

Cork Institute of Technology

Bachelor of Science (Honours) in Herbal Science – Stage 3

(SHERB_8_Y3)

Summer 2008

Aromatic Chemistry

(Time: 2 Hours)

Instructions

Answer any **FOUR** questions

All questions carry equal marks.

Examiners:

Ms. N. Darrell

Mr G. Levieille

Dr. D. Corrigan

Dr. D. Clare

- Q1. List 4 functional families of essential oil constituents and describe their therapeutic properties and contra-indications. (25 Marks)
- Q2. List and explain the criteria normally used when formulating a blend of essential oils in holistic aromatherapy. (25 Marks)
- Q3. (a) Describe the mevalonic acid biosynthetic pathway of terpenes. (15 Marks)
(b) What is the plastid metabolic route of biosynthesis of Isopentenyl Pyrophosphate? (10 Marks)
- Q4. Geranyl Pyrophosphate is the precursor of monoterpenes. Give a description of their cyclisation with examples of acyclic, monocyclic and bicyclic monoterpenes. (25 Marks)
- Q5. (a) Describe the method of extraction of essential oils by:
i. Steam distillation (8 Marks)
ii. Enfleurage (8 Marks)
(b) Discuss the factors that will guide your choice of extraction methods. (7 Marks)
- Q6. (a) Discuss the preparation of creams, and the role and relative concentration of the main components of the composition of creams. (15 Marks)
(b) What are the factors affecting the stability of the creams? (10 Marks)