

靜宜大學 103 學年度碩士班招生考試試題

學系：應用化學系

科目：分析化學

請依序作答

Part-I (40%)

1. Distinguish the differences between (a) equilibrium concentration and analytical concentration. (b) end point and equivalent point. (c) accuracy and precision. (18 pts)
2. Make the definition for (a) Gaussian curve (b) detection limit (c) internal standard calibration. (12 pts)
3. Calculate the pH for a solution prepared by adding 100 mL of 0.0500 M NaOH to 100 mL of 0.175 M HOAc. ($K_a = 1.75 \times 10^{-5}$) (10 pts)

Part-II (30%)

4. (18%) Give a detailed explanation for each of the following terms:
 - (a) Chemical shift
 - (b) The internal standard
 - (c) The junction potential
 - (d) Monochromator
 - (e) Alkaline error in pH measurement
 - (f) LASER
5. (12%) Give the theory/instrument and application of the following instruments:
 - (a) NMR;
 - (b) MS;
 - (c) AAS

Part-III (30%)

6. The advantages of the instrumental analysis in an analytic sample? (6%)

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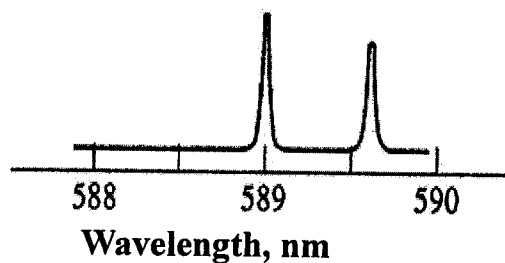
7. Optical spectroscopic methods are base on six phenomena, showed them in the following blank? (12%)

(i)	(ii)
(iii)	(iv)
(v)	(vi)

8. Describe the advantages of double-beam infrared absorption spectrometer? (6%)

9. Describe the differences between the following spectra? (6%)

Na vapor



Benzene vapor

