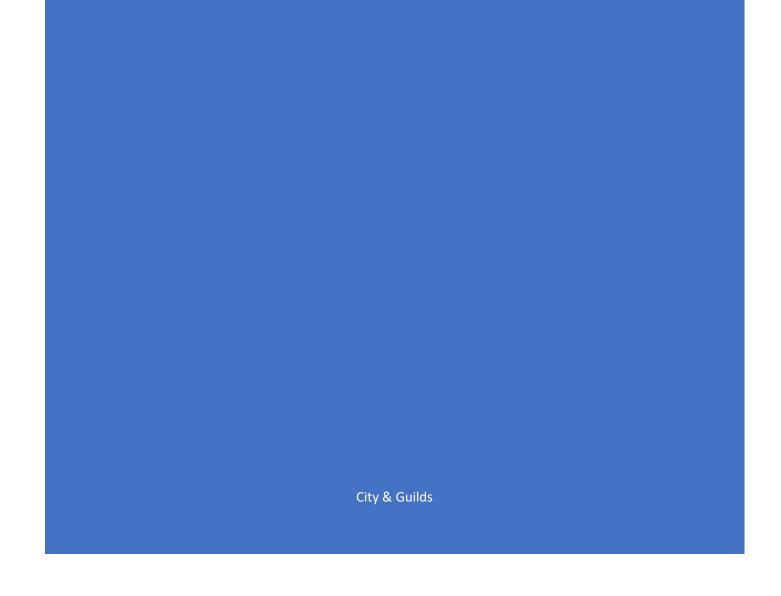


Practice Marking Materials for Technical Qualifications 2019



Level 3 Horticulture 0174-30

Introduction

The synoptic assignments for the City & Guilds Technical Qualifications are externally set summative assessments which are internally marked by tutors. It is the centre's responsibility to ensure candidates' work is marked in a standard way across the centre, using the specified marking grid, in order to rank performance on a single mark scale.

Practise marking materials are useful to support centre staff with internal standardisation and as a prestandardisation activity. The materials are produced to support staff in the process of marking including how to effectively use marking grids and assessment objectives (AO).

The marking materials must be considered alongside the Technical qualifications Marking and Moderation Guide

It is recommended that all tutors, including any unlikely to mark, are included in early discussions around the use of the marking grid, as all tutors should understand the basis of marking as it could shape their teaching by helping candidates practise bringing their skills and knowledge together to complete a problem, and helping them learn how to explain and justify their choices in terms of the subject knowledge in preparation for summative assessment. Tutors must study the *Marking and Moderation Guide*:

https://www.cityandguilds.com/techbac/technical-qualifications/resources-and-support
which provides detailed information about generic assessment objectives, and the marking grid, to ensure they are clear about the different AOs and how they may show up in evidence for assignments in the subject area. If there is more than one tutor carrying out marking at the centre, this process should be carried out as part of a group activity to ensure all markers are clear and in agreement about what sorts of evidence are relevant for assessment and which AO they fit into.

The following materials could form the basis for pre-standardisation practice and discussion could take place using evidence from trial runs/formative assessment activities. Standardisation should also take place using the evidence from the actual assignment set for that year, so along with utilising this tool, please ensure that activities surrounding the 2019 assignment also take place.

Within this pack, you will find

- a sample task brief
- a copy of the marking grid used for the synoptic assessment
- a sample of materials responding to either last year's synoptic assignment or a sample set of tasks. This includes learner produced evidence and tutor observations of the practical performance.

And finally, the Principal Moderator has provided a breakdown of the marks for the different assessment objectives along with general hints and tips on the synoptic assessment.

You have been employed as a consultant horticulturist at a local business park to select and establish plants for an area outside two office buildings, and to provide staff training for the maintenance of this area.

The business park management need to know about the site conditions and its suitability for planting and therefore require you to carry out a detailed site survey.

For the area outside the office buildings, they would like to know what plants already exist and for you to recommend new plant species, taking into account the plants' characteristics and adaptations that allow them to tolerate conditions in the areas.

You will then be required to prepare the site in the new area, plant the plants and provide aftercare to aid establishment.

As part of the staff training, the business park management require you to produce a guide for the maintenance team on the pests and diseases that could affect the recommended new plant species, including the problems they can cause and the control measures that they should put in place.

In addition, you have been asked to demonstrate to the maintenance team how to safely carry out machinery pre-start checks, identify common faults and suggest appropriate remedial action.

Tasks

Task 1

Carry out and record a survey of a given site, including a soil investigation, to determine its condition and suitability for planting. You must also identify 10 existing plants in the area by their botanical name.

Conditions of assessment:

Your site survey and plant identification must be completed working alone under supervised conditions. You will have access to suitable resources.

What you must produce for marking:

Site survey including plant identification.

Additional evidence of your performance that must be captured for marking:

- Your tutor's notes recording the standard and accuracy of your performance.
- Photographic and/or video evidence (optional).

Task 2

- a) Using the findings of the survey you completed in task 1, produce a proposal for the planting of new plant species on the site, including how their specific characteristics or adaptations make them suitable for the site conditions.
- b) Produce a guide which identifies and classifies common pests and diseases that could affect the new plant species, including the problems they can cause and the control measures to be put in place.

Conditions of assessment:

You may collate the information you want to use in your proposal and guide under unsupervised conditions.

Your proposal and guide must be completed working on your own under supervised conditions.

What you must produce for marking:

- Written proposal
- Common pests and diseases guide.

Task 3

Plant a new area using the plants selected for you by your tutor and provide immediate aftercare

Conditions of assessment:

You must carry out the task on your own under supervised conditions.

Additional evidence of your performance that must be captured for marking:

- Your tutor's notes recording the standard and accuracy of your performance.
- Photographic and/or video evidence (optional).

Task 4

On a piece of machinery selected for you, demonstrate how to safely carry out pre-start checks and how to identify common faults, suggesting appropriate remedial action.

Conditions of assessment:

You must carry out the task on your own under supervised conditions.

Additional evidence of your performance that must be captured for marking:

- Your tutor's notes recording the standard and accuracy of your performance.
- Photographic and/or video evidence (optional).

Task instructions for centres

Resources

Candidates must have access to a suitable range of resources to carry out the tasks and to have the opportunity to choose materials demonstrating the ability to select from a range of appropriate materials.

The tutor should consider using the grounds of the college or school for this assignment. If a centre cannot provide the required area of land, then an attempt must be made to locate an alternative area of land outside the school or college grounds.

Task specific guidance

Task 1

For the purpose of the site survey, tutors should select an area that contains a range of site conditions to give candidates the opportunity to fully explore suitability and requirements for tasks 1 and 2.

The plant identification task should take place in situ with at least half of the plants not previously learned where the candidate will need to use flora, keys and other sources for identification, and include half of the plants learnt during training. The tutor is to select the 10 plants to be identified. Appropriate resources are allowed for the identification of all plants and so must be made available by the tutor.

Task 2

See task 1 guidance in relation to site survey.

Task 3

It is expected that each candidate will take approximately 30 minutes to plant two different types of plants requiring different planting preparation and immediate aftercare. The plants chosen and quantity for each candidate should reflect this time allocation but must be the same for all candidates in the cohort. Plants chosen should be appropriate for the candidates' industry area.

Task 4

Machinery must be selected by the tutor and be appropriate to the candidates' industry area.

Time

The following timings are provided to support centre planning.

Total - 10 to 12 hours.

Task 1 - 3 hours (recommended)

Task 2 - 5 hours (recommended)

Task 3 - 2 hours (recommended)

Task 4 - 1 hour (recommended)

Marking grid

For any category, 0 marks may be awarded where there is no evidence of achievement

%	Assessment Objective	Band 1 descriptor	Band 2 descriptor	Band 3 descriptor
		Poor to limited	Fair to good	Strong to excellent
20	AO1 Recall of knowledge	(1-4 marks)	(5-8 marks)	(9-12 marks)
	relating to the qualification LOs Does the candidate seem to have the full breadth and depth of taught knowledge across the qualification to	Recall shows some weaknesses in breadth and/or accuracy. Hesitant, gaps, inaccuracy.	Recall is generally accurate and shows reasonable breadth. Inaccuracy and misunderstandings are infrequent and usually minor. Sound, minimal gaps.	Consistently strong evidence of accurate and confident recall from the breadth of knowledge. Accurate, confident, complete, fluent, slick.
	hand? • How accurate is their knowledge? Are there any gaps or misunderstandings evident? • How confident and secure	Examples of types of knowledge expected: Botanical names and spelling, botanical and morphological features, identification of plants, plant and soil factors, aftercare for plants, identification and classification of pests, diseases, disorders and common weeds, problems caused by weeds and pests, control measures for pests, diseases, disorders and common weeds, factors for protecting people and wildlife when using pesticides, correct storage and safe handling procedures for pesticides, legislation affecting the use of pesticides, purpose of different land-based machinery, legislation related to machinery, minimising environmental impacts of machinery.		
	does their knowledge seem?	Bottom of band: Candidate shows poor knowledge across the tasks and information contains significant inaccuracies. Top of band: Candidate shows a basic level of knowledge across the tasks which lack depth and contains some inaccuracies.	Bottom of band: Candidate shows an appropriate range of knowledge from across the tasks which shows some level of detail and accuracy. Top of band: Candidate shows a broad range of knowledge from across the tasks which is accurate and often detailed.	Bottom of band: Candidate shows strong and detailed knowledge relevant to the tasks, showing a good degree of competency and accuracy. Top of band: Candidate shows excellent knowledge across the tasks, showing a high degree of competency and accuracy.

%	Assessment Objective	Band 1 descriptor	Band 2 descriptor	Band 3 descriptor
		Poor to limited	Fair to good	Strong to excellent
20	AO2 Understanding of concepts theories and processes relating to the LOs • Does the candidate make connections and show causal links and explain why? • How well theories and concepts are applied to new situations/the assignment? • How well chosen are exemplars – how well do they illustrate the concept?	(1-4 marks) Some evidence of being able to give explanations of concepts and theories. Explanations appear to be recalled, simplistic or incomplete. Misunderstanding, illogical connections, guessing.	(5-8 marks) Explanations are logical. Showing comprehension and generally free from misunderstanding, but may lack depth or connections are incompletely explored. Logical, slightly disjointed, plausible.	(9-12 marks) Consistently strong evidence of clear causal links in explanations generated by the candidate. Candidate uses concepts and theories confidently in explaining decisions taken and application to new situations. Logical reasoning, thoughtful decisions, causal links, justified.
		Examples of understanding expected the bi-nomial system, the benefit of plant and site suitability, legislation and and working principles and limitations suggestion, safety requirements of madisorders, biology of weeds, control of trade and movement of plants, bios	ant characteristics and adaptations for ad industry best practice for machinery , identification of common faults with achinery, biology of pests, disease triar f pests, diseases, disorders and weeds	tolerating unfavourable conditions, use, machinery purpose, operating machinery and remedial action ngle, causes and symptoms of using a range of methods, problems

	Bottom of band:	Bottom of band:	Bottom of band:
	Candidate shows very limited understanding of key concepts and processes with little or no evidence of how these can be applied in different situations.	Candidate shows some understanding of key concepts and processes with some evidence of how these can be applied in different situations.	Candidate shows a detailed understanding of key concepts and processes with detailed evidence of how these can be applied in different situations.
	Top of band: Candidate shows basic understanding of key concepts and processes with limited evidence of how these can be applied in different situations.	Top of band: Candidate shows a good understanding of key concepts and processes with clear evidence of how these can be applied in different situations.	Top of band: Candidate shows a comprehensive understanding of key concepts and processes with strong evidence of how these can be applied in different situations and the wider context of the qualification.

%	Assessment Objective	Band 1 descriptor	Band 2 descriptor	Band 3 descriptor	
	,	Poor to limited	Fair to good	Strong to excellent	
25	AO3 Application of practical/ technical skills • How practiced/fluid does hand eye coordination and dexterity seem? • How confidently does the candidate use the breadth of practical skills open to them?	(1-5 marks) Some evidence of familiarity with practical skills. Some awkwardness in implementation, may show frustration out of inability rather than lack of care. Unable to adapt, frustrated, flaws, out of tolerance, imperfect, clumsy.	(6-10 marks) Generally successful application of skills, although areas of complexity may present a challenge. Skills are not yet second nature. Somewhat successful, some inconsistencies, fairly adept/capable.	(11-15 marks) Consistently high levels of skill and/or dexterity, showing ability to successfully make adjustments to practice; able to deal successfully with complexity. Dextrous, fluid, comes naturally, skilled, practiced.	
	How accurately/ successfully has the candidate been able to use skills/achieve practical	Examples of skills expected: Determine family and genera of plants using sources of identification, planting and aftercare of plants, prepare and check machinery for work, risk assessment, safe and efficient operation and post operation of machinery, safe identification of faults and reporting.			
	outcomes?	Bottom of band: Candidate shows basic application of practical skills but requires a significant amount of prompting.	Bottom of band: Candidate shows good application of practical skills and follows instructions closely, but may lack initiative.	Bottom of band: Candidate shows consistent application of practical skills and mostly uses own initiative to complete tasks.	
		Top of band: Candidate shows some application of practical skills and requires some prompting.	Candidate is able to attempt some complex tasks. Top of band: Candidate shows successful application of practical skills and follows instructions closely. Candidate shows initiative and is	Complex tasks are completed to industry standards. Top of band: Candidate shows consistently high application of practical skills and uses own initiative to complete tasks.	
			able to attempt complex tasks.	Complex tasks are completed to industry standards and timeframes.	

4	%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent		
	20	AO4 Bringing it all together - coherence of the whole subject Does the candidate draw from the breadth of their knowledge and skills? Does the candidate remember to reflect on theory when solving practical problems? How well can the candidate	(1-4 marks) Some evidence of consideration of theory when attempting tasks. Tends to attend to single aspects at a time without considering implication of contextual information. Some random trial and error, new situations are challenging, expects guidance, narrow. Many need prompting.	(5-8 marks) Shows good application of theory to practice and new context, some inconsistencies. Remembers to apply theory, somewhat successful at achieving fitness for purpose. Some consolidation of theory and practice.	(9-12 marks) Strong evidence of thorough consideration of the context and use of theory and skills to achieve fitness for purpose. Purposeful experimentation, plausible ideas, guided by theory and experience, fit for purpose, integrated, uses whole toolkit of theory and skills.		
		work out solutions to new contexts/ problems on their own?	Examples of bringing it all together: Applying knowledge and understanding to specific situations, justifying decisions/approaches taken (for example during practical activities or in planning), contingencies (for example dealing with unexpected circumstances), reflection and evaluation, coherence of arguments verbally and in written documentation.				

Bottom of band:

Candidate shows some evidence of using their knowledge, understanding and skills to make straightforward links between topics across the qualification.

Poor evidence of using knowledge and understanding to inform practical activities.

Top of band:

Candidate shows evidence of using their knowledge, understanding and skills to make key links between limited topics across the qualification.

Some evidence of using knowledge and understanding to inform practical activities.

Bottom of band:

Candidate often brings together their knowledge, understanding and skills when analysing and solving problems with limited reflection on own practice.

Candidate makes key links between a range of topics across the qualification and uses links to inform practical activities.

Top of band:

Candidate consistently brings together their knowledge, understanding and skills when analysing and solving problems with some reflection on own practice.

Candidate makes key links between a wide range of topics across the qualification and uses these links to inform practical activities.

Candidate can solve some problems but requires prompting.

Bottom of band:

Candidate coherently brings together knowledge, understanding and skills to solve problems across the qualification.

Candidate uses theory and skills effectively to achieve tasks and reflects on and evaluates own practice.

Candidates can solve problems with minimal prompting.

Top of band:

Candidate uses a wide range of sources of knowledge, understanding and skills to propose industry appropriate solutions to problems faced.

Candidate constantly reflects on and evaluates own practice.

Candidates can solve problems independently.

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
15	AO5 Attending to detail/ perfecting • Does the candidate routinely check on quality, finish etc and attend to imperfections/ omissions? • How much is accuracy a result of persistent care and attention (e.g. measure twice cut once)? • Would you describe the candidate as a perfectionist and wholly engaged in the	(1-3 marks) Easily distracted or lack of checking. Insufficiently concerned by poor result; little attempt to improve. Gives up too early; focus may be on completion rather than quality of outcome. Careless, imprecise, flawed, uncaring, unfocussed, unobservant, unmotivated. Examples of attending to detail: Uncomprehensively, fit and finish of pracequipment returned properly and left	tical task activities, checks existing equ in an appropriate condition, plants are	uipment is working properly,
	subject?	Planning, contingencies are considere Candidate shows limited attention to detail. Evidence provided shows inaccuracies or gaps in assessment task. Candidate meets minimum industry standards.	d and implemented. Candidate shows consistent attention to detail. Evidence provided is generally accurate and related to specific tasks. Candidate meets industry standards.	Candidate shows a clear focus on quality throughout the tasks, showing care and attention to detail. Candidate assesses and improves their own performance to achieve excellence. Practical tasks completed to high industry standards.

Section 3 Learner Materials

Task 1 Plant identification

Plant Identification Sheet Synoptic Assessment Task 1 (Diploma 0174-003 and Certificate 0174-001)

5 marks per plant: 2 for genera, 3 for species and or cultivar Marks subtracted for Botanical error -1 and for spelling-1 No mark awarded for common name but will be recorded for wider evidence

	Genera	Species/cultivar/variety names	Common name	mark
1	C			0
2	Ophiopogan plans	planiscapus 'Nigrescens'	Black grass	5
3	Sarcoccoca	confusa	Sweet Box.	5
4	Abelio -180	x grandiflora		4
5	Barbar Babaries.			0

	Genera	Species/cultivar/variety names	Common name	mark
6	Cornus	Sanguinea	Dagwood.	7
7	Fraxinus	excelsior /	Ash	5
8	Sambucus	nigra .		5
9	Acer	campestre /		5
10	Ulmus ×	minor var. vulgaris >		0

Task 1 Soil and site survey

Name or Description of Site	Date of Visit:
Approximate Area m^2 of site $D - 2 \times 4m^2 + C + 1 \times 3m^2$	
Aspect. Topography. Features influencing As	
D-South facing A - North to	First Gost B- Worth facing C- Northfacing com. Brank in hehisen Block 1/2 similability
Frost pockets - Evaluation. Features contribu	ting to potential frost pockets
D-Nove A-Nove B-Nove	L C-none.
Wind exposure / sheltered – Evaluation. Feat	ures contributing to wind exposure
c - none - shettered. B - none.	Raised Bank opposite
Shade-Evaluation. Features contributing sha D- No Shade 5/F C-huzgle B Half + Half Cap inhelisser-	A of Block 2 - Cast complete shade Ishultared.
Other Comments or features contributing to o Drought areas	nicroclimate?
D - Rain shadow new buildin	a block-2 · c ·
Soil Condition – Root Environment	
Texture: A - Sandy loam B-x	andy loans c-loany soud
Organic Matter:	
Soil pH: Block A B	c 0:
Water holding capacity / Water drainage	

Task 2

The proposed site comprises of four bedding areas surrounding two main buildings, which are two storey high and are unattached from each other. There is a 0.5 meter gap that separates the two buildings. The buildings are built adjacent to each other, with a proportion of each building standing ahead of the other, which forms the basis of the bedding areas, both towards the front and rear of the site.

Bedding area A	Bedding area B	Bedding area C	Bedding area D
East Facing	North Facing	North Facing	South Facing
Sandy Loam	Sandy Loam	Sandy Loarn	Sandy Loam
pH 6.5	pH 7	pH 7	pH 7

Evaluation of all four bedding areas indicates good fertility and dark organic matter and humus present. There is currently a selection of existing plants and utility grass in good health, with no signs of nutrient disorders, or wilting to indicate poor fertility or poor water holding capacity.

Bedding area A is an East facing aspect. Wind exposure is minimal. There are no frost pockets. Shade Assertions casted by the building of block I needs to be considered, and the drought area cast by the building must be 40.2 considered when selecting plants also.

Bedding area B is a North facing aspect. Wind exposure is minimal. There is no concerns with regards to frost pockets as there is a 0.5 meter gap between the two buildings which allows for the drainage of air. There is also a body of water opposite the site in the form of a stream, which will regulate microclimate temperature. Area B is a North facing wall and the building is two storey, so plants selected will be in part shade and must be shade tolerant. There will be a drought area and rain shadow, possibly up to one meter from the wall. The 0.5 meter gap that separates the two buildings, with no access through between, will allow for more sunlight in this area.

Bedding area C is a North facing aspect. The area is Imeter width x 3meter long. This bed will be a strongly shaded area due to the two story building (Block 2) and the width of the bed.

Bedding area D Is a south facing aspect. There is a small consideration to wind turbulance caused by the adjacent building (Block 1). No frost pockets. Drought considerations is needed when selecting plants near wall.

Task 2

The planting proposals for the four bedding areas surrounding two main buildings (Block 1 and Block 2) takes into consideration the soil conditions, which is a sandy loam, pH 6.5 – 7. The characteristics of the soil is well drained and moisture retentive, slightly acid to neutral pH for all bedding areas and planting proposals.

The proposal highlights each site's aspect and site survey addressing microclimate, and the adaptations needed for each plant species to establish well in these conditions.

Bedding Area A and East facing wall of Bedding Area B

East Facing Aspects

Conditions and effect on plant to consider. Full Sun/ Partial Shade

- 1. Full sun rises in the east will increase water evaporation
- 2. Possible sun scorching
- 3. Partial shade limits light intensity and duration for photosynthesis.
- 4. Reduced temperature in partial shade.

Planting proposal

Mahonia x media 'Chairty'

- Has long pinnate leaves up to 45cm long with 17-21 leaflets, positioning each lamina for optimum photosynthesis during partial shade conditions and increasing surface area
- Waxy cuticles reduces water loss through evaporation and transpiration during Full Sun conditions, and protects leaves from sun scorches
- Layered canopy traps warm air and retains temperature in partial shade conditions.

Bedding Area B

North Facing Aspect

Conditions and effect on plant to consider

- 1. Reduced light and photosynthesis and food production
- 2. Cooler/colder temperatures reduces rate of photosynthesis
- 3. North facing wall of Block1 casting a rain shadow up to 1meter from wall. Dry shade conditions

Planting Proposal

Cyclamen hederifolium

- Broad leaves to increase surface area for photosynthesis
- Clump forming habit traps warm air and raises temperature and humidity
- Fleshy stems and leaves stores starches and glucose for food/energy reserves
- Swollen underground stems (corms) also acts as organs of perennation and starch reserves.

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Planting Proposal Bedding Area B continued

Anemone x hybrida

- Hairy underneath of leaves traps a layer of warm air around the leaf to raise temperature and humidity
- Large broad (palmate) leaves increases surface area and captures more light for photosynthesis
- Basal leaves grows close to the ground to trap warm air and increase temperature to increase rate of photosynthesis

Sercococca confusa - Tolerant of Dry Shade near north facing wall.

- Dark green leaves contains more chlorophyll for photosynthesis
- Compact bushy habit traps warm air and raises temperature and humidity to increase rate of photosynthesis
- Leathery waxy cuticle reduces water loss through lamina.

All winds.

However Cool toplantic

Bedding Area C

North Facing Aspect

Conditions and effect on plant to consider. Dry Shade

- Area is 1m x 3m wide next to North facing wall of Block 2. Heavily shaded and dry area.
- 2. Limiting light for photosynthesis
- 3. Colder temperatures is a limiting factor of photosynthesis
- 4. Drought conditions caused by rain shadow up to 1 meter from wall.

Plants must be tolerant of Dry Shade

Planting Proposal

Ruscus acuelatus

- Evergreen adaptation reserves energy needed for plant to produce a new set of leaves each year.
- Busy habit with internodes close together traps warm air and raises humidity and temperature around the
- Absence of leaves; flattened leaf structure modified into stems eliminates leaf evaporation and water loss. Water loss is also greatly reduced through the stems thick epiclermis, and the stems have taken over the function of photosynthesis.
- Plant species has made modifications and adaptations very specific for a dry shade area.

Bedding Area D

South Facing Aspect

Conditions and effect on plant to consider

- 1. Full sun increases evaporation from soil's surface, reducing available water for plant uptake
- 2. Full sun increases evaporation and transpiration from leaf's lamina and stomata, and in young stems
- 3. Humidity will be dry, plants may suffer from sun scorching
- 4. Drought conditions increased by rain shadow from South facing wall of Block 2 up to 1 meter

Plants not adapted to these conditions may loses turgidity and wilting will occur.

Planting Proposal

Salvia microphylla 'Hot Lips'

- Small leaves reduces evaporation and transpiration through the leaf lamina and stomata
- Bushy habit traps moisture vapours and increases the humidity, reducing drying conditions, sun scorching and wilting

Stachys byzantine

- Hairy leaves reduces evaporation by trapping a layer of moisture around the leaf and also raises the humidity reducing drying conditions
- Silver leaves reflects light and reduces the temperature and evaporation
- Matt forming habit reduces the evaporation from soil surface surrounding the plant.

Hylotelephium (Herbsfreude Group) 'Herbsfreude' - Suitable for drought conditions near south facing wall.

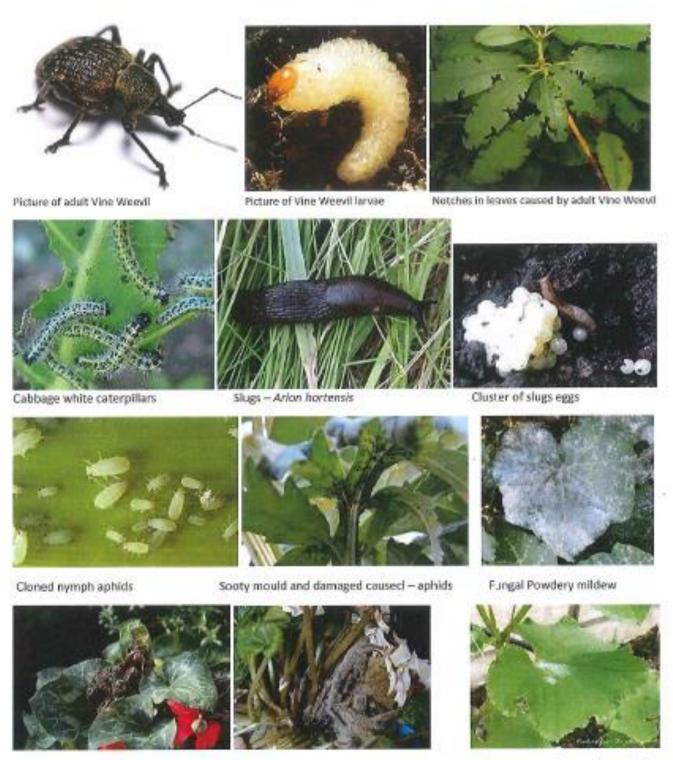
- · Succulent, fleshy leaves and stems stores water
- Thick cuticles on leaves and stems reduces evaporations and transpiration.
- · Clump forming habit traps moisture and reduces the evaporation form the soil around root zone

Plant Pest	Cultural Practices and management of the growing environment	Physical Practices using direct physical action	Biological Introduction of natural predators or pathogens	Chemical Consider alternative controls first. Minimise adverse effect on environment
Vine Weevil – Otionhymhus Order: Coleoptera HOST PLANTS Cyclamen heder(follown Hylotelephium (Herbsfreude Group) 'Herbsfreude' LIFE CYCLE -Female adults emerge from overwintering pupa in the soil during April and spring -Feeds on leaves nocturnally Apr – AugLays eggs in the soil Aug – Sep and dies out in autumnEggs hatch 8-56days dependant on temperature into larvae, feeding through autumnfully grown larvae grubs then borrows 15-20cm into the soil to pupate, emerging as female adults again in April. DAMAGED CAUSED -Noctumal females during Apr – Aug feed and chew notches in leaves of plant and neighbouring speciesLarvae grubs graw and feed through roots, severing root from top plant during the autumn.	Inspect root area of plants are free from grubs before purchasing. Remove debris and sheltering sites from around plant to ensure they are clean from grubs.	Apr – Aug Inspect inclividual plants and walls and pick off adults. This is more effective in the evening as they are nocturnal feeders. Sticky barriers can be placed at night to trap and stick females, and removed again in the morning. Shake shrubs over collecting tray to dislodge ad ults and remove. Pick off grubs when found and dig 15-20cm into the soil, removing grubs if found.	Late Aug — Oct Steinermemo Aragussel is a nematode naturally occurring in British soils. It is effective if the correct tempers ture conditions are / predicted. The soil must be moist for the application of nematodes to survive, seek out larvae and infect them with a bacteria. Timing is important as these nematodes are only effective on the larvae.	Angelia Angelia Ange
Butterflies Order: Lepidoptera HOST PLANTS Anemone x hybrida Stachys byzantina UFE CYCLE -Adult butterflies emerge from pupa between April and MayFemale mates and lays eggsCaterpillars or larvae hatch, feeding on leaves and stems during spring and summerWhen fully grown caterpillars pupate and overwinters, emerging as adult butterflies in spring. DAMAGED CAUSED Defoliates leaves and stems	Encourage birds by planting shrubs and keeping hodges, which provide shelter and resting areas for feeding birds, which will eat caterpillars.	Spring – summer Inspect plants regularly for eggs and caterpillars and remove them using hand.	Provide Tit Nest Boxes, these birds will collect hundreds of caterpillars a day while they are rearing their chicks and may rear more than one brood during the nesting seasons.	Spring – summer During the growing season, qualified staff can use pyrethins. It is a contact and broad spectrum mode of action that will effect beneficial invertebrates if they are in the surrounding area. Check current UK Pesticide Guide for approved products that can still be used.

Plant Pest	Cultural	Physical	Biological	Chemical
Slugs - Arian hortensis	Good garden	Physically removing	Predators such as	Spring – autumn
	hygiene removes	slug and discovered	centipedes, ground	Qualified staff can-
HOST PLANTS Agemone x hybrida	rotting plant	aggs to reduce	beetles and glow	lay down pellete
	material and	numbers and	worms	bait Ferric (Iron)
Sahia mkraphylla 'Hat Lips' Hylatelephium (Herbsfreude Group)	possible breeding	damage.	Lampyris noctifuca	phosphate.
Merbsfreude'	sites to lay eggs.	Minutes have a	are natural	
Herbstreuge		Placing beer traps	controlling species	Care must be taken
LIFE CYCLE		at soil level will attract and drown	of slugs and should	as it is harmful to small children and
-Hermaphrodite slugs cross-fertilise and		slugs, these trans	be encouraged and not removed.	STITUTE STITUTE STITUTE
produce clusters of up to 50 eggs in the		should be replaced	Providing habitats	pets.
soil during spring and summer.		after 2-3nishts.	such and a small	
-East hatch within 1 month.		antan a-angrica.	stumpery will	
Slugs feed from spring to autumn.	1		encourage their	
Hibernates in the winter.			habitation.	
They can live for up to four years and lay				
hundreds of aggs in their lifetime.				
DAMAGED CAUSED				
Individual slug scoops out cavities in the				
plant material with a file like tongue				
fradula).				
Plants become susceptible to further				
diseases.				
Aphids	Remove winter	Remove infestation	Provide habitat in	Qualified staff can
Order: Hemiptera	host plant where	by pinching away	the form of bug	use pyrethins or
HOST PLANTS	the female lay their	the infested area of	hotels to encourage	insecticidal soaps
HUST PLANTS Anemone x hubrida	eggs.	plant.	naturally occurring	(fatty acids)
Amemone a nyonoso	Or check winter	Or remove	predators such as ladybirds and their	
LIFE CYCLE	host plant and	infestation by hand	larvae, hoverfly	It is a contact and broad spectrum
Overwintered easts hatch into nymphs on	destroy eggs.	squashing.	larvae, lacewings	mode of action that
winter host plant in April.	country's approx	represents:	and parasitic	will effect
-Winged females migrate to summer host			WWSDS.	beneficial
plants, to reproduce and feed.				Invertebrates if
Repeated generations of cloned nymphs				they are in the
occur during summer, often maturing				surrounding area.
within 7days.				
Winged females mate in autumn, migrate				Check current UK
to winter host plant to lay their eggs for				Pesticide Guide for
overwintering, which hatch into nymphs				approved products
In April.				that can still be
Adult aphids also hilbernate.				used.
DAMAGED CAUSED				
Distorted growth caused by sucking stylet	į į			
mouth parts of aphid.				
Excreted honeydew accumulates on				
foliage and flowers, blocking stomata for				
photosynthesis and sooty mould fungus				
grows over excretion.				
Aphid stylet can also transmit virus, as				
they are vectors for viruses.				

Plant Disease	Cultural Practices and management of the growing environment	Physical Practices using direct physical action	Biological Introduction of natural predators or pathogens	Chemical Consider alternative controls first. Minimise adverse effect on environment
Powdery mildew Fungal group: Ascomycota Favours hot, dry weather EFFECT PLANTS Anemone x hybrida Stachys byzantina LIFE CYCLE -Mycelium survives the winter within the budsIn spring germinating buds results in a white fungal bloom infection, dry and powdery in appearance on the upper surface of leavesSpores develop in the summer and are spread by wind. DAMAGED CAUSED infection of leaf, loss of photosynthesis, eventually turning brown and loaf edges ourl, reduces vigour of the plant.	Water during dry periods, as the fungus favours hot, dry weather. Maintain good air circulation by pruning will reduce the hot temperatures that encourages the fungus to spread. Avoid overcrowding plants.	Out out early signs of infection to reduce spread. Remove dead tissue promptly and dispose diseased material appropriately for sterilisation.		Myclobutanil is a systemic fungicide that can be applied. Only qualified staff may apply chemicals for commercial purposes. Diagnose the disease correctly and check that the correct chemical is being used to treat the disease. For full effectiveness and safety follow the instructions provided on the label.
Grey mould – Botrytis cinerea Fungal group: Deuteromycota Fevours damp conditions for infection and spore production EFFECTS PLANTS Cyclomen hederifolium LIFE CYCLE -The fungus spreads by windblown spores, which enter the plants through woundsBlack sclerotia in infected plants acts as overwintering stage after the plants has fallen to the ground. DAMAGED CAUSED Fluffy light grey fungal mass, which follow its infection, resulting in rot, collapsed leave and flower stalks.	Good hygiene and removal of accumulating decomposing plant material. Maintain good air circulation by pruning will reduce the damp conditions that the fungus favours Do not overcrowd plants.	Remove infected tissues and badly infected plants. Dispose diseased material appropriately for sterilisation, including soil area where the plant had fallen.		Qualified professionals may apply Iprodione. Diagnose the disease correctly and check that the correct chemical is being used to treat the disease. For full effectiveness and safety follow the instructions provided on the label. Check current UK Posticide Guide for approved products that can still be used.

Post and Disease Picture Guide



Grey mould infecting cyclamen hederifolium

Fungal bloom appearing powdery mildew



Technical qualifications - Practical Observation Form

Assessment ID	Qualification number
503 Synoptic Task 1 Site Evaluation	Technical Certificate 0174-30
Candidate name	Candidate number

Complete the table below referring to the relevant marking grid found in the assessment pack. Do not allocate marks at this stage.

Assessment Objective (AO)	Notes – detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.
AO1 Describe how well the candidate shows recall of knowledge e.g. stating facts without explanation / simple descriptions of what they are carrying out / showing aspects of straightforward knowledge through logical sequencing and application of skill etc.	Fair plant identification recall- 3/5 known plants identified correctly. Student had missed synoptic introduction session due to migraine and being bed bound. Possible reflected in lower than expected plant ident. Aspect drainage, pH, Texture and OM testing carried out in methodical and logical manner.
AO2 Describe how well the candidate shows understanding when carrying out practical tasks e.g. their explanation of why they are completing a process or how they may change their course of action / are they able to justify their actions etc.	4/5 unknown plants identified using a key showing a good of awareness of keys and botanical features. Whole site tested consistently and as a whole. Numerous soil tests made and gathered from correct depth. Strong awareness of what information was needed for a comprehensive site evaluation and use of a well-constructed form. Wide range of factors considered such as surrounding topography, influence of near by water body, wind tunnels, exposure and fartilit.

Assessment Objective (AO)	Notes – detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.
AO3 Describe how well the candidate demonstrated their practical skills, e.g. how practiced/fluid is hand eye coordination and desterity / how confident are they / how accurate or 'polished' is the outcome / safe working etc.	Confident and competent demo of pH and texture and results in line with expected range Candidate set out equipment in clear and logical manner to avoid mistakes. Beds labelled a,b,c, etc, tidy at all times
AO4 Describe how well the candidate brings it all together — e.g. how coherent are their actions / how well do they draw from the breadth of their knowledge and skills / reflection on theory when solving practical problems / How well can they work out solutions to new contexts/ problems on their own / time management etc.	Clever use, adaptation to site for example use of soft soil to support test tubes so as to ensure tests carried out near site being tested. Very aware of site as a whole and influence of surrounding topography, land use and buildings
AO5 Describe how well the candidate attended to detail e.g. professionalism / perfecting / accuracy / checking / taking care / methodical working etc.	Very careful and clear Ensured site fidy at all times Soil samples clearly labelled to avoid confusion Checking and re-checking botanical features against key

Tutor signature	Date
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Technical qualifications - Practical Observation Form

Assessment ID	Qualification number
503 Synoptic Task 3 Planting	Technical Certificate 0174-30
Candidate name	Candidate number

Complete the table below referring to the relevant marking grid found in the assessment pack. Do not allocate marks at this stage.

Assessment Objective (AO)	Notes – detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.
AO1 Describe how well the candidate shows recall of knowledge e.g. staling facts without explanation / simple descriptions of what they are carrying out / showing aspects of straightforward knowledge through logical sequencing and application of skill etc.	Water applied over too large an area, this would be of insufficient quantity. All stages completed in logical process.
AO2 Describe how well the candidate shows understanding when carrying out practical tasks e.g. their explanation of why they are completing a process or how they may change their course of action / are they able to justify their actions etc.	Neat square hole excavated, however too small to fully accommodate root system, indicating a lack of fully applied knowledge. Stake was utilized, however the tree tie was too low, on a short stake, showing a lack of applied knowledge. Although this stage was undertaken perhaps from recall rather than fully understanding the concept and what they were trying to achieve.

Assessment Objective (AO)	Notes – detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.
AO3 Describe how well the candidate demonstrated their practical skills, e.g. how practiced/fluid is hand eye coordination and desterity / how confident are they / how accurate or 'polished' is the outcome / safe working etc.	Used spade to spike the sides of the planting pit indicating a lack of experience and less confident tool use. Demonstrated some application of practical skills but inconsistent and cautious throughout. Tool use safe, but skills are not fully or sufficiently developed.
AO4 Describe how well the candidate brings it all together – e.g. how coherent are their actions / how well do they draw from the breadth of their knowledge and skills / reflection on theory when solving practical problems / How well can they work out solutions to new contexts/ problems on their own / time management etc.	Pre planting attention given to plants, which improved the overall level of finish
AO5 Describe how well the candidate attended to detail e.g. professionalism / perfecting / accuracy / checking / taking care / methodical working etc.	Depth of the pit checked throughout showing some attention to detail, however, the planting depth was too shallow, showing a lack of knowledge.

Tutor signature	Date



Technical qualifications - Practical Observation Form

Assessment ID	Qualification number
503 Synoptic Task 4 Machinery pre start check	Technical Certificate 0174-30
Candidate name	Candidate number

Assessment Objective (AO)	Notes – detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.
AO1 Describe how well the candidate shows recall of knowledge e.g. stating facts without explanation / simple descriptions of what they are carrying out / showing aspects of straightforward knowledge through logical sequencing and application of skill etc.	Sound awareness of function of machine and appropriate PPE. Potential hazards associated with the mechine and its use stated with minimal gaps. However the candidate was less familiar with the layout of the machine and identification of parts for example hasitant and confusing air filter cover and exhaust grill. Candidate unfamiliar with some tools such as plug spanner to remove and check spark plug. Aware of health and safety best practice and used gloves appropriately when handling petrol and all.
AO2 Describe how well the candidate shows understanding when carrying out practical tasks e.g. their explanation of why they are completing a process or how they may change their course of action / are they able to justify their actions etc.	Hesitant explanation but which were mainly free of misunderstandings. For example understood diagnostic features to look for on the spark plug but did not remember-could not recall situation that may lead to the spark plug become pale and white in colour. Could explain and demonstrate best practice for refueling for example explanation of use of funnel with filter and retiling on a level surface. Aware of anti vibration features built into the machine and links to health

Assessment Objective (AO)

Notes – detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.

AO3

Describe how well the candidate demonstrated their practical skills. e.g. how practiced/fluid is hand eye coordination and desterity / how confident are they / how accurate or 'polished' is the outcome / safe working etc.

A nervous and slightly disjointed demonstration of pre-start checks.

The candidate was flustered and distracted by errors-for example when demonstrating removing the strimmer head prior to refilling they stride to undo the grease point nut. They then realized their mistake and correctly went to remove the head by locking the head before twisting to remove but then remembered they had not replace the grease point nut. A stop start trial and error demonstration which showed an awareness of what had to be done but a lack of general familiarity. Other examples include threading lines through gaps in the spool rather than dipping them to the provided dipping points, attempting to twist of the head in a anticlockwise direction when this in fact tightens the head on. However in all cases the candidate reviewed the situation, re-evaluated and persevered to achieve the correct final result without damage to the machine or endangering self or others.

Candidate needed slight prompting (come around to this side) when struggling to work out how to remove the pull cord housing from the machine

Machine started safety and correctly but showed initial lack of familiarity with start, run and off positions

AO4

Describe how well the candidate brings it all together – e.g. how coherent are their actions / how well do they draw from the breadth of their knowledge and skills / reflection on theory when solving practical problems / How well can they work out solutions to new contexts/ problems on their own / time management etc.

General lack of familiarity with use of horticultural machinery requiring some trial and error although shows awareness of theory and how to apply it for example safe and appropriate refueling of machine

AO5

Describe how well the candidate attended to detail e.g. professionalism / perfecting / accuracy / checking / taking care / methodical working etc.

Despite being outside their comfort zone and making nervous errors throughout the assessment the candidate reviewed the situatiosn, re-evaluated and persevered to achieve the correct final result without damage to the machine or endangering self or others.

Candidate ensured that all tools and equipment were kept in the right place and when removing covers items such as nots and bolts were safely stowed to ensure the order of replacement was correct and nothing was lost.

Candidate always re-checked tightness of all muts and bolts that had been replaced

Tutor signature	Date



Candidate Record Form

Technical qualifications

Level 3 Advanced Technical Certificate in Horticulture (0174-30) Level 3 Horticulture - Synoptic assignment (0174-001)

	Candidate name		Candidate number
- 1			

Marker Notes – Please always refer to the relevant marking grid for guidance on allocating marks and make notes that describe the quality of the evidence and justification of marks. Expand boxes as required.

20%	1 2 3 4 5 6 7 8 9 10 11 12		
AO1 Mark	Fair plant identification recall- 3/5 known plants identified correctly. Student had missed synoptic introduct session due to migraine and being bed bound. Possible reflected in lower than expected plant ident. Aspect drainage, pH, Texture and OM testing carried out in methodical and logical manner. Broad range of factors that might affect planting identified such as wind tunnels, frost pockets and rain shadows Limited range of plants proposed for the area e.g area A and B only Mahonia selected. Range of pest and disease named sometimes very general e.g lepidoptera but no named species of butters.		
	Task 3 Water applied over too large an area, this would be of insufficient quantity. All stages completed in logical process.		
	Task 4 Sound awareness of function of machine and appropriate PPE. Potential hazards associated with the machine and its use stated with minimal gaps. However the candidate was less familiar with the layout of the machine and identification of parts for example hesitant and confusing air filter cover and exhaust grill. Candidate unfamiliar with some tools such as plug spanner to remove and check spark plug. Aware of health and safety best practice and used gloves appropriately when handling petrol and oil.		
AO2 – Under	standing - Security of concepts, causal links		
20%	1 2 3 4 5 6 7 8 9 10 11 12		
AO2 Mark	4/5 unknown plants identified using a key showing a good of awareness of keys and botanical features. Whole site tested consistently and as a whole. Numerous soil tests made and gathered from correct depth. Strong awareness of what information was needed for a comprehensive site evaluation and use of a well-constructed form Wide range of factors considered such as surrounding topography, influence of near by water body, wind tunnels, exposure and fertility Clear introduction showing understanding of task 1 page 1 Statements such as 'There are no frost pockets' page 1 Task 1 on the site survey are sometimes not backed up with an explanation and sometimes areas in 3 rd and 4 th paragraphs. Inconsistent? Site evaluation missed opportunities to fully expand and explain a comprehensive range of factors-report on brief side but clearly written Clear use of and comprehension of scientific terms and adaptation of the plant to the site e.g. reference to waxy cuticle, palmate leaf organs of perennation page 1 and 2 task 2a Explanation of conditions for growth at each site are informative and show good application of understanding Succinct, detailed accurate and informative with logical links explanation and justification of plant selection from a scientific view point and tolerance to unfavourable conditions Comprehensive range of controls and clear succinct explanations		

However pests are not specifically identified and often very general categories e.g butterflies. Image of cabbage white butterflies is inappropriate and not relevant to stated host plants. Without a specific named pest the information given is of limited use and accuracy. When specific pest and diseases are named for example vine weevil the information is excellent.

Gaps in application and full comprehensive overview.

Task 3

Neat square hole excavated, however too small to fully accommodate root system, indicating a lack of fully applied knowledge

Stake was utilized, however the tree tie was too low, on a short stake, showing a tack of applied knowledge. Although this stage was undertaken perhaps from recall rather than fully understanding the concept and what they were trying to achieve.

Task 4 Hesitant explanation but which were mainly free of misunderstandings. For example understood diagnostic features to look for on the spark plug but did not remember-could not recall situation that may lead to the spark plug become pale and white in colour.

Could explain and demonstrate best practice for refuelling for example explanation of use of funnel with filter and refilling on a level surface

Aware of anti vibration features built into the machine and links to health

AO3 - Practical skill - Dexterity, fluidity, confidence, ease of application

25% 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

AO3 Mark

Confident and competent demo of pH and texture and results in line with expected range.

Candidate set out equipment in clear and logical manner to avoid mistakes. Beds labelled a,b,c, etc, tidy at all times

Task 3

Used spade to spike the sides of the planting pit indicating a lack of experience and less confident tool use, Demonstrated some application of practical skills but inconsistent and cautious throughout. Tool use safe, but skills are not fully or sufficiently developed.

Task 4 A nervous and slightly disjointed demonstration of pre start checks.

The candidate was flustered and distracted by errors-for example when demonstrating removing the strimmer head prior to refilling they stride to undo the grease point nut. They then realized their mistake and correctly went to remove the head by locking the head before twisting to remove but then remembered they had not replace the grease point nut. A stop start trial and error demonstration which showed an awareness of what had to be done but a lack of general familiarity. Other examples include threading lines through gaps in the spool rather than clipping them to the provided clipping points, attempting to twist of the head in a anticlockwise direction when this in fact tightens the head on. However in all cases the candidate reviewed the situation, re-evaluated and persevered to achieve the correct final result without damage to the machine or endangering self or others.

Candidate needed slight prompting (come around to this side) when struggling to work out how to remove the pull cord housing from the machine

Machine started safely and correctly but showed initial lack of familiarity with start, run and off positions

AO4 - Bringing it together - use of knowledge to apply skills in new context					
20%	1 2 3 4 5 6 7 8 9 10 11 12				
AO4 Mark	Clever use, adaptation to site for example use of soft soil to support test tubes so as to ensure tests canied out near site being tested.				
	Vary aware of site as a whole and influence of surrounding topography, land use and buildings				
	The assignment as a whole shows aspects of detailed comprehension and excellent knowledge but equally show generalisations and lack of range. The good bits are excellent but the wholes are very evident. Inconsistently bring information together				
	Task 3 Pre planting attention given to plants, which improved the overall level of finish				
	Task 4 General lack of familiarity with use of horticultural machinery requiring some trial and error although shows awareness of theory and how to apply it for example safe and appropriate refuelling of machine				

AO5 - Attendir 15% AO5 Mark

Tutor signature	Date	Total

Total = 31

Declaration of Authenticity

Declaration of Authenticity

Candidate name Jane Jones	Candidate number ZZZ4444	
Centre name Somewhere College	Centre number 456789	
Candidate:		
I confirm that all work submitted is my own, and t	that I have acknowledged all sources I have used.	
Candidate signature	Date	
Jane Jones	15.05.2018	
Tutor:		
I confirm that all work was conducted under cond candidate's work, and am satisfied that, to the be that of the candidate.		
Tutor signature	Date	
Adam Gardener	15.05.2018	
Has the candidate received any additional suppor	rt in the production of this work?	
Tick Yes □ No ✓		
If the answer is yes, give details below and on a s	separate sheet if necessary.	
in the anomer to yee, give detaile below and on a c	ropulate choot ii hooddaa yr	

Note:

Where the candidate and/or tutor is unable to, or does not confirm authenticity through signing this declaration form, the work will not be accepted at moderation and a mark of zero will be given. If any question of authenticity arises, the tutor may be contacted for justification of authentication.

Section 5 Principal Moderator's guidance, hints and tips.

This practise marking material has been produced to be used for standardisation activities and for centre guidance in the early years of the qualification. The marks allocated to each learner are in accordance with the Principal Moderator marks and show the standard set for this qualification.

To make holistic judgments, it is necessary to ensure that all tasks are completed and submitted prior to assigning any final marks. Practical tasks are not marked independently of written submissions so ensure that all tasks have been completed before assigning any marks.

When judging ephemeral performances / practical skills, centres must ensure that the evidence is in a format visible to the marker/moderator and gives sufficient qualitative detail to aid moderation. Observers and markers should ensure their notes are comprehensive, employing key words written in the marking grids and describing how, where or why the work is good or better. Along with this they should ensure that any verbal questions are documented and that weaknesses / mistakes as well as strengths / exemplary practice are noted on the PO form. These notes will enable the centre marker and the moderator get a feel for the practical skills shown by each individual on the synoptic assessment day/s and will assist in allocation of marks and rank ordering.