

**CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

Semester 1 Examinations 2011/12

Module Title: **Pharmacognosy**

Module Code: **CHEO8002**

School: Biological Sciences

Programme Title: B.Sc. (Honours) in Herbal Science

Programme Code: SHERB_8_Y4

External Examiner(s): **Dr. Julia Green**
Internal Examiner(s): **Germain Levieille**

Instructions: Answer any 4 of the 5 questions asked. Each question carries a equal mark weighing of 25%. Please state clearly the questions addressed in your paper.

Duration: 2 hours

Sitting: Winter 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.

- Q1. a) Drying is the main post-harvest treatment applied to crude herbal drug to preserve the phytochemical quality of plant material. Indicate the applications, advantages and limitations of the drying methods. (15 marks)**
- b) Quality of crude drug is affected by storage conditions. Indicate the optimal conditions of storage to limit the degradation of the dried herbal drug. (10marks)**
- Q2. Adulteration of crude drugs is an important problem; describe the different types of adulteration. (15 marks)**
- How would you limit the risk of adulteration as producer of herbal material? (10 marks)**
- Q3. What are the factors of primary and secondary deterioration of herbal products and raw material? (15 marks)**
- If you were a producer of crude herbal drug how would you prevent deterioration of herbal material? (10 marks)**
- Q4. What are the key characteristics of saponins? (8 marks)**
- What are the different types of saponins? Elaborate on their chemical structure. (12 marks)**
- What are the biological properties and applications of saponins? (5 marks)**
- Q5. Discuss the regulation of metabolic pathways leading to the accumulation of therapeutic secondary metabolites and its relation with the quality of the drug. (15 marks)**
- Discuss the effects of growing conditions in the optimisation of metabolite profiles in view of phenotypical expression of metabolic pathways. (10 marks)**