SUBJECT GCE Chemistry MD — Year 13 LP 5

This half term: Skills, Knowledge and Understanding to be developed:

- **Skills (students WILL BE ABLE to by the end of the Learning Programme:** develop their analytical skills through using different spectra to identify compounds.
- **Knowledge (students WILL KNOW by the end of the Learning Programme):** how to show the structure of zwitterions and dipeptides.
- **Understanding (students WILL DEMONSTRATE their understanding) through:** applying knowledge learnt to answer examination questions.

Key Terms / Words: recrystallisation, chromatography, zwitterion, amphoteric, polymerisation

LP 5 – Weeks 1 & 2 Learning Outcomes: o Students will know the general formula and classification of α-amino acids. o Students will understand the amphoteric and zwitterionic nature of amino acids and the effects on melting temperature and solubility. o Students will know the basic principles of primary, secondary and tertiary protein structure. o Students will know the essential role of proteins in living systems, for example as enzymes. **CDG- Students will apply and demonstrate new knowledge and skills in CDG assessment.**	Assessment CDG MARK	**Success criteria:** 1. Students will be able to draw zwitterions of amino acids and the possible dipeptides formed upon combining amino acids.	**Homework LP 5 1/3** 1. Revise for CDG on amino acids
LP 5 – Weeks 3 & 4 Learning Outcomes: o Students will know how to use high resolution ^{1}H NMR spectra (alongside the other spectral data specified in 2.8) in the elucidation of structure of organic molecules. ○ Students will use I.R. and mass spectra to identify compounds.		**Success criteria:** 1. Students will be able to use NMR spectra to determine the structure of organic molecules. 2. Students will be able to apply their organic knowledge to analysis questions.	**Homework LP 5 2/3** 1. Complete exam questions on high resolution NMR.
LP 5 – Weeks 5 & 6 Learning Outcomes: o Students will practice using different spectroscopic techniques to answer analysis questions. o **CDG- Students will apply and demonstrate new knowledge and skills in CDG assessment.** o Students will practice practical techniques.	Assessment CDG MARK	**Success criteria:** 1. Students will answer analysis exam style questions.	**Homework LP 5 3/3** Revise for CDG
LP 5 – Week 7 Learning Outcomes: ○ Students will practice practical techniques.			