

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

**Autumn Examinations 2012**

**Module Title:     Pharmacology**

**Module Code:        CHEM8005**

**School:                Science**

**Programme Title:**    Bachelor of Science (Honours) Herbal Science – Year 3  
                              Bachelor of Science (Honours) in Biomedical Science – Year 3

**Programme Code:**    **SHERB\_8\_Y3**  
                              **SBISC\_8\_Y3**

**External Examiner(s):     Dr Julia Green, Prof. Richard O’Kennedy**  
**Internal Examiner(s):     Ms Anna-Maria Keaveney**

**Instructions:                Answer QUESTION 1 and TWO others**

**Duration:                2 Hours**

**Sitting:                  Autumn 2012**

**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. Describe the following in detail in relation to the clinical effect of drugs on the body:
- (a) Dose absorption (influencing factors) **(10 marks)**
  - (b) Volume of distribution **(10 marks)**
  - (c) Metabolism and excretion **(10 marks)**
  - (d) Routes of drug excretion **(10 marks)**
  - (e) Elimination rate constant **(10 marks)**
- Q2. Discuss in detail
1. The dose-response relationship between drug concentration and pharmacological effect. **(18marks)**
  2. Explore the issues raised by the Therapeutic Index in relation to drug use in a clinical setting. **(7 marks)**
- Q3.
1. Describe the physiologic basis for the susceptibility of specific organs/ structures to drugs and other chemical agents **(15 marks)**
  2. Select five major toxicities of food and describe their effect and mechanism **(10 marks)**
- Q4. Describe in detail how different species vary in their response in relation to drug metabolism, disposition and distribution within the body. **(25 marks)**
- Q5. Taking selected examples discuss in detail the influence of enzyme induction and inhibition on metabolism **(25 marks)**