



0174-523 JUNE 2018

Level 2 Technical Certificate in Forestry and Arboriculture

Level 2 Forestry and Arboriculture – Theory Exam

Friday 22 June 2018
09:30 – 11:00

You should have the following for this examination

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

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 one of the following is a governmental organisation?
- National Trust.
 - Forestry Commission.
 - Wildlife Trust.
 - Institute of Chartered Foresters.
- 2 Which job role below is **most** likely to be found in an urban environment in the UK?
- Tree Officer.
 - Woodland Estate Manager.
 - Ministry of Defence Forester.
 - Timber Harvesting Operative.
- 3 What personal characteristics would be **best** suited for dealing with an unhappy client?
- Awareness of health and safety, reliability and good chainsaw skills.
 - Resilience, awareness of health and safety and appearance.
 - Customer service skills, politeness and respecting diversity.
 - Reliability, customer service skills and good tree planting skills.
- 4 Frank is thinking of becoming self-employed. What **three** things does he need to consider?
- Assessing and declaring taxes.
 - Planning for periods of sickness and holidays.
 - Being paid through Pay as You Earn scheme.
 - Having appropriate insurance in place.
- 1, 2 and 3.
 - 2, 3 and 4.
 - 3, 4 and 1.
 - 4, 1 and 2.
- 5 Which of the below is a European Protected Species?
- Tawny Owl.
 - Otter.
 - Rabbit.
 - Red Deer.

- 6 What is a spill kit **best** used for?
- To catch pesticide drift.
 - To store excess liquid.
 - To contain and clean up a hazardous substance.
 - To prevent the spread of harmful organisms or diseases.
- 7 Mature street trees and avenues can help reduce the effect of climate change in an urban environment by

Statement 1

providing cooling through evaporation from leaf surfaces and reflecting solar radiation.

Statement 2

reducing the demand on urban drainage systems.

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

- 8 What is the **best** way to protect a new woodland plantation from ground saturation during periods of prolonged rainfall?
- Build sustainable urban drainage systems.
 - Dig and maintain drainage ditches.
 - Plant trees in water catchment areas.
 - Create silt traps in riparian areas.
- 9 Which statement **best** describes the creation of biomass energy?
- Generating electricity using organic material.
 - Planting trees to capture and store carbon.
 - Burning petrol to power a generator.
 - Producing electricity on a wind farm.

10 Which of the following measures should be taken to create a resilient tree stock?

- 1 Use trees that suit future climates.
- 2 Plant a diversity of tree species.
- 3 Use imported tree stock only.
- 4 Plant cloned tree species only.

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

11 What soil type is **most** porous?

- a Silty clay.
- b Sandy.
- c Clay.
- d Silt.

12 What is a plant response to a lack of water?

- a Accelerated growth.
- b Wilting leaves.
- c Oversize fruit.
- d Budding early.

13 **Statement 1**

A soil with a pH of 8.5 has a positive impact on plant growth.

Statement 2

An iron pan soil layer will increase nutrient availability for plants.

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

14 Which one of the following plant parts is primarily responsible for photosynthesis?

- a Roots.
- b Stem.
- c Bark.
- d Leaves.

15 What is a purpose of the apical meristem?

- a Leaf production.
- b Girth increase.
- c Root development.
- d Cambium production.

16 Which vascular tissue transports water and ions in the plant?

- a Meristem.
- b Xylem.
- c Phloem.
- d Cortex.

17 Which leaf structure opens to allow air to enter?

- a Stomata.
- b Petiole.
- c Bud.
- d Vein.

18 What is the process of movement of food and nutrients through the plant called?

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

19 The following signs and symptoms are presented on a tree.

- 1 Defoliation.
- 2 Nests on branches.
- 3 Silken trails on trunks and branches.
- 4 Caterpillars moving around the canopy 'nose to tail.'

What is the likely cause?

- a Gypsy Moth.
- b Browntail Moth.
- c Oak Processionary Moth.
- d Pine Tree Lappet Moth.

20 What does soil texture describe?

- a The nutrient availability in a soil.
- b The structure or feel of the soil.
- c The soil's horizons in profile.
- d The depth of the soil.

- 21 Which one of the following is a saprophytic fungi?
- Armillaria mellea.
 - Heterobasidion annosum.
 - Inonotus hispidus.
 - Auricularia auricula-judae.
- 22 What is the **most** suitable stock type for visual impact in an amenity landscaping scheme?
- Standard.
 - Whip.
 - Transplant.
 - Cell grown.
- 23 **Statement 1**
Bare root stock should only be lifted in the dormant period, some of the root system will be lost during lifting.
- Statement 2**
Root balled stock can be lifted any time of year, the roots and soil remain intact.
- 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 |
- 24 What is considered a normal planting technique for 2+1 transplanted trees?
- Notch planting.
 - Mound planting.
 - Pit planting.
 - Auger planting.
- 25 What girth correctly defines the nursery stock specification for a standard tree?
- 4-8 cm.
 - 8-10 cm.
 - 18-20 cm.
 - 25-30 cm.
- 26 What would be the **most** suitable method for permanently removing rhododendron regrowth over a large restocking site?
- Chemical application.
 - Scarifying.
 - Mulching.
 - Sub-soiling.
- 27 Why is cold storage used in stock handling?
- Free up planting space.
 - Slow down tree processes.
 - Protect trees from insect damage.
 - Prevent mammal damage to trees.
- 28 What would be the **least** suitable protection for newly planted trees on a site with small mammals?
- Fencing.
 - Tree shelters.
 - Spiral guards.
 - Tree stake and ties.
- 29 Which species characteristic should be favoured when selecting trees for a pedestrianised shopping area?
- Surface rooting.
 - Fast growth.
 - Seasonal interest.
 - Large fruit.
- 30 A large tree is to be planted in a public park adjacent to a footpath. Underground and overhead services are known to be nearby.
- Which factors would **most** influence tree selection?
- Predicted size/spread, staking and support.
 - Soil type, topography, staking and support.
 - Local climate, species, planting technique.
 - Species, predicted size/spread, aspect.

- 31 Why is it important to monitor health and establishment of newly planted trees?
- 1 Presence of pests and diseases.
 - 2 Check mortality rates of planted trees.
 - 3 Consider formative pruning requirements.
 - 4 Calculate wind throw hazard class.
- a 1, 2 and 3.
 - b 2, 3 and 4.
 - c 3, 4 and 1.
 - d 4, 1 and 2.

- 32 How should bags of plants be stored?
- a As stacks.
 - b In heaps.
 - c Upright and apart.
 - d Open but under tarpaulin.

To answer questions 33-37, refer to Scenario 1.

Scenario 1

Jane is an experienced arboricultural and forestry contractor and is looking to gain new clients.

- 33 What is the **best** combination of personal characteristics for Jane's situation?
- 1 Health and safety awareness.
 - 2 Respects diversity.
 - 3 Outputs good quality work.
 - 4 Unreliable.
- a 1, 2 and 3.
 - b 2, 3 and 4.
 - c 3, 4 and 1.
 - d 4, 1 and 2.

- 34 **Statement 1**
Jane needs to plan for periods of sickness and holiday.

Statement 2
Jane does **not** need public liability insurance.

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 Jane's has been awarded a contract to clear fell 1 hectare of trees. The site is known to be used by badgers. Which of the following information would she expect the landowner to provide to her before work can start?
- 1 Evidence of Felling License.
 - 2 Evidence of consent to work on a protected tree.
 - 3 Evidence of planning permission.
 - 4 Evidence of appropriate Wildlife License.

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

- 36 The landowners are now worried about disturbance to red squirrels in the area. What legislation should Jane refer to and how can she change her work processes?

- a Refer to the Wildlife and Countryside Act (1981) and carefully organise works within the breeding season.
- b Refer to European Protected Species (1994) and carefully organise works after the breeding season.
- c Refer to the Wildlife and Countryside Act (1981) and carefully organise works after the breeding season.
- d Refer to European Protected Species (1994) and carefully organise works within the breeding season.

- 37 Jane notices some of the adjacent trees are showing high levels of grey squirrels damage. What management and controls may Jane suggest to the landowner to enable them to take corrective action?

- a Use of pesticides and fertility control.
- b Live trapping and relocation.
- c Fertility control and monitor population.
- d Monitor damage levels and live trapping.

To answer questions 38-40, refer to Scenario 2.

Scenario 2

Phytophthora ramorum causes extensive damage and death to a wide range of trees.

38 Which **two** of the following signs and symptoms would indicate *Phytophthora ramorum*?

- 1 Bark lesions.
- 2 Fluids leaking from bark.
- 3 Bracket like fruiting bodies.
- 4 Flushing foliage.

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

39 What control measures should be used to deal with an outbreak?

- 1 Fell affected trees.
- 2 Apply fungicides before, during and after planting new trees.
- 3 Introduce nematodes.
- 4 Statutory Plant Health Order issued.

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

40 The outbreak has been contained and a suitable species has been chosen to restock the site. What are the benefits of aftercare and re-surveying after restocking the site?

- 1 Predicting yield and income.
- 2 Future health and safety issues.
- 3 Record keeping.
- 4 Incurring costs.

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

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?