

**CORK INSTITUTE OF TECHNOLOGY**  
**INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

**Semester 2 Autumn Repeat Examinations 2013**

**Module Title:      Organic, Biodynamic and Conventional Horticulture Systems**

**Module Code:**      AGRI7005

**School**      School of Science and Informatics

**Programme Titles:**    Bachelor of Science in Herbal Science (Hons)

**Programme Codes:**    SHERB\_8\_Yr2

**External Examiner(s):**    **Dr. Julia Green**  
**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 2013

**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) Name **two** horticultural activities in Biodynamics practice should be suspended during a lunar eclipse?

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

(b) Name **two** types of companion planting?

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

(c) Name **two** disadvantages to monoculture vs mixed cropping?

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

(d) Name **two** Organic accreditation bodies in Ireland?

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

(e) Name **two** Organically acceptable methods of slug and snail control?

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

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

(f) A Synodical month has a cycle that returns to the same phase in 29.531 days ☐?  
27.212 days ☐?

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

Young plants grown in a certified organic unit in Goleen, can be used in a unit for the systems,  
Organic ☐?  
Biodynamic ☐? (3 Marks)

(g) Of the concept of the four elements of life, Earth is dry ☐ yes ☐ no?  
Fire is wet ☐ yes ☐ no?  
Earth, fire, air, soil are the four elements ☐ yes ☐ no? (3 marks)

(h) In an ascending moon, the following should be done grafting ☐ yes ☐ no?  
transplanting ☐ yes ☐ no?  
sowing seed ☐ yes ☐ no? (3 marks)

(i) Seaweed as fertiliser generally offers an adequate supply of: Calcium ☐ yes ☐ no?  
Magnesium ☐ yes ☐ no?  
Copper sulphate can be used in Organic production at a rate of 5KG/ Ha/ Yr ☐ yes ☐ no? (3 marks)

(j) 'Derogations' are Never allowed in Organic systems of production ☐ yes ☐ no?  
Medicinal herbs must be sold as 'in transition' for the first 5 years in Organics ☐ yes ☐ no?  
Bulrush Ordinary Multipurpose Compost is acceptable for Organic use ☐ yes ☐ no? (3 marks)

**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** Discuss Companion planting use in medicinal plant productions.

**15 Marks**

Outline the importance of not walking on production beds as seen at Jim Cronin’s Organic unit or similar.

**10 Marks**

**Q. 4** Regarding the Biodynamic 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 medicinal 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 **four** requirements for successful site to locate Honey bees?

**5 Marks**

**Q. 5 (a)** Outline generally the difference in pest and disease control between organic and convention medicinal plant production approaches.

**9 Marks**

**(b)** Discuss briefly the use of **Integrated Pest Management** in controlling Aphids in a *Hypericum perforatum* L. medicinal crop?

**16 Marks**