lowland arable farm. The land is on light, sandy soil and the main enterprise is vegetable growing.

- 43 Which one of the following problems could affect the farm?

- a Nitrogen leaching.
- b Poor drainage.
- c Cultivation difficulties.
- d Soil temperature takes a while to warm up.

- 44 Which would be the **best** crop financially to grow on the farm?

- a Potatoes.
- b Lucerne.
- c Willow.
- d Clover.

- 45 The farmer would like to grow a break crop in between a cereal rotation.

Which one of the following would be a suitable crop to grow?

- a Maize.
- b Oats.
- c Rye.
- d Forage peas.

- 46 One of the crops has developed mildew on the leaves.

Who is the **best** person that the farmer could employ to advise on this problem?

- a Agronomist.
- b Auctioneer.
- c Tractor driver.
- d Herdsperson.

**To answer questions 47- 50 you must refer to scenario 2.**

**Scenario 2:**

A farmer has a herd of 50 suckler cows which is the main enterprise on a remote upland farm facing north in a high rainfall area and little depth of soil. The farmer wishes to improve the profitability of the enterprise.

47 Which breed would be **most** suitable for the farm?

- a Jersey.
- b Limousin.
- c Holstein.
- d Ayrshire.

48 What would be a suitable forage crop to introduce into a rotation for the weaned, autumn born calves to graze?

- a Willow.
- b Cabbage.
- c Kale.
- d Wheat.

49 Which one of the following is the **best** way to improve the profitability of the farm?

- a Opening up a farm shop.
- b Growing maize as a forage crop.
- c Introducing solar panels to sell electricity.
- d The purchase of a high genetic merit bull.

50 Which notifiable disease could be a concern for the farm?

- a Bovine Tuberculosis (TB).
- b Toxoplasmosis.
- c Ringworm.
- d Erysipelas.

**NOW GO BACK AND CHECK YOUR WORK**

- **IMPORTANT -**

Are the details at the top of the answer sheet correct?

Have you filled in your answers in INK in the appropriate boxes on the answer sheet?