資格考共同考試科目「統計方法」範圍:

Reference book:
Probability and Statistics for Engineering and the Sciences
By Jay L. Devore

考試範圍
1. Descriptive Statistics
2. Probability
3. Discrete Random Variables and Probability Distributions
4. Continuous Random Variables and Probability Distributions
5. Joint Probability Distributions and Random Samples
6. Point Estimation
7. Statistical Intervals Based on a Single Sample
8. Tests of Hypotheses Based on a Single Sample
9. Inferences Based on Two Samples
10. The Analysis of Variance
11. Multifactor Analysis of Variance
12. Simple Linear Regression and Correlation
13. Nonlinear and Multiple Regression
資格考共同考試科目「作業研究」範圍:

**Operations Research**


**考試範圍**

Topics:
1. Linear programming
2. Duality theory and sensitivity analysis
3. Integer programming
4. Multi criteria optimization
5. Network optimization models
6. Game theory
7. Decision analysis
8. Markov chains
9. Queuing theory
10. Inventory models

**Integer and combinatorial optimization**


**考試範圍**

Topics:
1. Solve Integer Programming by Linear Programming
2. Cutting plane techniques
3. Branch-and-Bound enumeration
4. Search enumeration
5. Bender’s Decomposition
6. Lagrangian Relaxation/Decomposition
7. Heuristic Algorithms (Genetic algorithm, simulated annealing, Tabu search)