MA3484, Annual Examination 2017 - Guidance for Candidates

Candidates are asked to attempt three out of four questions.

Question 1 will ask candidates to solve an instance of a transportation problem.

Question 2 will examine candidates on on a topic or topics related to either the Transportation Problem or the Simplex Method.

Question 3 will ask candidates to find an optimal solution to a linear programming problem in Dantzig standard form, given an initial basic feasable solution for the problem.

Question 4 will examine candidates on on a topic or topics related to the material on duality, convexity and Kuhn-Tucker theory taught in the period following study week.

In preparing for Question 2 note that the results and proofs of the following lemmas, propositions, theorems and corollaries are *examinable*:—

Proposition 3.1
Lemma 3.2
Proposition 3.4
Proposition 3.5
Proposition 3.6
Proposition 3.7
Proposition 3.8
Corollary 3.9
Lemma 4.1
Theorem 4.2

In addition candidates are expected to be familiar with relevant definitions in Sections 3 and 4.

In preparing for Question 4 note that the results and proofs of the following lemmas, propositions, theorems and corollaries are *examinable*:—

Theorem 5.2
Corollary 5.3
Theorem 5.4
Lemma 5.7 (result only, not proof)
Lemma 5.8 (result only, not proof)
Theorem 5.9
Lemma 5.10
Lemma 5.11
Proposition 5.13
Lemma 5.14
Corollary 5.15
Corollary 5.16
Proposition 5.17
Corollary 5.18
Proposition 5.19
Theorem 5.21

In addition candidates are expected to be familiar with relevant definitions in Section 5.

Candidates may also be asked to answer problems concerning weak duality, complementary slackness and strong duality. Such problems might in particular relate to the example concluding Subsection 5.3, or to the example commencing Subsection 5.8.