RHS Qualifications

Examination: RHS Level 2
Unit: Unit 2
Examination date: October 2023

General Introductory Comments

RHS Qualifications initiated this additional October examination series, in consultation with RHS Approved Centres, and other stakeholders. The primary objective of the October examination being to provide an opportunity for candidates who were not able to sit the examinations in the February and June series to sit the examination. The October examination also affords candidates who had failed earlier examinations with the opportunity of a resit.

The Examiners' Comments are intended to help candidates and centres to familiarise themselves with both the interpretation of the Qualification Specification and the format and style of the Unit 2 examination.

The Examiners' Comments focus on key areas of strength, but also, and perhaps more importantly, on areas where candidates demonstrated a weaker understanding of Topic areas or where there was evidence of gaps in their knowledge.

Candidates and centres are advised to carefully review these comments to build an understanding of how to gain the maximum number of marks available in future examinations. Candidates who scored high marks in this examination, submitted responses that were technically detailed, that related fully to the requirement of the question, and where appropriate that demonstrate a holistic/integrated knowledge of the 4 Qualification-wide outcomes and the 4 Topic areas.

Candidates are advised, when preparing for examinations to focus on both, areas of strength, (to ensure that they possess an appropriate depth of knowledge), along with identifying areas of weakness (where a more systematic study of the Topic areas may be required).

Overview of Examination

Levels of demand

Questions were set at three levels of demand within this paper.

Questions that require a recall of basic factual knowledge are classified as being low demand.

Questions that require the recall of more technical concepts or the application of knowledge are classified as medium demand.

Questions that require the recall of advanced technical concepts, the application of these concepts and the integration of these concepts across topics, are classified as high demand.

General comments

An analysis of scripts has indicated that strong candidate responses shared many common characteristics:

- planned out their time for Section A, B, and C
- provided responses that demonstrated an accurate reading of the question
- related their responses directly to the command word in the question
- provided responses which had few irrelevancies, or incorrect material
- provided responses with the required level of detail
- used appropriate technical horticultural terminology correctly
- gave full scientific names, when providing plant examples
- gave the appropriate number of responses, e.g. name two…
- successfully applied knowledge to new scenarios and situations
- evidenced planning of responses in long form answers
- integrated their long form responses into a number of relevant Topics, and Qualification-wide outcomes
- Provided responses that were logical, developing coherent arguments.

Candidates and centres are advised to review the above exemplars of good practice as they prepare for future examination series.

Qualification specification and Guidance Document

Centres and candidates are reminded that the Qualification Specification follows current best practice. The Assessment Outcomes are written at AO1, AO2 and AO3, with broad descriptors.

The Guidance Document was developed to provide guidance with regards to the interpretation of these Assessment Outcomes in terms of breadth and depth that is appropriate to a Level 2 qualification.

It should be noted that the Guidance Document is not intended to be a comprehensive guide to teaching and learning. Instead, it is designed to provide examples of some of the key areas contained within an Assessment Outcome. As an example, where an Assessment Outcome in the Qualification Specification formally lists 5 areas that should be included, the Guidance Document may only unpack one of these areas as an example. The centre is then expected to apply the level of breadth and depth given in the exemplar to the other areas defined in the Assessment Outcome.

Questions may therefore be set on areas that are not explicitly stated in the guidance document. All questions set do fully reflect the aims of the Assessment Outcomes, and the examples of breadth and depth given within the guidance document.

Section A

Questions 1 – 20

General comments on Section A

The forced answer questions are designed to test candidate's knowledge and understanding of the concepts covered in the 4 Topics and the 4 Qualification-wide outcomes that make up this unit.

Section B

Each question is considered separately.

Question 1

In this question candidates were presented with 4 technical terms used within horticulture:

- herbivory
- allelopathy
- abiotic
- aphid.

Candidates were required to insert these technical terms into gaps in a series of short sentences.

Strong candidates were able to insert the appropriate technical term into the appropriate gap, with weaker candidates inserting the technical terms in an inappropriate gap.

Question 2

This question was set to assess candidate's knowledge of wind pollination.

In part a) candidates stated two ways that grass pollen is adapted to benefit fully from wind as a vector of pollination.

Strong candidate responses correctly stated that wind pollinated grasses produce large quantities of pollen, that the pollen is lightweight to favour wind pollination or that the pollen does not have the sticky characteristic of pollen suited for insect pollination.

Weak candidate responses often included candidates who had not read the question, and wrote generally about what pollen is, the fact it is haploid, and other general characteristics of pollen, rather than stating how pollen is adapted to benefit from wind pollination. Other candidates failed to score the full two marks by suggesting ways that were too similar to allow for the second mark to be awarded.

In part b) of the question candidates were asked to state two ways that grass flowers are adapted to maximise wind pollination.

Strong candidate responses included adaptations, for example, protruding stamens, and/or feathery stigmas.

Weaker candidate responses included the flowers having a pale colour, the lack of scent or repeated their answer from section a).

In part c) candidates were required to demonstrate a deeper knowledge by stating one advantage that the adaptations offer to the plant.

Strong candidate responses included the role of feathery stigmas in filtering pollen out of passing air currents, or the protruding stamens allowing for the enhanced release of pollen into air currents.

Weak candidate responses often repeated one of the advantages from b) without stating the advantage that the adaptation provides to the plant.

In part d) the majority of candidates scored full marks in stating that caterpillars often rely on the leaves of plants as fodder, to aid in their development.

Question 3

This question required candidates to complete a table to explain the key characteristics of informal plantings.

Stronger candidates were able to clearly state:

'Shape and form' That informal plantings often comprise of irregular shapes, including natural curves and drifts.

Weaker candidates described concepts such as balance, which is not related to shape and form, or stated that the shape and form is more relaxed, without explaining in what ways the design is more relaxed. Other candidates correctly stated irregular shapes, but were not able to develop their response to gain the second mark available.

Stronger candidates explained 'colour palette' by stating how a full colour palette can be utilised in informal gardens, and explaining further how this colour palette can be used to create harmonious, or contrasting colour schemes.

Weaker candidates often gave examples of the use of plant and flower colour without demonstrating a knowledge of the use of colour palettes in horticulture.

The third aspect of informal plantings that candidates were required to explain was 'planting numbers'. Strong candidates stated that the strict rules applied in formal plantings were relaxed, that odd numbers of plants were often used, along with large unnumbered drifts or plantings.

Weaker candidates often referred to the use of odd numbers of plants, without developing their answer to include drifts, and so did not gain the maximum mark.

'Water features', stronger candidates were able to explain that informal plantings often incorporate irregularly shaped water features, planted rain gardens, marginal plantings, or swales. The concept that water features may be organic in form was also fully credited.

Weaker candidates were generally able to state that informal water features are of an irregular shape, but were unable to develop their answers with explanations of plantings, or stating other developed points.

The final part of the question related to 'matrix plantings'. The majority of candidate responses to this part of the questions were weak, with candidates often failing to score the 2 marks available. Few candidates were able to explain that matrix plantings are, in their simplest terms, drifts of perennials, planted within a matrix of ornamental grasses. This indicates a gap in knowledge in this part of the Qualification Specification.

Question 4

This question was set to assess candidate's knowledge of plant associations, including the way that plants are combined in gardens, using colour theory to create effective and pleasing displays.

Candidates were required to state a named garden situation, for example, a woodland edge garden. Candidates were also asked to state the season for display, for example spring.

Strong candidates named three plants that both fitted the situation and season, while also working together in terms of height, spread, foliage, leaf colour or form. These candidates were also able to fully explain why these plants associate well.

Weaker candidates often suggested plants that were not relevant to the garden situation or season, or simply described the plants, rather than fully explaining why these plants associate well.

Question 5

In part a) of this question candidates were required to state four positive environmental impacts of seasonal short term plant displays.

Most candidates were able to correctly state:

- the plantings can connect people with nature
- the plants provide nectar to pollinators
- the plants provide pollen to pollinators
- the plants provide habitat
- the plants provide cover for wildlife.

In part b) of this question candidates were required to state four negative environmental impacts of seasonal short term plant displays.

Most candidates were able to correctly state:

- the negative impact of using fossil fuels in production
- the negative impact of using fossil fuels in transport
- the use of peat based growing media
- the use of single use plastics
- the water footprint from plant cultivation.

Weaker candidates made either erroneous statements or made general statements which were not credit worthy.

Question 6

This question required candidates to state three social benefits of gardening.

Candidates who scored full marks stated:

- the positive impact of gardening on physical health
- the positive impact of gardening on mental health
- the positive impact of social inclusion through gardening.

Weaker candidates were able to state one or more social benefits of gardening, but these were often so similar to each other that the full award of marks was not possible.

Centres and candidates are advised to consider examination technique in their preparation for examinations. This would include giving a range of answers to questions that are distinct from each other to demonstrate breadth of knowledge.

Question 7

This question attracted a number of weaker responses.

The question required candidates to state three potential impacts of poor plant selection on function and design.

Many candidates failed to gain the maximum mark available by stating impact of poor plant selection with no relation or explanation as to how these would impact on function and design, for example the impact of a dead plant on aesthetics. Other weaker responses included vice versa answers, stating a positive and negative relating to the same point.

Examples of strong candidate responses included:

- the full design potential for the site is not met
- the plants grow too large and are out of scale
- the plants are too small and are out of scale
- the plant does not meet its required function.

Question 8

Part a) of this question required candidates to suggest a suitable plant species to provide a screen, and to create a horizontal plane.

Any suitable plant species that are documented as being used to provide screens, and to create horizontal planes that were presented using scientific plant names, were credited with full marks. The use of common names, where these gave a positive identification of the plant, were awarded ½ mark each.

Plants that have horizontal branching were not credited as being appropriate for the creation of horizontal planes. For a plant to be marked as correct it must possess a horizontal form, for example, *Juniperus horizontalis.*

Part b) of the question required candidates to apply their knowledge of plant adaptations. Candidates were required to explain how a knowledge of plant adaptations can be used when selecting plants for a purpose.

Strong candidate responses stated that twining stems, for example, are an important adaptation when selecting plants to grow up a trellis or support. Other possible answers would include the presence of root nodules, when planting into a poor nitrogen depleted soil.

Weaker candidates did not relate the plant adaptation to the selection of plants for a purpose and so did not score full marks.

Section C

Section C candidate responses are graded against the assessment ladder, which is on the next page of this report. Candidates and centres are advised to review the ladder as this indicates how the assessment decisions are made, when grading long form responses.

Candidate performance in Section C ranges from those candidates who:

- were prepared to produce long form responses
- were taught to logically answer questions
- shared horticultural knowledge that is both relevant to the question and at a good standard of detail.

through to candidates who:

- were not prepared for the production of long form responses
- produced responses that were only partially relevant to the question
- provided responses that were lacking in technical content and detail.

In addition to the assessment ladder candidate responses are also reviewed against the criteria set out below:

Indicative content

- Strength of response.
- Integration.
- Horticultural knowledge.

Strength of response:

Strong candidate responses:

- developed a logical argument to answer the question
- drew on reliable information sources
- were relevant to the question
- expressed clarity of thought
- demonstrated knowledge of horticultural practices.

Integration:

Candidate responses should integrate with other relevant areas of the syllabus.

Assessment ladder (for information)

Band	Mark range	Summary	Description
4	12 - 15	Fully developed (Total)	**A highly detailed, comprehensive, fully relevant response, addressing all aspects of the question** ☐ No irrelevant or incorrect material or observations at the top end of the mark range: otherwise only very minor errors/omissions (which do not detract from an otherwise strong response) ☐ Full integration/clear links demonstrated with other appropriate topics as required: a holistic approach ☐ Advanced current professional horticultural knowledge/principles demonstrated (and evidence of advanced material beyond the specification at the top end of mark range) ☐ Consistent use of correct and appropriate technical language.
3	9 -11	Mainly developed (Solid)	**A reasonably detailed and fairly comprehensive response, with mostly relevant observations, addressing most of the key elements of the question** ☐ Some minor evidence of irrelevant or incorrect material or observations (in what is otherwise a good response), with occasional lack of detail/omissions at times ☐ Secure evidence of some appropriate integration with other topics but some linked topic areas are occasionally overlooked or incorrect associations are made: a partially holistic approach ☐ Current professional horticultural knowledge/principles demonstrated most of the time, with occasional errors, but largely appropriate explanations and application ☐ Correct and appropriate technical language demonstrated most of the time, with some minor errors.
2	6 - 8	Rudimentary (Basic)	**A largely basic response with some relevant observations, addressing some key elements of the question** ☐ Some significant evidence of irrelevant or incorrect material and frequent lack of detail, with some key areas overlooked ☐ Occasional evidence of correct integration with other topics, but many areas are overlooked and incorrect associations made: little evidence of a holistic approach ☐ Current professional horticultural knowledge/principles demonstrated some of the time, but with frequent errors, and only basic explanations or application ☐ Correct and appropriate technical language only partially demonstrated but limited. Some key errors.
1	0 - 5	Undeveloped (Unsatisfactory)	**A largely poor response with few relevant observations, addressing few of the key elements of the question** ☐ Material is largely irrelevant or incorrect and lacking in any detail, with many key areas overlooked ☐ No, or very little evidence of correct integration with other topics, with many areas overlooked and incorrect associations made: no evidence of a holistic approach ☐ No or little evidence of current professional horticultural knowledge/principles demonstrated, with poor or incorrect explanations or application ☐ Little (if any) technical language demonstrated. Often incorrect. Key errors.

Question 1

This question required candidates to describe the way that plants can defend themselves.

Strong candidates tended to discuss biotic factors in detail, but did not cover the range of abiotic factors, which would, using the assessment ladder limit their marks to Band 2, with many areas overlooked. Some weaker candidates suggested that carnivorous plants were adapted to consume plant pests to reduce herbivory.

Strong candidates created flowing logical arguments, these included full use of named plant examples as well as:

- Abiotic factors
    - leaf abscission for protection from cold conditions
    - the use of leaf hairs to reflect ultraviolet light and defend the plant from sun scorch
    - the use of leaf hairs to increase humidity adjacent to the leaf to reduce evapotranspiration in dry, arid conditions
    - the storage of water in stems and roots in xerophytic plants to defend themselves from drought
    - the storage of carbohydrate to defend the plant from respiratory collapse during periods that are unfavourable for photosynthesis
    - the use of needles and flexible branches to defend the plant from snow damage.
- Biotic factors
    - protection from herbivory through plant adaptations, for example spines or thorns
    - protection from pathogens through the use of volatile oils
    - protection from herbivory through the outer layer of bark
    - the development of thick cuticles to defend against herbivory or plant diseases
    - immature growth having spines and spikes, to protect the young, developing plant.

Weaker candidates did not link their answers to biotic factors, gave a very short list of abiotic factors and failed to provide named plant examples. Other weaker candidates did not develop the factual content of their answer to requirements in a technical Level 2 qualification.

Question 2

This question required candidates to make reference to named horticultural situations, with regard to the spacing of plants when creating gardens.

This question was not answered by a large number of candidates, with many weak candidate responses. Many weaker candidates focused on planting style rather than considering the range of technical factors that would dictate plant spacing.

Examples of key areas for inclusion in candidate answers include:

- leaf size, shape and habit as key influences in spacing to prevent impacts from increased relative humidity and shading
- the intended us of the plants, i.e. spacing of plants to create stock proof boundaries, or the planting of hedging, where planting density can impact on the timescale involved in creating an effective hedge
- impact of the growing system on plant spacings, for example where plants are grown on supports, for example the staking of plants such as tomato
- Impact of plant production system, for example the use beds to minimise the need for paths between crop rows in productive growing settings
- the balance between creating an instant effect with close spacings requiring a thinning out of plants when shading starts to impact on growth in comparison to planting at the correct density, which may look 'thin' during establishment
- environmental uses, for example planting in close proximity to prevent erosion of soil on slopes.

Question 3

Candidates were required to explain how gardens can be maintained to create a range of habitats to encourage habitats.

This was a popular question with candidates.

Strong candidates demonstrated a detailed understanding of how gardens can be maintained to allow for the creation of a wide range of habitats. These candidate responses included concepts such as:

- pruning hedges to specific height to provide appropriate nesting habitat for wild bird species
- the provision of ground cover to create habitat for invertebrates and amphibians
- the maintenance of ponds to provide habitat for a range of named species
- the maintenance of grassed areas to include the retention of moss in lawns as a nesting material
- the importance of weather conditions and season when carrying out maintenance operations
- the importance of leaving areas without maintenance during specific periods, for example during mating season/nesting times.

Weaker candidates discussed garden features that encourage wildlife, for example bird tables which are not involved in the creation of habitat, while providing a source of food for wild bird species. Other weaker candidates suggested the installation of ponds or the planting of hedges. These answers were not credited with marks as planting new hedges and installing ponds is not part of the maintenance of gardens.

Other weaker candidates gave general answers, which lacked technical detail consistent with a Level 2 qualification. These responses did not contain specific technical information that would directly allow for the adoption of maintenance protocols to encourage wildlife.

Question 4

In this question candidates were required to discuss Renaissance Gardens, considering their historical context, their key features and their impact on current garden styles.

This was a popular question with candidates.

Strong candidates followed the prompting of the question, discussing historical context, key features and their impact on current garden styles. These candidates gave factually detailed answers which demonstrated a secure knowledge of Renaissance Gardens.

Weaker candidates struggled with several aspects of this question. This was evidenced through the lack of breadth and depth when describing/defining Renaissance Gardens. The historical context was not covered in sufficient factual detail, demonstrating gaps in knowledge. Candidates often confused Arts and Crafts Gardens with Renaissance Gardens when considering key features and their impact on current garden styles. A further weakness was answers from weaker candidates often lacked the required level of technical detail required for a Level 2 qualification. This demonstrates gaps in candidate knowledge.