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GUARDIAN
BASIS CERTIFICATE IN GARDEN CARE
(FOR THE ADVISER AND SELLER OF GARDEN PRODUCTS)

SYLLABUS & INFORMATION

The use of chemicals of various types in the garden and around the home are part of everyday life.

We look to chemicals to assist us with a wide range of home based tasks from weed, pest and plant disease control in the garden; nutrition for the plants we grow; the control of vermin; the control of pests and diseases in wooden structures (sheds, fences, greenhouses.), etc. All of those uses of different types of chemicals mean that a very wide array of products confronts the public when they visit their local DIY store or garden centre to buy solutions for the problems they have at home.

The better stores and centres give advice to the public on which product does what, when, where and how to use it and, importantly, where not to use it.

Every one of us has a responsibility to help in the care of the environment in which we live and the protection of essential water supplies. The correct use of available chemical products can greatly enhance our homes and our gardens, without being detrimental to the natural environment or contaminating the water which flows down our drains and soaks down through our garden soil.

The *GUARDIAN* training and the *BASIS Certificate in Garden Care*, awarded to those who pass the examination at the end of the training, are designed to meet the provision of advice for all relevant home and garden use products.

The staff of a wide range of businesses, supplying the public with products for home and garden use, are the focus for the *GUARDIAN Course*.

Typically staff working in

- *DIY Stores*
- *Garden Centres*
- *Hardware Stores*
- *Garden Design Centres*
- *Supermarkets with home / garden sections*
- *General Stores with home / garden departments*
- *Landscape and garden service businesses*
- *Other retail outlets of home and garden products*

All the staff serving the public and having responsibility for the types of products mentioned above will find the Guardian training of great value. The aim is that staff will be more confident in selling and giving sound advice on garden chemicals.

The tuition and examination will usually take 2 days in total. This can vary a little for those who have gained greater experience prior to the training. There are five modules to complete during the tuition and home-based working period.

- Module 1 Weeds, Pests & Diseases and the damage they do
2 Control options
3 Legislation and Safety
4 Growing Media and Plant Nutrition
5 Water, Wildlife and the Environment

All modules will cover:

- Competence
- Performance criteria
- Essential knowledge and skills

Trainers will provide a work book to cover the syllabus content

Typically the two days would be structured as follows:

- Day 1 Introduction to GUARDIAN
- Aims and objectives
 - Presentation of workbook
and how to use it

Tuition for some of the more complex areas of the syllabus eg.

- Legislation and safety
- Weeds, Pests & Diseases and the damage they do
- Control options

- Day 2
- Assessment of work book completion
 - Revision for each of the 5 modules
 - Coverage of areas candidates have found difficult
 - Examination

Certification is likely to exceed the requirements of the Sustainable Use Directive when it comes into force.

A workbook is provided for each candidate which will require a significant input from the candidate. Completion of the workbook through individual study and research is an essential part of the learning process for this course. Completion of the workbook exercises are also an essential requirement for success in this course and examination.

It is envisaged that a period of a few weeks will elapse between Day One and Day Two so that candidates can work at home on their workbook in order to complete all 5 module exercises prior to meeting with the tutor on Day Two for revision and the exam.

EXAMINATION GUIDELINES

The examination will usually take place on the afternoon of the second day.

The examination content will cover a selection of topics from this syllabus of 5 modules.

The time allowed for the exam is 2 hours.

THE EXAM

The exam has 3 sections which added together total 100 marks. The pass mark of the 3 sections combined is 70% (70 marks)

	Max. Marks Possible
Multi-choice - 30 questions	
Each one has four possible answers, only one of which is correct	30
Short answer questions - 3 questions	
Each question requires approx. 50 to 100 word answer	30
Exercise to cover a simulated garden / home situation with 10 questions which may typically be asked by customers	40

The examination will be 2 hours in duration and may be conducted at any reasonable venue by prior agreement with BASIS.

The venue should have heat, light, ventilation appropriate for the time of year; quiet, with no interruptions; space for each candidate to have a desk, chair and an amount of relative privacy; toilet and washroom facilities; and (ideally) some refreshment facilities.

OBJECTIVE SYLLABUS

MODULE 1 - WEEDS PESTS AND DISEASES AND THE DAMAGE THEY DO

1.1 Competence

Develop the ability to identify weeds, pests and diseases which affect garden plants, surrounds, and structures around the outside of the home and to understand the damage that weeds, pests and diseases cause.

1.2 Performance Criteria

Candidates will be able to demonstrate

- an awareness of different garden weeds, how they multiply, when they grow, what damage each causes.
- a knowledge of the pests that invade garden areas, the way to identify symptoms, the damage they cause and how they multiply.
- the ability to identify different plant diseases, how they spread and what damage they cause.
- a knowledge of the vermin species that invade the home; their preferred habitat; their means of spread; the damage they cause and symptoms of it.
- an awareness of the pests and diseases of wood in the context of fencing, wooden buildings, green houses, etc; how the pests and diseases spread; the damage they cause and the identification of each.
- an understanding of the importance of hygiene in the garden and home area to avoid problems developing.

1.3 Essential Knowledge and Skills

Candidates must have the ability to understand all the following areas in sufficient depth to be able to

- understand the problem outlined by the customer.
- consider and explain which pest, weed or disease may be creating the problem.
- understand and explain the symptoms and damage caused by each of the organisms.

- **Garden weeds**
including
 - Annuals
 - Perennials
 - Grass Weeds
 - Broad Leaved Weeds
 - Lawn Weeds
 - Moss
 - Algae (on paving)

- **Plant Diseases**
including
 - Mildew
 - Black Spot
 - Fusarium
 - Verticillium
 - Botrytis
 - Blight
 - Clubroot
 - Rusts
 - Canker
 - Viruses

- **Pests**
including
 - Slugs
 - Types of slug
 - How they multiply
 - Conditions they favour

 - Snails

 - **Insect Pests**
including
 - Aphids
 - Leatherjackets

- Caterpillars
- Wireworms
- Cabbage root fly
- Chafer grubs
- Ants
- Wasps
- Carrot fly
- Flea beetles

- **Nematodes**

- **Vermin**

including

- Rats
- Mice
- Rabbits
- Wood Pigeons
- Grey squirrels

- **Wood Pests and Diseases**

including

- Woodworm
- Death Watch Beetle
- Woodlice
- Wet rot
- Dry rot

- **Weeds in Water / Ponds**

- Identification
- Control
- Algae

MODULE 2 - CONTROL OPTIONS

2.1 Competence

Develop the ability to understand the control options for weeds, pests and diseases which affect gardens and around the outside of the home. To develop the ability to evaluate which control should be selected for which purpose; how each relates to the other and the importance and implications of choosing the correct option for the customer.

2.2 Performance Criteria

Candidates will be able to demonstrate

- an awareness of the need for garden hygiene through disposal, rotation and plant propagation.
- a knowledge of different cultural techniques and the way they interlink.
- a knowledge of physical control techniques, what each requires and their limitations.
- an awareness of the principles of biological control methods, the practicality of implementing them and examples of the options.
- a knowledge of beneficial insects and birds and animals, what they contribute and the habitats they prefer.
- an understanding of Integrated Control methods, what the objectives are and the benefits of achieving them.
- a knowledge of chemical options, how they work, the formulations manufactured and the types of products available.
- the importance of assessing all the options, understanding the implications of each and choosing the correct one for the customer.

2.3 Essential Knowledge and Skills

Candidates must have the ability to understand all the following areas in sufficient depth to be able to

- assess the control options for the customer.
- evaluate the implications of each.
- explain the best option to the customer.
- consider the customer's ability to implement the selected option.
- discuss the expected outcome.

- **Carryover of Pests and Diseases – Need for Hygiene**
 - Disposal of Plant Residues
 - Rotation of Vegetables
 - Plant pot and Pricking out Hygiene

- **Cultural techniques**
 - Rotation of Plant types
 - Removal/burial of plant residues
 - Cultivation
 - Fallow areas
 - Right plant in the right place
 - Watering and drainage
 - Appropriate pH and feeding

- **Physical Techniques**
 - Strimming
 - Burning
 - Barriers
 - Mulches (weeds)

- **Biological Control**
 - Principles
 - Examples
 - Difficulty of implementing

- **Beneficial Insects, Birds and Animals**
 - Principles
 - Examples e.g.
 - Ladybirds
 - Groundbeetles
 - Habitat preferences

- **Integrated Control**
 - Principles
 - How to implement
 - Benefits

- **Chemical Options**
 - Weed, Disease, Insect and Pest Control

- **How Chemicals Work**
 - Contact
 - Residual
 - Translocated
 - Pre-emergence
 - Post-emergence
 - Soil applied
 - Foliage applied
 - Resistance

- **Formulations and Types of Product**
 - Liquids (EC, SC, Solution)
 - Wettable powders
 - Granules
 - Dusts
 - Smokes
 - RTU

- **Making the Correct Choice**
 - Key questions to the customer
 - Understanding the customer's needs
 - Identification of the real problem
 - Assessing the options and implications of each
 - Recommending the solution that fits the customer

MODULE 3 - LEGISLATION AND SAFETY

3.1 Competence

Develop an understanding of the legislation and health and safety issues related to controlling weeds, pests, diseases and plant nutrient deficiencies in the garden and around the outside of the home. Also to develop the ability to understand product safety data sheets, product labels and the consequences of product use, coupled with safety to the environment.

3.2 Performance Criteria

Candidates will be able to demonstrate

- an awareness of chemical product legislation and how the different parts inter-relate.
- a knowledge of the law and codes of practice to ensure health & safety at work and for the customer.
- an awareness of the various elements of chemical approval for each product type and how it is implemented in the UK & EU.
- a knowledge of chemical product labels and safety data sheets, so as to understand the key parts of each and their implications for customers.
- a knowledge of the correct ways to store, transport, use and dispose of excess product and packaging for chemical products, along with the appropriate protective clothing as may be required for each.
- an awareness of how safety to people, pets and the environment can be maintained relative to the use of chemical control products.

3.3 Essential Knowledge and Skills

Candidates must have the ability to understand all the following areas in sufficient depth to be able to

- discuss legislation and safety requirements related to garden chemical products.
- explain the important elements of those that customers need to know for their individual situation.
- explain how products should be used, stored and disposed of safely.
- explain how the environment can be protected alongside the use of chemical control products.

- **Product legislation**
 - FEPA
 - COPR
 - PPPD/PPPR

- **Health & Safety**
 - Health & Safety at Work Act 1972 (amended)
 - COSHH
 - Workplace

- **The role of:**
 - CRD
 - HSE
 - UK approval
 - EU approval

- **Product labels**
 - Statutory requirements
 - Key elements included
 - What to look for

- **Safety Datasheets**
 - Purpose and what they contain

- **Chemical Sales and Use**
 - Safety - transport and transfer
 - Storage and display
 - Disposal - Waste regulations
 - Protective clothing
 - Safe Application

- **Safety to the Environment**
 - Wildlife
 - Water
 - Safety to people and pets

MODULE 4 - GROWING MEDIA AND PLANT NUTRITION

4.1 Competence

Develop the ability to understand the different types of growing media, the various plant nutrients, the importance of water, how deficiencies are identified and how nutrition can be provided for plants.

4.2 Performance Criteria

Candidates will be able to demonstrate

- an awareness of the different types of growing media, the properties and benefits of each and their role in the garden and home.
- a knowledge of the main plant nutrients, what they are, what they do, and how they can be provided to plants.
- a knowledge of different types of fertiliser, the qualities and properties of each
- the importance of water provision and drainage as essential aspects of good plant growth.
- a knowledge of how to recognise plant nutrient deficiencies, what causes them and how to correct them.

4.3 Essential Knowledge and Skills

Candidates must have the ability to understand all the following areas in sufficient depth to be able to

- discuss the various growing media options and which is best for each purpose.
- explain how plant nutrients work, what they are and how they can best be provided for various plants.
- consider and explain the various fertiliser products available and which is most suited to each customer's needs.
- discuss how water is vital to plant life, but how drainage is also important for proper plant growth.
- discuss the key symptoms of plant nutrient deficiencies, which nutrient they relate to and how they can be remedied.

- **Types of Growing media**
 - Composts
 - Growing bags
 - Soil - outline types
 - Composting (allotments etc.)
 - Garden and home waste

- **Key plant nutrients**
 - What they are
 - What they do

- **Fertilisers**
 - different product types
 - Eg.
 - Slow release granules
 - Tablets
 - Physical types
 - Lawn Sand
 - Feed and Weed

- **The Importance of Water**
 - Watering
 - Drainage

- **Ways to provide plant nutrition**
 - Organic fertilisers (eg. Seaweed)
 - Composts, manures etc.
 - Fertilisers
 - Which to use
 - When and how to apply
 - Foliar feeding

- **Recognising nutrient deficiency**
 - Symptoms
 - How to correct
 - Consequences of deficiency

MODULE 5 - WATER, WILDLIFE AND THE ENVIRONMENT

5.1 Competence

Develop the ability to understand the inter-relationship between the quality of water, the presence of wildlife and the environment in the garden and around the outside of the home. To develop skills and understanding of how garden planning and careful practices can maintain and enhance the flora and fauna in the garden.

5.2 Performance Criteria

Candidates will be able to demonstrate

- a knowledge of the standards set for water quality and the risks posed by different pollutants.
- an awareness of how the garden environment can be maintained and improved by planning and plant / area selection
- a knowledge of the types of wildlife and natural fauna that can be present in the garden and around the home, how the desirable species can best be maintained, attracted and their habitat improved

5.3 Essential Knowledge and Skills

Candidates must have the ability to understand all the following areas in sufficient depth to be able to

- discuss how water quality is maintained / improved by avoidance of pollution or contamination around the home and garden.
 - explain how plant and garden area choices can assist the environment and biodiversity and how planning is key to garden environmental improvement.
 - discuss the various fauna and wildlife species that can be present in the garden, the habitat they prefer and the opportunity to encourage the desirable species of birds, mammals and insects.
-
- **Protection of Water**
 - Water Framework Directive
 - Standards of Quality Required
 - Avoiding pollution

- **Protection of the Environment**
 - Using the best options
 - Careful Waste Disposal
 - Avoiding pollution
 - Energy efficiency
 - Resource co-ordination - ie timing different jobs to best effect

- **Encouraging Biodiversity (Wildlife)**
 - Planning the Garden
 - identify feature areas
 - e.g. - wet
 - dry
 - acid
 - alkaline
 - plants to suit each
 - choosing plants to encourage desirable species of
 - birds
 - insects
 - mammals
 - Garden Birds
 - protecting food sources
 - eg. berries
 - hedgecutting
 - habitat, nesting boxes, tables
 - feeding
 - minimising predators
 - Habitat creation and protection
 - Legislation
 - not disturbing nests
 - Wildlife and Countryside Act
 - not disturbing bats
 - Mammals
 - garden visitors e.g. hedgehogs
 - Attracting Insects
 - eg. butterflies - buddleia
 - ladybirds, lacewings etc.

SAMPLE EXAMINATION QUESTIONS

SECTION 1 - MULTI-CHOICE

1. The framework of an old garden shed, which is out in the open, is rotting. There is no obvious evidence of fungal disease so the most likely cause of the rotten timber is
 - a) Dry rot
 - b) Wet rot
 - c) Pink rot
 - d) Woodworm

2. Plants in the garden borders have older leaves going yellow and new leaves which are green and healthy. The most likely cause is
 - a) Plants put too deep into the soil
 - b) Plants put too shallow into the soil
 - c) Nitrogen deficiency
 - d) Phosphate deficiency

3. Roses are out in full leaf but have patches of whitish / grey mould on the surface of the leaves. The most likely cause is
 - a) Rust disease
 - b) Shortage of potash
 - c) Black spot
 - d) Rose mildew

4. A creature which carries a disease from plant to plant is a
 - a) pathogen
 - b) parasite
 - c) predator
 - d) vector

5. An example of a beneficial insect is
- a) crane fly
 - b) click beetle
 - c) vine weevil
 - d) hover fly
6. A weed with a creeping underground stem (rhizome) is
- a) mayweed
 - b) couch grass
 - c) dandelion
 - d) cleavers
7. Black spot of roses is caused by a
- a) fungus
 - b) bacteria
 - c) virus
 - d) nutrient deficiency
8. Control of Substances Hazardous to Health Regulations (COSHH)
- a) protects people in the work place from harm by contact with chemicals
 - b) requires pesticides to be approved
 - c) protects wildlife from harm caused by pesticides
 - d) is enforced by the pesticide safety directorate
9. A plant is showing yellowing between the veins (the leaf veins are green) on the younger leaves. A likely cause is deficiency of
- a) nitrogen
 - b) potassium
 - c) magnesium
 - d) manganese

10. Grubs with brown heads and three pairs of legs are found eating the roots of grass in a lawn. They are likely to be the larvae of

- a) vine weevil
- b) chafer beetle
- c) cabbage root fly
- d) flea beetle

SECTION 2 - SHORT ANSWER QUESTIONS

Answer each question in between 50 and 100 words.

1. State four benefits of biodiversity in the garden. Give six ways in which someone new to wildlife gardening could increase the biodiversity in their garden?

SECTION 3 - EXERCISE



A gardener is concerned about the disease (see the photograph above) on her potato plants. There is fluffy fungal growth underneath the leaf lesions. It is August and the weather has been wet and warm. She has another plot of potatoes near-by which is not showing symptoms at the moment.

- a) What is the disease?

- b) Are there any non-chemical measures she can use to control the problem or to prevent it another time?
- c) Can you recommend a product to control the disease or to prevent it?
- d) Explain what information on the product label she should take careful note of and why.
- e) How should she dispose of the product container/packaging when empty?

**GUARDIAN
BASIS CERTIFICATE IN GARDEN CARE**

BASIS Approved Trainers

The following Colleges, Trainers and Training Providers are successfully running the GUARDIAN examinations and have been accepted as BASIS Approved Trainers for the GUARDIAN course.

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The following Colleges, Trainers and Training Organisations have expressed an interest in running some, or all, of the training modules and / or the GUARDIAN examination.

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