

科目：分析化學 適用：應化系

考生注意：

1. 依次序作答，只要標明題號，不必抄題。
2. 答案必須寫在答案卷上，否則不予計分。
3. 限用藍、黑色筆作答；試題須隨卷繳回。

本 試 題

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第 1 頁

編號：482

Analytical Chemistry

1. Define the following terms in analytical chemistry: (55 points, 5 points each)
 - (1) Accuracy
 - (2) Precision
 - (3) Chemiluminescence
 - (4) Buffer solution
 - (5) Matrix effects
 - (6) Stokes shift
 - (7) Hyphenated method
 - (8) Limit of detection
 - (9) Black body radiation
 - (10) Scanning probe microscopy
 - (11) Charge transfer device
2. Name three methods (software or hardware) to increase signal to noise ratio in analytical measurements. (9 points)
3. Briefly describe the principles of Michelson interferometer in spectroscopy. (You can draw a figure to explain it if needed.) (5 points) What are the possible applications of Michelson interferometer can be used in spectroscopy with many advantages. (6 points)
4. What are the main advantages of Raman spectroscopy versus Infrared spectroscopy for applications in analytical chemistry? (10 points)
5. Optical spectroscopic methods are based on 6 phenomena. Please name 3 phenomena of them. (15 points)