

中央警察大學 112 學年度碩士班入學考試試題

所 別：刑事警察研究所

科 目：刑事鑑識概論

作答注意事項：

- 1.本試題共 4 題，每題各占 25 分；共 2 頁。
- 2.不用抄題，可不按題目次序作答，但應書寫題號。
- 3.禁用鉛筆作答，違者不予計分。

一、請說明掃描式電子顯微鏡/X 射線能譜分析儀 (SEM/EDS) 的分析原理？樣品在進行 SEM/EDS 分析前須經鍍金或鍍碳前處理的目的分別為何？微量塗料當利用 SEM/EDS 分析時，可進行哪些方面的鑑別比對？

二、請描述光譜影像比對儀 (Video Spectral Comparator; VSC) 的設計原理與主要功能？並舉例說明 VSC 在文書鑑定上有哪些應用？

三、An accumulation of non-DNA forensic evidence (e.g., semen, bloodstain, hairs, or fibers) can often be what ultimately leads to a successful conviction. Please answer the following three questions.

(一) For the piece of white female underpants submitted for seminal stain examination, propose at least two procedural methods to locate the stain. (10 分)

(二) How to confirm the presence of semen on the underpants evidence? (8 分)

(三) If necessary, what methods can be used to confirm the presence of blood? (7 分)

四、Over the past years, new psychoactive substances (NPS) have continued to be rampant and even disguised as instant coffee or milk tea powder, which endangers the physical and mental health of our countrymen. With

the advancement of technology, there are many different detection methods for suspected drugs found by police officers on duty. Please illustrate the features of the following three methods, and explain the significance of their positive test results

(一) Color test (8分)

(二) Immunochromatographic assay (8分)

(三) Portable Raman spectrometer (9分)