

Marking scheme for July 2010 examination – John Monaghan May 2010

“Critically evaluate the methods for the measurement of calcium in serum and urine ”

- Aware of methods available – 10%
 - Reference – ICP-MS, Stable isotope dilution
 - Standard methods – Atomic absorption, Colorimetry, Ion-selective electrodes (POCT), Dry-slide technology
- Considerations of matrix effects with urine and serum calcium – 10%
- Advantages and disadvantages – Mass spectrometry methods – 5%
- Advantages and disadvantages – Atomic absorption method – 10%
- Advantages and disadvantages – CPC method – 15%
- Advantages and disadvantages – Arsenazo III method – 15%
- Advantages and disadvantages – Dry Slide – 10%
- Advantages and disadvantages – Ion-selective electrodes – 15%
- Awareness of current performance in NEQAS of current methods – 10%

The advantages/disadvantages should include – sample size, easy automation, application to urine and serum, common interference, cost consideration, general performance (turnaround time, accuracy, precision, calibration, stability of sample/reagent).