

**CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

Autumn Examinations 2014

Module Title:	Organic, Biodynamic and Conventional Horticulture Systems
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Module Code: **AGRI7005**

School School of Science and Informatics
 School of Business and Humanities

Programme Titles: Bachelor of Science in Herbal Science
 Bachelor of Science in Horticulture

Programme Codes: **SHERB_8_Y2**
 BHORT_7_Y1

External Examiner(s): **Professor Olivia Corcoran**
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 2014

Requirements for this examination:

<p>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.</p>
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Candidate Name:

Student Number:

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

- (a) Explain the meaning of the acronym 'IOFGA' for an organic body in Ireland?

(2 marks)
- (b) Name **two** Organically acceptable methods of slug control?

(2 marks)
- (c) Name **two** horticultural activities in Biodynamics practice should be suspended during a solar eclipse?

(2 marks)
- (d) Name **two** types of nitrogen fixing green crop planting?

(2 marks)
- (e) Name **two** disadvantages of repeat cropping on same ground year on year vs. crop rotation?

(2 marks)

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

- (f) Seaweed as fertiliser generally offers an adequate supply of: Calcium yes ☐ no ☐
Magnesium yes ☐ no ☐
Bordeaux mixture can be used in Organic production at a rate of 5KG/ Ha/ Yr yes ☐ no ☐? (3 marks)
- (g) 'Diquat use is allowed in Organic systems of production yes ☐ no ☐
Use of diesel powered tractors is not allowed in Organic production yes ☐ no ☐
Use of weed suppressant fabrics is restricted in Organic production yes ☐ no ☐? (3 marks)
- (h) A lunar month has a cycle that returns to the same phase in 24.53 days ☐ 29.531 days ☐

An eclipse that occurs when the earth is between the sun and the moon is a: lunar eclipse ☐ solar eclipse ☐

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

Organic ☐ Biodynamic ☐

(3 Marks)

- (i) Of the concept of the four elements of life, Earth is wet yes ☐ no ☐
Fire is wet yes ☐ no ☐
Earth, fire, air, water are the four elements yes ☐ no ☐? (3 marks)
- (j) In a descending moon, the following should be done grafting yes ☐ no ☐
transplanting yes ☐ no ☐
sowing seed yes ☐ no ☐? (3 marks)

Answer any THREE questions from Q2-Q5

- Q. 2 (a)** Outline briefly the leading regulations on Organic production in Europe **15 Marks**
- (b)** Discuss the approaches at the Ballygarvan Biodynamic unit in West Cork or similar discussed under the headings: **(i)** Biodiversity and **(ii)** Medicinal and allotment Crop Sourcing. **10 Marks**
- Q. 3 (a)** Explain the general meaning of the term ‘Biodynamics’. **8 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 of life according to biodynamic practice. **12 Marks**
- Q. 4** Regarding the 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 weeds, insect pests and fungal disease control between organic and convention plant production approaches. **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**