After MID-II to Final (All topics mentioned below and detailed content covered in classes)

Normal distribution, pdf and its characteristics, Parameters, Mean and variance, standard normal distribution, Area under the normal curve, application of normal distribution, Using the normal curve in reverse.

Exercise questions: 6.5, 6.6, 6.8, 6.11, 6.12, 6.13, 6.14, 6.15, 6.17, 6.28, 6.30,

Concept of estimation, point estimation, interval estimation, confidence interval for single mean when sigma is known, confidence interval for single mean when sigma is unknown.

Exercise questions: 9.2, 9.3, 9.10, 9.11, 9.14,

Introduction to hypothesis testing, concept of statistical hypothesis, simple and composite hypothesis, test statistics, Type I and Type II error [show with examples], Critical region and acceptance region, one tail and two tail test, General procedure for testing of hypothesis.

Testing of hypothesis for single mean, Z-test (sigma known) and t-test (sigma unknown).

Exercise questions: 10.19, 10.20, 10.21, 10.23, 10.25, 10.26

Introduction to Simple linear Regression and Multiple linear Regression, SLR Model, SLR applications,

Exercise questions: 11.9, 11.11, 11.12, 11.13, 11.14,

Partition sum of squares, explained, unexplained [residuals] and total variation, Correlation coefficient, Coefficient of determination.

Exercise questions: 11.39 (a,b,c), 11.41, 11.43, 11.53 (a),

Chapter no.14 from David Anderson

Hypothesis testing in SLR Regression: Testing of Regression coefficient/slope, overall significance of regression (ANOVA) approach, Testing of correlation coefficient.

Example: 11.3, 11.10, 11.11

Exercise question: 11.38, (a), 11.40 (a) (ANOVA), 11.44, 11.45 (a, b: , 11.49.

All Regression/Correlation and testing of slope Chapter no.13 from Statistical techniques