

CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ

Semester 2 Examinations 2011

Module Title: Botany CA

Module Code: BOTA6001

Schools: School of Business and Humanities
School of Science

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

Programme Code: BHORT_7_Y1
SHERB_8_YR2

External Examiner(s): Dr. Margaret Norton
Internal Examiner(s): Mr. Joseph Croke

Instructions: Answer Section 1 (All Short question) and Section 2 (Three number Long questions)

Duration: 2 Hours

Sitting: Autumn 2011

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.

Student Name:_____. **Exam Number:**_____.

Section 1 Short Answer Questions: Answer All Questions

Q1. Name **two** cell organelles found in a plant cells?

_____ (2 marks)

Q2. List **two** differences between monocotyledonous and dicotyledonous plants?

_____ (2 marks)

Q3. Give the full species name for **one** native Irish plant and **one** culinary herb?

_____ (2 marks)

Q4. Name **one** function of the 'xylem' and **one** function of the 'phloem' in plants?

_____ (2 marks)

Q5. Outline **two** reasons why knowledge of plant transpiration is important in growing plants?

_____ (2 marks)

Q6. Name **two** characters useful in the identification of a *Veronica filiformis* plant?

_____ (2 marks)

Q7. Explain briefly the meaning of the term 'mitosis'?

_____ (2 marks)

Q8. List any **two** parts of plant seeds?

_____ (2 mark)

Q9. Name **two** general environmental requirements for seed germination?

_____ (2 marks)

Q10. Explain the difference between the terms '**haploid**' and '**diploid**' in plants?

_____ (2 marks)

Q11. List **two** mechanisms that can prevent self pollination in fruit trees?

_____ (2 marks)

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Q12. Outline the process of respiration in words **and** simple chemical equation?

_____(2 marks)

Q13. Name **a)** the position of a bud on a stem and **b)** the plant hormone that enhances root production in stem cuttings?

_____(2 marks)

Q14. **Explain** briefly the difference between terms 'eukaryote' and 'prokaryote' in plants?

_____(2 marks)

Q15. **Outline** the meaning of the term 'synonym' in plant names?

_____(2 marks)

Q16. Name **two** places where you would find a 'meristem' in higher plants?

_____(2 marks)

Q17. Explain the meaning of the terms (a) genus and (b) cultivar in the classification of plants?

_____(2 marks)

Q18. Explain briefly the meaning of the term '**F1 hybrid**'?

_____(2 marks)

Q19. Outline **briefly** the meaning of the terms 'epigeal' and 'hypogeal' in seed?

_____(2 marks)

Q20. List any **two** environmental influences that can affect the opening and closing of stomata by the guard cells of leaves?

_____(2 marks)

Section 2 Long Answer Questions

Answer any **THREE** questions

- Q.1** (a) Draw a labeled diagram of a dicotyledonous inflorescence of the family **Brassicaceae** and label the following parts:
- (i) a stigma
 - (ii) a style
 - (iii) an ovary
 - (iv) a pollen tube
 - (v) the corolla
- [10] Marks
- (b) List **one** function for each part labeled. [5] Marks
- (c) Discern between the terms **peduncle** and **pedicel**. [5] Marks
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- Q.2** (a) Draw a labeled diagram of the cross-section of a dicotyledonous leaf to show the following:
- (i) spongy mesophyll
 - (ii) guard cells
 - (iii) epidermis
 - (iv) palisade mesophyll
 - (v) cuticle
- [10] Marks
- (b) State **one** function of each of the named plant tissues. [10] Marks
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- Q.3** (a) Describe briefly the process **and** importance of photosynthesis. [5] Marks
- (b) Explain briefly the term 'limiting factors' explaining **five** examples. [15] Marks
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- Q.4** Outline with the aid of a labelled diagram the lifecycle of a Bryophyte. [15] Marks
- List **two** reasons why Mosses are found in some habitats and not others. [5] Marks