

# 0174-008/508 Level 3 Advanced Technical Extended Diploma in Horticulture (1080)

## Level 3 Horticulture – Professional Horticulture Theory Exam (2) – March 2018

Underline essential technical terms to be seen in the answer

Embolden **and**, **not** or **or** within the answer to clarify requirements for the mark,

Use brackets to indicate text that is extraneous for the mark (but supports examiner understanding)

Use slash to separate alternative/equivalent acceptable terms within an answer

### Standard wording:

Do **not** accept..... (Expected responses that are incorrect but close)

Answer must focus on..... and **not**..... (Clarification of the required focus/ clarifies boundary between acceptable and unacceptable – word ‘focus’ can be replaced as appropriate – capture, explain, elicit, highlight etc)

Allow..... (Answers that may be on the boundary of acceptable – elaborate to clarify if necessary – usually added at standardisation)

Q	Acceptable answer(s)	Guidance	Max mks
1	<ul style="list-style-type: none"> <li>• Branch collar (1 mark)</li> <li>• Branch bark ridge (1 mark)</li> </ul>	1 mark for each answer to a maximum of 2 marks	2
2	<ul style="list-style-type: none"> <li>• To encourage vertical growth to the required height and encourage the best branch structure by removal of surplus branches. (1 mark)</li> <li>• To remove crossed and congested, dead, damaged and diseased branches to ensure future health of the tree. (1 mark)</li> <li>• To reduce the length of branches in the mid-section of the tree to raise the crown and to develop a clear trunk. (1 mark)</li> <li>• To remove twin leaders in order to reduce vertical competition and the danger of the trunk splitting in the future. (1 mark)</li> </ul>	1 mark for each answer to a maximum of 4 marks  Accept any other suitable answer provided	4
3	<ul style="list-style-type: none"> <li>• Weak vegetative growth will fail to form a strong framework for the following year’s flowers. (1 mark)</li> <li>• Too much energy will be invested in producing seeds rather than being diverted to vegetative growth. (1 mark)</li> <li>• Flowers will not be uniformly spaced around the entire shrub leading to poor aesthetics that will detract from any summer flowering shrubs. (1 mark)</li> </ul>	1 mark for each answer to a maximum of 4 marks	4

	<ul style="list-style-type: none"> <li>• Congestion of growth will decrease the airflow around the plant will increase the risk of fungal diseases. (1 mark)</li> </ul>		
<b>4</b>	<ul style="list-style-type: none"> <li>• Damage to underground / overhead services. (1 mark)</li> <li>• Branches shed onto or over-hang highways. (1 mark)</li> <li>• Roots cause heave on footpaths or trip hazards. (1 mark)</li> <li>• Damage to building foundations. (1 mark)</li> <li>• Block surface and drainage systems. (1 mark)</li> <li>• Slippery leaves and fruit on footpaths. (1 mark)</li> </ul>	1 mark for each answer to a maximum of 3 marks	<b>3</b>
<b>5</b>	<ul style="list-style-type: none"> <li>• Sole trader. (1 mark)</li> <li>• Partnership. (1 mark)</li> <li>• Limited liability partnership (llp). (1 mark)</li> <li>• Limited company. (1 mark)</li> <li>• Public limited company (plc). (1 mark)</li> </ul>	1 mark for each answer to a maximum of 2 marks	<b>2</b>
<b>6</b>	<ul style="list-style-type: none"> <li>• An employee must be paid the legal wage whereas a volunteer does not usually receive wages but may receive expenses. (1 mark)</li> <li>• An employee should have a contract of employment where as a volunteer does not have a contract of employment but may have a volunteer agreement. (1 mark)</li> <li>• An employee is entitled to paid holidays whereas a volunteer is not entitled to this right and takes their holiday unpaid. (1 mark)</li> <li>• An employee may be required to give a notice period before leaving, whereas a volunteer is not required to and can leave at any given point. (1 mark)</li> <li>• An employee is protected against unfair dismissal, whereas a volunteer can be released without explanation. (1 mark)</li> <li>• An employee has the right to be consulted during restructuring, whereas a volunteer will not be involved in this process. (1 mark)</li> </ul>	1 mark for each answer to a maximum of 5 marks  Accept any other suitable answer provided	<b>5</b>
<b>7</b>	<ul style="list-style-type: none"> <li>• Property/office (1 mark) required to store equipment, materials and machinery securely, and provide welfare for staff. (1 mark)</li> <li>• Vehicles and machinery (1 mark) required to improve time efficiencies by cutting down on work hours. (1 mark)</li> <li>• Tools and equipment (1 mark) required to carry out the tasks correctly in accordance with best practice. (1 mark)</li> </ul>	1 mark for each example up to a maximum of 2 marks <b>and</b> 1 mark for explanation of each resource to a maximum of 2 marks	<b>4</b>

	<ul style="list-style-type: none"> <li>Materials (1 mark) required to improve soil and protect plant health that enables successful establish and maintenance of plants. (1 mark)</li> </ul>		
<b>8</b>	<ul style="list-style-type: none"> <li>The size of the potential market to provide value of sales including number of plants or products sold, or services provided. (1 mark)</li> <li>The external influence on the market to see fluctuations in the value of sales, new technologies and economic climate. (1 mark)</li> <li>The customer base to provide the number, type and characteristics of customers and marketing potential. (1 mark)</li> <li>The competitors in the market to analyse direct and indirect competition to improve overall market share. (1 mark)</li> </ul>	1 mark for each answer to a maximum of 4 marks	<b>4</b>
<b>9</b>	<ul style="list-style-type: none"> <li>Membership of a trade organisation (e.g. BALI membership) which is permitted only to those businesses that meet the eligibility criteria. (1 mark)</li> <li>Membership of a professional body (e.g. CIH membership) which is permitted only to those individuals and businesses that meet the eligibility criteria. (1 mark)</li> <li>Update professional qualifications, continuous professional development and staff training to maintain recognised standards. (1 mark)</li> <li>Industry Codes of Practice must be followed to ensure quality. (1 mark)</li> <li>Adherence to set standards (eg British Standards) for goods, services and work tasks to ensure quality. (1 mark)</li> <li>Acting on customer surveys and feedback to continually improve quality and reputation. (1 mark)</li> <li>Winning industry prizes and awards in competitions to maintain a market presence. (1 mark)</li> </ul>	1 mark for each answer to a maximum of 4 marks  Accept any other suitable answer provided	<b>4</b>
<b>10</b>	<p>a)</p> <ul style="list-style-type: none"> <li>Taxation records are required for legal reasons including tax purposes, otherwise prosecution and fines can occur. (1 mark)</li> <li>Invoices and sales records are required to enable accurate planning and forecasting to maintain financial stability. (1 mark)</li> <li>Basic accounts records are required to indicate turnover and profits which help the financial efficiency of the business. (1 mark)</li> </ul>	1 mark for each answer to a maximum of 4 marks  Accept any other suitable answer provided	<b>8</b>

	<ul style="list-style-type: none"> <li>• Bookkeeping records are required to budget correctly to maintain financial stability. (1 mark)</li> </ul> <p>b)</p> <ul style="list-style-type: none"> <li>• Production records are required to indicate profits, trends and output to ensure efficient use of physical resources and reduce waste. (1 mark)</li> <li>• Staff records are required to monitor absences and training to improve staff performance and monitor against targets. (1 mark)</li> <li>• Resource records (machinery maintenance records) are required to inform stock levels and forward planning. (1 mark)</li> <li>• Legal records (eg risk and COSHH assessments) are required to protect the workforce/general public and enforce health and safety legislation. (1 mark)</li> </ul>	<p>1 mark for each answer to a maximum of 4 marks</p> <p>Accept any other suitable answer provided</p>	
<b>11</b>	<ul style="list-style-type: none"> <li>• Pressure washing to remove dirt, algae and moss that can create slip hazards. (1 mark)</li> <li>• Path cleaners using chemicals to kill weeds and algae. (1 mark)</li> <li>• Moss and leaf removal by sweeping and leaf blowers. (1 mark)</li> <li>• Weed removal by hand or spraying, or heat guns. (1 mark)</li> <li>• Use of salt in winter to prevent slip hazards. (1 mark)</li> <li>• Reattach loose and dangerous pavers that could be a trip hazard. (1 mark)</li> <li>• Repoint loose and missing pointing that could be a trip hazard. (1 mark)</li> </ul>	<p>1 mark for each answer to a maximum of 3 marks</p>	<b>3</b>
<b>12</b>	<p>a)</p> <ul style="list-style-type: none"> <li>• Sub-grade is the native levelled or contoured consolidated soil below the sub-base to provide a smooth running surface. (1 mark)</li> <li>• Sub-base is imported aggregate containing a mixture of gravel and fine particles to provide: <ul style="list-style-type: none"> <li>• a firm foundation for subsequent landscaping features (in some cases they are the main load-bearing layer). (1 mark)</li> </ul> </li> </ul> <p><b>Or</b></p> <ul style="list-style-type: none"> <li>• to alter the height and levels. (1 mark)</li> </ul> <p><b>Or</b></p> <ul style="list-style-type: none"> <li>• Sub-bases are laid above the sub-grade as a consolidated layer.</li> </ul>	<p>1 mark for each answer to a maximum of 2 marks</p> <p>Accept any other suitable answer provided</p>	<b>5</b>

	<p>b)</p> <ul style="list-style-type: none"> <li>• Stone (gravel) in the sub-base provides strength and stability that can bear the weight of its intended use. (1 mark)</li> <li>• Fine particles in the sub-base to create a binding matrix to avoid voids that can develop and subsequently cause settlement. (1 mark)</li> <li>• Sandstone sub-bases can be used where permeability is required to allow drainage from the surface. (1 mark)</li> <li>• Limestone can be used where permeability is less of an issue and run-off can be provided by the grading of the land. (1 mark)</li> </ul>	<p>1 mark for each answer to a maximum of 3 marks</p>	
<p><b>13</b></p>	<p>Indicative content:</p> <ul style="list-style-type: none"> <li>• Tree Protection Orders (TPO's).</li> <li>• Conservation areas.</li> <li>• Drainage patterns.</li> <li>• Compaction of soil.</li> <li>• Damage to trees.</li> <li>• Ground pollution.</li> <li>• Salt use.</li> <li>• Dangerous branches.</li> <li>• Shading.</li> <li>• Moss growth.</li> <li>• Damage to landscaped areas.</li> <li>• Falling leaves and fruits.</li> <li>• Wildlife and environmental impacts.</li> <li>• Legislation.</li> </ul> <p>Site problems and contingencies.</p> <p><b>Band 1: 1-4 marks</b> Basic understanding of the topic with limited evaluations of the impacts of horizontal landscape surfaces and maintenance of trees and shrubs, with few examples given and limited use of technical terminology. To access the higher marks in the band, a range of impacts are given.</p> <p><b>Band 2: 5-8 marks</b> Good understanding of the topic with developed evaluations of the impacts of horizontal landscape surfaces and maintenance of trees and shrubs, supported with a range of examples and good use of technical terminology. To access the higher marks in the band, a wide range of impacts are given and evaluated.</p> <p><b>Band 3: 9-12 marks</b> Thorough understanding of the topic with comprehensive evaluations of the impacts of horizontal landscape surfaces and maintenance of</p>		<p><b>12</b></p>

	trees and shrubs supported with a range of specific and appropriate examples and excellent use of technical terminology. To access the higher marks in the band, a full range of impacts are given with clear and well-argued evaluations.		
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