



0171-521 JUNE 2018
Level 2 Technical Certificate in Agriculture
Level 2 Agriculture – Theory Exam

Thursday 21 June 2018
09:30 – 11:30

You should have the following for this examination

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

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"/> b	<input type="radio"/> c	<input type="radio"/> d
	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"/> b	<input type="radio"/> c	<input type="radio"/> d
	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"/> b	<input checked="" type="radio"/>	<input type="radio"/> d
	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.

- 1 Which one of the following crops is maize **most** likely to be used for, in the UK?
- a Green manure.
 - b Forage.
 - c Field vegetables.
 - d Cereal.
- 2 What moisture content should grain be stored at, for long term storage?
- a 14.5%
 - b 15.5%
 - c 16.5%
 - d 17.5%

- 3 A farmer needs to apply compound nutrients to their crops. Which one of the following application methods would **best** suit this process?
- a Applying manufactured fertiliser using a fertiliser spreader.
 - b Applying farm yard manure using manure spreaders.
 - c Applying plant residue using the manure spreader.
 - d Applying liquid manure using a slurry spreader.

4 **Statement 1**
Carrots are best grown in soil with minimal stones.

Statement 2
Carrots are grown on farms because of the heavier soil types.

Which one of the following is correct for the above statements?

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

- 5 A farmer has been advised to add trace elements to sugar beet. How are these **most** commonly applied?
- a Slurry tanker.
 - b Field crop sprayer.
 - c Fertiliser spreader.
 - d Slug pellet applicator.
- 6 Which one of the following legislation requires a farmer to undertake an assessment, prior to using pesticides in field crop sprayers?
- a Nitrate Vulnerable Zone.
 - b Water Framework Directive.
 - c Waste management regulations.
 - d Control of Substances Hazardous to Health.
- 7 Which one of the following are fungicides used to control?
- a Insects.
 - b Weeds.
 - c Diseases.
 - d Slugs.

8 **Statement 1**
Plant Growth Regulators (PGR) strengthen the stems on cereals and oilseed rape.

Statement 2
Plant Growth Regulators (PGR) increases the root bowl of crops.

Which one of the following is correct for the above statements?

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

- 9 Which one of the following is **best** to use in order to increase grain protein levels in winter wheat for human consumption?
- a Lime.
 - b Potash.
 - c Phosphate.
 - d Nitrogen.

- 10 Winter wheat and oilseed rape crops are typically grown on which type of soil?
- Sandy soils because it easy to harvest in summer.
 - Sandy soils because the pH is good for the crop.
 - Clay soils because they are usually very fertile.
 - Clay soils because they are easily worked.
- 11 A fertiliser has an analysis of 20:12:12. Which is the correct order for the nutrients?
- Nitrogen, Potash, Phosphate.
 - Potash, Nitrogen, Phosphate.
 - Phosphate, Potash, Nitrogen.
 - Nitrogen, Phosphate, Potash.
- 12 Why are farmers being encouraged to grow crops such as Miscanthus and Short Rotation Coppice (SRC)?
- To reduce the reliance on fossil fuels.
 - To use for human consumption.
 - To use as a green manure.
 - To use as livestock feed.
- 13 Oats, rye and triticale are examples of
- forage crops
 - combinable crops
 - green manure crops
 - field vegetable crops.
- 14 Which one of the following is a native beef breed to the UK?
- Simmental.
 - Charolais.
 - Hereford.
 - Jersey.
- 15 What is the **main** reason why Texel and Suffolk sheep breeds are chosen as terminal sires?
- They can survive harsh weather conditions.
 - They have strong mothering abilities.
 - To produce a finished lamb.
 - To produce draft ewes.
- 16 Which one of the following type of animal is Orf found in?
- Pigs.
 - Cattle.
 - Poultry.
 - Sheep.
- 17 Which **two** of the following are **main** indicators of external parasites on animals?
- Poor coat.
 - Sunken eyes.
 - Scours.
 - Shallow breathing.
- 1 and 2.
 - 2 and 3.
 - 3 and 4.
 - 1 and 4.
- 18 What is the correct body temperature for a healthy calf?
- 36.1 to 37.1°C
 - 38.1 to 39.1°C
 - 40.1 to 41.1°C
 - 42.1 to 43.1°C
- 19 **Statement 1**
Johnes disease is a disease of cattle and sheep.
- Statement 2**
Salmonella is only a disease of poultry.
- Which one of the following is correct for the above statements?
- | | Statement 1 | Statement 2 |
|---|--------------------|--------------------|
| a | True | True |
| b | True | False |
| c | False | True |
| d | False | False |
- 20 Codes for the recommendation for the welfare of animals is produced by which organisation?
- NFU.
 - DEFRA.
 - HSE.
 - RSPCA.

- 21 Which one of the following would a farmer need to be aware of if they wish to establish an intensive slurry based pig enterprise on a small farm?
- Feed availability.
 - Market location.
 - Waste management.
 - Machine availability.



Figure 1

- 22 In Figure 1, what part of a plant cell is indicated by the number 3?
- Vacuole.
 - Membrane.
 - Chloroplast.
 - Cytoplasm.

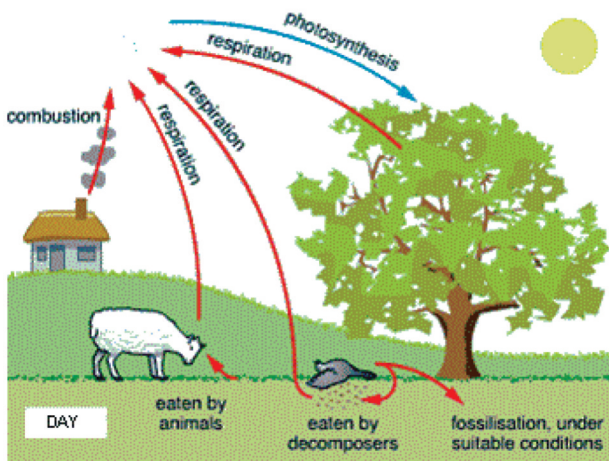


Figure 2

- 23 What natural process is shown in Figure 2?
- Water Cycle.
 - Carbon Cycle.
 - Nitrogen Cycle.
 - Phosphate Cycle.

- 24 Which one of the following is an example of a crop with a fibrous root system?
- Italian ryegrass.
 - Winter beans.
 - Spring peas.
 - Red clover.

- 25 Which of the following is the **main** nutrient that affects healthy leaf growth?
- Phosphorus.
 - Nitrogen.
 - Manganese.
 - Potassium.

- 26 Which one of the following is an example of a Dicotyledon (Dicot)?
- Spring oats.
 - Oilseed rape.
 - Spring wheat.
 - Hybrid ryegrass.

- 27 **Statement 1**
Cereals are examples of an annual plant because they complete their lifecycles in two years.

Statement 2
Clovers are examples of perennial plants because they complete their life cycles over several years.

Which one of the following is correct for the above statements?

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

28 Carbohydrates are **mainly** used in the body for

- a development
- b repair
- c energy
- d maintenance.

29 The digestive system is made up of the

- a oesophagus, liver and pancreas
- b oesophagus, trachea and nerves
- c oesophagus, heart and kidneys
- d oesophagus, diaphragm and veins.

30 Which one of the following's breeding cycle includes incubation?

- a Sheep.
- b Pigs.
- c Cattle.
- d Poultry.

31 **Statement 1**

DNA does not influence positive traits for selective breeding.

Statement 2

Chromosomes are found in the nucleus of cells and carry genetic information in the form of genes.

Which one of the following is correct for the above statements?

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

32 With regard to animals, what does parturition mean?

- a When an animal produces milk.
- b When an animal is on 'heat'.
- c When an animal is pregnant.
- d When an animal gives birth.

33 **Statement 1**

In a monogastric animal, chewing is the first stage of the digestion process.

Statement 2

The reticulum in cattle stores forage before regurgitation.

Which one of the following is correct for the above statements?

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

34 **Statement 1**

GPS would be an ideal tool to use when soil sampling to identify specific problem areas.

Statement 2

When linked to a GPS system, vari rate spreaders can apply different fertiliser rates depending on the location of the tractor in the field.

Which one of the following is correct for the above statements?

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

35 Which one of the following activities, in dairy cows, does a pedometer (activity monitor) measure?

- a Bulling.
- b Calving.
- c Feeding.
- d Milking.

36 Which one of the following would be the **most** suitable for a farmer to record their financial data?

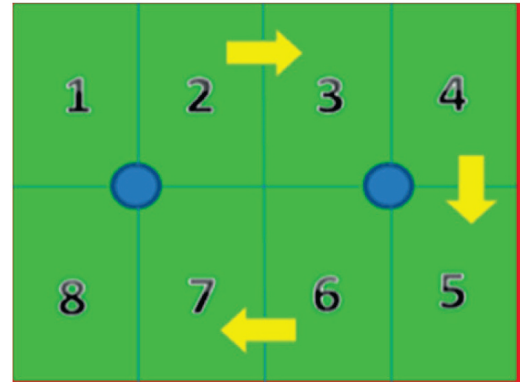
- a Database.
- b Power Point.
- c Spreadsheet.
- d Word document.

- 37 What is the **main** benefit of an early lambing flock when marketing the finished lambs?
- There will normally be high numbers of lambs available and the price will be high.
 - There will normally be low numbers of lambs available and the price will be high.
 - There will normally be high numbers of lambs available and the price will be low.
 - There will normally be low numbers of lambs available and the price will be low.
- 38 A livestock assistant would usually belong to which level of worker?
- Owner.
 - Higher.
 - Middle.
 - Entry.
- 39 Which one of the following **best** describes a tenant?
- The person who owns the farm.
 - The person who rents the farm.
 - Two people who farm together.
 - Another worker called in to help.
- 40 Which one of the following is an appropriate job role for a student who has passed a Level 2 in Agriculture?
- Herd manager.
 - Head of Estate.
 - Farm manager.
 - Tractor operator.
- 41 A farmer has a large diesel spillage. Which one of the following agencies should the farmer contact **first**?
- NFU.
 - EA.
 - RPA.
 - AHDB.
- 42 Which one of the following is **most** likely to test silage feed quality on farm?
- AI Technician.
 - RPA inspector.
 - Livestock Nutritionist.
 - Livestock Auctioneer.

To answer questions 43, 44, 45 and 46 you must refer to Scenario 1.

Scenario 1:

A farmer has sheep and is reviewing the whole enterprise, looking at the breeds they use, what they feed the sheep and grazing systems and animal health. The farmer is considering breeding the North of England Mule. The farmer has also found some information about different grazing systems and has this image:



The farmer is looking at when to lamb the sheep. Some local college students have expressed interest in helping the farmer with lambing at Easter, which is the first week in April this year.

- 43 What is the correct breeding the farmer should follow for the North of England Mule?
- Blue faced Leicester ram X Swaledale ewe.
 - Blue faced Leicester ram X Suffolk ewe.
 - Border Leicester ram X Swaledale ewe.
 - Border Leicester ram X Suffolk ewe.

44 **Statement 1**

The farmer has information regarding a forward paddock grazing system.

Statement 2

The grazing system will help to reduce stomach worms in the sheep.

Which one of the following is correct for the above statements?

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

- 45 In order to use college students to assist with lambing, when should the farmer plan to put the rams in with the ewes?
- Early September.
 - Early October.
 - Early November.
 - Early December.

- 46 There is clover growing in the grass. As a result the farmer decides to finish the lambs on the grass/clover mix. What is the **main** nutrient that clover provides the lambs with for growth?
- Vitamins and minerals.
 - Carbohydrates.
 - Fats and oils.
 - Protein.

To answer questions 47, 48, 49 and 50 you must refer to Scenario 2.

Scenario 2:

On the college farm there are a range of crops grown within a rotation which includes a quality wheat, feed barley for rolling and a range of animals reared.

The crops are grown either for animal feed or for human consumption. The animals are reared either for milk or for meat depending on which species.

The farmer pays for specialists to help out with advice and guidance with the livestock and the crops. Animal by-products are spread back onto the land.

- 47 Which one of the following is the market for the wheat grown on the farm?
- Bread.
 - Beer.
 - Animals.
 - Porridge.

- 48 Which **two** of the specialists does the farmer pay for?
- Nutritionist.
 - Agronomist.
 - Mechanic.
 - Representative.

- 1 and 3.
- 2 and 1.
- 4 and 2.
- 4 and 3.

- 49 Why should the farmer roll the barley before feeding to livestock?
- To preserve it.
 - To make it lighter.
 - To make it easier to digest.
 - To prevent pests from eating it.

50 Statement 1

Farmyard Manure (FYM) adds Organic Matter (OM) when applied to the soil.

Statement 2

Farmyard Manure (FYM) adds nutrients when applied to the soil.

Which one of the following is correct for the above statements?

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

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?