



0174-523 MARCH 2019

Level 2 Technical Certificate in Forestry and Arboriculture

Level 2 Forestry and Arboriculture – Theory Exam

Friday 15 March 2019
09:30 – 11:00

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 City & Guilds Limited 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 40 questions. Answer them using the 'boxes' numbered 1 to 40 on the answer sheet.

- 1 Which of the following organisations operates within the utilities sector?
 - a Forestry Commission.
 - b Environment Agency.
 - c National Trust.
 - d Network Rail.

- 2 Which of the following **best** describes the role or responsibilities of a Tree Surveyor?
 - a To support the climber during aerial operations.
 - b To collect information on tree stock.
 - c To support an argument within a legal context.
 - d To manage trees as a crop.

- 3 Which of the following is a form of continuing professional development (CPD)?
 - a Increased resilience.
 - b Attending seminars.
 - c Self-assessment.
 - d Applying for jobs.

- 4 What is the **main** purpose of a covering letter when applying for a job?
 - a To prepare questions and answers for interview.
 - b To demonstrate your ability to write a CV.
 - c To discuss employment details prior to interview.
 - d To formally introduce yourself and your application.

- 5 Which of the following measures could be used to maintain a resilient tree stock?
 - a Quarantine.
 - b Population control.
 - c Plant passport.
 - d Resistant tree species.

- 6 Which of the following control methods would **not** be used to control deer?
 - a Culling.
 - b Fertility control.
 - c Sonic nets.
 - d Fencing.

- 7 What does AONB stand for?
 - a Area of Outstanding Natural Beauty.
 - b Area of Outstanding Natural Beaches.
 - c Area of Outstanding Naturalised Bedrock.
 - d Area of Outstanding Naturalised Birch.

- 8 The Forestry Commission is responsible for which of the following?
 - a Tree Preservation Orders.
 - b Conservation areas.
 - c Sites of special scientific interest.
 - d Felling licenses.

- 9 Which of the following is **not** an effect of flooding?
 - a Reduced crop yields.
 - b Wind-throw risk.
 - c Ground saturation.
 - d Increased growth rate.

- 10 A large dead tree within a public park overhanging a busy path needs to be managed. Which option would be **most** appropriate to reduce risk and to increase biodiversity on the site?
 - a Remove tree leaving standing dead stem.
 - b Remove tree taking all arisings off-site.
 - c Do not remove tree but install a bird box.
 - d Do not remove tree and install fence.

- 11 Which soil type would be **most** free draining?
 - a Sandy-loam.
 - b Silt-loam.
 - c Sandy-clay.
 - d Silt-clay.

- 12 What is the **main** purpose of phloem tissue?
 - a Water and nutrient uptake.
 - b Support and storage.
 - c Transport of photosynthates.
 - d Gas exchange.

- 13 Which of the following is **not** a primary function of bark?
 - a Protection.
 - b Gas exchange.
 - c Water loss.
 - d Nutrient uptake.

- 14 A fungi which lives exclusively on dead wood is
- saprophytic
 - parasitic
 - mycorrhizae
 - bacterial.
- 15 What does the following phrase describe: 'void spaces in material'?
- Compaction.
 - Porosity.
 - Nutrient availability.
 - Water availability.
- 16 Undifferentiated cells are known as
- vascular
 - xylem
 - phloem
 - meristematic.
- 17 Beneficial fungal species are classified as
- naturalised
 - parasitic
 - saprophytic
 - mycorrhizal.
- 18 Storage is one of the primary functions of
- roots and bark
 - stem and bark
 - roots and stem
 - stem and leaves.
- 19 Which of the following **best** describes soil amelioration?
- Increasing aeration.
 - Adding materials.
 - Reducing compaction.
 - Improving drainage.
- 20 Why would trapping be appropriate for managing invertebrate pest species?
- To monitor population levels.
 - To reduce population levels.
 - To calculate pesticide ratios.
 - To encourage breeding.
- 21 A woodland has issues with water logging. What is the **most** suitable action to take?
- Add fertiliser.
 - Improve drainage.
 - Clear fell trees and restock.
 - Increase soil organic matter content.
- 22 What is the **best** way of storing bare-root trees on a site prior to planting?
- Rested against a fence.
 - In a locked storage container.
 - Heeled in and watered.
 - Indoors in a warm environment.
- 23 What would be the **most** suitable planting method for a light standard tree?
- Pit planting.
 - Notch planting.
 - Angled planting.
 - Mound planting.
- 24 Which of the following methods of staking and supporting trees would have the **most** visual impact?
- Guying.
 - Stake and tie.
 - Double stake and rail.
 - Underground anchors.
- 25 Which method of protection for newly planted stock would reduce competition for water and nutrients?
- Spiral guard.
 - Mulch mat.
 - Guard.
 - Fencing.
- 26 Which of the following is a method of ground cultivation?
- Litter picking.
 - Fencing.
 - Rotavating.
 - Weed control.

- 27 What does the statement 'the direction something faces' describe?
- Topography.
 - Slope.
 - Aspect.
 - Climate.
- 28 Which of the following tree species is **most** likely selected for timber stock?
- Ilex aquifolium*.
 - Platanus x hispanica*.
 - Picea abies*.
 - Populus nigra* "Italica".
- 29 A shopping centre wants to plant trees for instant impact. Which of the following nursery stocks is **most** suitable?
- Containerised extra heavy standard.
 - Root-balled feathered whip.
 - Bare-root feathered light standard.
 - Cell grown 2+1 transplant.
- 30 Which of the following would **best** manage an aphid infestation on newly planted trees?
- Herbicides.
 - Pesticides.
 - Fungicides.
 - Germicides.

- 31 Which of the following are topographical features?

- Rivers and streams.
- Livestock.
- Hills and valleys.
- Invasive species.
- Boundary lines.
- Rain and snow.

- 1, 2 and 3
- 1, 3 and 5
- 2, 4 and 6
- 4, 5 and 6

- 32 **Statement 1**

Subsoiling should only be undertaken in dry weather.

Statement 2

Rotavating breaks up, churns and ameliorates the soil.

Which 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

To answer questions 33-36, refer to scenario 1.

Scenario 1

A forestry worker has been tasked with planting a large area of an exposed site with a fast growing timber stock. A pathogen which affects European larch has been found in the area and deer are also present.

- 33 What would be the **most** appropriate tree stock and planting technique for the site?
- a Standard and pit planting.
 - b Cell-grown and notch planting.
 - c Seedlings and mound planting.
 - d 5 year transplant and angled planting.
- 34 What would the **most** likely aftercare provisions be for these newly planted forestry trees?
- 1 Watering.
 - 2 Mulching.
 - 3 Formative pruning.
 - 4 Pest control.
 - 5 Beating up.
 - 6 Herbicide application.
- a 1, 2 and 3
 - b 1, 3 and 5
 - c 2, 4 and 6
 - d 4, 5 and 6
- 35 Which tree species would be **most** suitable for planting?
- a *Picea sitchensis*.
 - b *Larix decidua*.
 - c *Quercus robur*.
 - d *Sorbus aucuparia*.

36 **Statement 1**

A Tree Preservation Order applies to the site due to the diseased larch being protected.

Statement 2

The Wildlife and Countryside Act protects all nesting birds during the felling operations.

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

To answer questions 37-40, refer to scenario 2.

Scenario 2

A local arborist has been asked to work on a domestic customer's prized garden tree. The customer has explained that it produces large spikey seeds and the compound leaves turn a mottle brown every summer. They believe it has some kind of 'protection' from the Local Authority. The tree is at the bottom of a downward-sloping garden and the ground is very moist underfoot.

37 Based on the customer's description, what kind of tree will be worked on?

- a *Aesculus hippocastanum*.
- b *Fraxinus excelsior*.
- c *Fagus sylvatica*.
- d *Castanea sativa*.

38 It is discovered that the 'protection' the customer mentions is the fact they live in a Conservation Area. What procedure must be followed in order to undertake tree works?

- a Application to the Local Authority detailing information on the works that are intended to be undertaken and no work to be started until permission is granted.
- b Notification sent to the Forestry Commission that work is to be undertaken and allow six weeks for a response before starting.
- c Notification sent to the Local Authority that work is to be undertaken and allow six weeks for a response before starting.
- d Application to the Forestry Commission for a Felling Licence for permission to work on the tree.

39 How could the soil properties be improved for this tree?

- a Introduce mycorrhizae.
- b Test the pH level of the soil.
- c Undertake a hand-texture test.
- d Install appropriate drainage.

40 Based on the customer's description, what pest or disease might the tree be suffering from and how would this be reasonably controlled?

- a Bleeding canker, foliar spray.
- b Leaf minor, destroy fallen leaves.
- c Bleeding canker, root drench.
- d Leaf minor, sanitary felling.

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?