

**CORK INSTITUTE OF TECHNOLOGY  
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

**Semester 2 Autumn Repeat Examinations 2015**

**Module Title:      Organic, Biodynamic and Conventional Horticulture Systems (CA)**

**Module Code:**        AGRI7005

**School**                Science and Informatics  
                              Business and Humanities

**Programme Titles:** Bachelor of Science (Hons) in Herbal Science Year 2  
                              Bachelor of Science in Horticulture Year 1

**Programme Codes:** SHERB\_8\_Y2  
                              BHORT\_7\_Y1

**External Examiner(s):**    Professor Peter Jones  
**Internal Examiner(s):**    Mr Joseph Croke

**Instructions:** Answer Question 1 and any other three questions. All questions carry equal marks.

**Duration:**        2 Hours

**Sitting:**            Autumn 2015

**Requirements for this examination:**

**Note to Candidates:** Please check the Programme Title and the Module Title to ensure that you have received the correct examination paper.  
If in doubt please contact an Invigilator.

**Candidate Name:** \_\_\_\_\_ **Student Number:** \_\_\_\_\_.

**Q. 1 Mandatory Answer Question Answer All questions A-J**

(a) State the annual acceptable total amount of Copper that can be applied per Hectare as a fungicide in field potato crops under IOFGA regulations of certification?

\_\_\_\_\_  
(2 marks)

(b) Name **two** organically acceptable methods of slug control?

(i) \_\_\_\_\_ (ii) \_\_\_\_\_ (2 marks)

(c) **Explain** the term 'Stale Seed Bed'?

\_\_\_\_\_  
\_\_\_\_\_  
(2 marks)

(d) Name **two** members of the Fabaceae that can be used in nitrogen provision for organic crops.

(i) \_\_\_\_\_ (ii) \_\_\_\_\_ (2 marks)

(e) Describe briefly the action of a Finger weeder **and** state if it is powered or non-powered?

\_\_\_\_\_  
\_\_\_\_\_  
(2 marks)

**Tick the box's to indicate the correct answer(s) for the following,**

(f) Seaweed as fertiliser can be	Used in Organic production	<input type="checkbox"/> yes <input type="checkbox"/> no	(3 marks)
	Clear cut harvested from rocks	<input type="checkbox"/> yes <input type="checkbox"/> no	
	Used as a surface mulch around crops	<input type="checkbox"/> yes <input type="checkbox"/> no	

(g) Cinnamon Oil use is allowed in Organic systems of production		<input type="checkbox"/> yes <input type="checkbox"/> no	(3 marks)
	Use of plastic cloches are not allowed in Organic production	<input type="checkbox"/> yes <input type="checkbox"/> no	
	Use of biological controls are prohibited in Organic production	<input type="checkbox"/> yes <input type="checkbox"/> no	

(h) A lunar month has a cycle that returns to the same phase is 24.53 days ☐ 29.531 days ☐

An eclipse when the earth is between the sun and the moon is a Lunar eclipse ☐ Solar eclipse ☐

Propagules grown in an organic unit in Limerick can be used in a Cork unit for the systems,

Organic ☐ Biodynamic ☐ (3 Marks)

(i) Of the concept of the four elements of life,	Earth is wet	<input type="checkbox"/> yes <input type="checkbox"/> no	(3 marks)
	Fire is wet	<input type="checkbox"/> yes <input type="checkbox"/> no	
	Earth, fire, air, water are the four elements	<input type="checkbox"/> yes <input type="checkbox"/> no	

(j) Good composting environments require an adequate supply of	Methane	<input type="checkbox"/> yes <input type="checkbox"/> no	(3 marks)
	Oxygen	<input type="checkbox"/> yes <input type="checkbox"/> no	
	Carbon dioxide	<input type="checkbox"/> yes <input type="checkbox"/> no	

**Answer any Three questions from Q2 to Q5**

**Q. 2 (a)** Outline briefly the meaning of ‘**organically produced**’ in EU crop production **5 Marks**

**(b)** Discuss cultivation methods that you saw used at the Ballymaloe Organic unit in East Cork or similar discussed under the headings

**(i)** Weed control

**(ii)** Disease and pest control used outdoors and indoors at the unit

**(iii)** Essential nutrient provision and

**(iv)** Continuity of supply

**20 Marks**

**Q. 3 (a)** Discuss Biodynamics under the following headings

Beginnings and Philosophy

**2 Marks**

Principles of the concept

**6 Marks**

**(b)** Outline **one** difference between conventional **and** organic practice **and one** difference between biodynamic **and** organic horticulture **5 Marks**

**(c)** Outline in detailed summary **four** concepts according to biodynamic practice. **12 Marks**

**Q. 4** Regarding Organic Production of Honey, answer the following

**(a)** Give the species name of the honey bee.

**5 Marks**

**(b)** Discuss the advantages of Honey Bees to Fruit crops.

**5 Marks**

**(c)** Outline briefly the lifecycle of the Honey Bee.

**5 Marks**

**(d)** Name **four** duties of a worker bee.

**5 Marks**

**(e)** State **one** reason for production of **Royal Jelly and state four** requirements for successful site to locate Honey bees. **5 Marks**

**Q. 5 (a)** Outline weed control in organic, biodynamic and conventional systems of production under the following headings? **9 Marks**

**(b)** Outline briefly the use of **Integrated Pest Management (IPM)** in controlling pests in conventional systems and in the context of being modified for use in Biodynamic production.

**16 marks**