國立雲林科技大學資訊管理系
115 學年度第 1 學期博士班資格考
科目：管理計量方法
(Quantitative Methods for Management)
時間：3.5 hours (Closed book)
作答時，請注意各題之比例配分，並清楚標示題號

● For the Qualifying Exam, you must be scientifically conversant in the chosen subject and demonstrate critical thinking about the selected theories. You have to adhere to the highest standards of intellectual and professional integrity.

● You can answer each question in Mandarin or English.

● When answering, please pay attention to the proportion of each question and clearly mark the question number.

Part I. (50%)

Please refer to the paper entitled **"An Emotion Regulation-Theoretic Perspective on IS Use Stress and User Resistance during an IS Implementation"** as the basis for answering the following questions.

1. Compare exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Why did the authors use EFA in this study? (15%)
2. What is multicollinearity? How can it be assessed, and what are the recommended threshold values? Interpret the VIF results reported in this study. (15%)
3. Compare PLS-SEM and covariance-based SEM (CB-SEM). Why did the authors use PLS-SEM, and was the sample size appropriate for testing the hypotheses? (20%)

Part II. (50%)

1. Compare and contrast Multiple Regression, Polynomial Regression, and Logistic Regression. Your answer should provide a detailed, comprehensive, and critical comparison of the three regression approaches across a broad range of relevant dimensions. Your discussion should demonstrate a clear understanding of their underlying principles, model structures, assumptions, appropriate applications, interpretation of results, strengths and limitations, and criteria for selecting an appropriate approach. (20%)
2. Design one research example for each of the following two regression approaches: Polynomial Regression and Logistic Regression. For each research example, clearly explain when, why, and how the selected regression approach should be used. Your answer should demonstrate critical thinking and statistical reasoning by clearly presenting the research problem, research question, variables, appropriate regression model and equation, rationale for selecting the method, interpretation of the results, and how

the findings would be reported in an academic research paper. Your two research examples should be meaningfully different from one another and should demonstrate your ability to appropriately select, apply, interpret, and report each regression approach in an academic research context. (30%)