

國立勤益技術學院研究所招生筆試試卷

一、試題卷之格式：

國立勤益技術學院九十三年學年度研究所招生初試試題卷

所別：生產系統工程與管理研究所 組別：經營管理組 身分別：在職生

科目：品質經營管理專業案例評述准考證號碼：□□□□□□□□ (考生自填)

考生注意事項：

一、考試時間 100 分鐘。

試題：

一、Six sigma(六標準差)專案目前已是持續改善品質，降低變異最受歡迎的活動之一。其主要領域可分為 1.六標準差的 DMAIC 2.六標準差設計(DFSS)的 IDDOV。

請回答下列問題：

- 請簡述二者之最大不同之處？(5%)
- 何謂 DMAIC 及 IDDOV？並簡述之。(10%)
- 依你之見，six sigma 專案活動與品管圈活動，其主要差異為何？(5%)
- 若你是被貴公司指派來改善目前製程或流程品質的專案經理，你如何來規劃此專案活動的步驟？(以貴公司實例來進行簡要說明較佳)(10%)

二、請回答下列問題：

- ISO 9000 系列標準—2000 版主要有哪四套標準內容，並簡要說明之？(4%)
- 品質文件體系主要包括哪四個層次？並簡要說明之？(8%)
- ISO 9001 品質管理系統要求主要有四大章節，其中第七章 產品實現(product realization)主要有 6 節請簡述之(6%)。第八章 量測分析改善(measurement, analysis and improvement)中請針對第二節監視與量測(monitors and measurement)詳細說明解讀(8%)
- 根據 ISO/IEC Guide 2 的定義中 驗證(certification)與認證(creditation)有何不同？(4%)

三、Which of the following statistical terms do you affect when you improve quality, and how? Select all correct answers. (5%)

- Move the production mean closer to the target.
- Reduce the standard deviation
- Reduce the variation around the target.

背面還有試題

四、In general, which of the following types of business or activities can benefit from the Taguchi approach? Select all appropriate answers. (5%)

- (1). Engineering design
- (2). Manufacturing
- (3). Projects to optimize design
- (4). Projects to optimize process parameters
- (5). Projects to solve production problems

五、What are the five major phases in DOE/Taguchi? (10%)

六、In the semiconductor industry, the production of microcircuits involves many steps. The wafer fabrication process typically builds these microcircuits on silicon wafers, and there are many microcircuits per wafer. Each production lot consists of between 16 and 48 wafers. Some processing steps treat each wafer separately, so that the batch size for that step is one wafer. It is usually necessary to estimate several components of variation: within-wafer, between-wafer, between-lot, and the total variation.

- (1). Suppose that one wafer is randomly selected from each lot and that a single measurement on a critical dimension of interest is taken. Which components of variation could be estimated with these data? What type of control charts would you recommend? (8%)
- (2). Suppose that each wafer is tested at five fixed locations (say, the center and four points at the circumference). The average and range of these within-wafer measurements are \bar{x}_{ww} and R_{ww} , respectively. What components of variability are estimated using control charts based on these data? (5%)
- (3). Suppose that one measurement point on each wafer is selected and that this measurement is recorded for five consecutive wafers. The average and range of these between-wafer measurements are \bar{x}_{bw} and R_{bw} , respectively. What components of variability are estimated using control charts based on these data? Would it be necessary to run separate \bar{x} and R charts for all five locations on the wafer? (7%)