

STEP Exams - Preparation (3 pages, 4/6/20)

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(A) Topics to specialise in

No candidate is expected to have studied all of the topics in the papers to sufficient depth, and it would seem to be a sensible strategy to specialise in a certain number of areas.

Also, given that there will be many rival candidates of a similar standard, one way of gaining the upper hand is by specialising in particular topics. Another way is to be good at choosing questions!

It probably pays to specialise in topics that have some of the following characteristics:

- (i) they are likely to crop up
- (ii) they are easily recognisable (eg Integration, Vectors)
- (iii) they are limited in scope
- (iv) they involve standard techniques
- (v) they generally don't involve long answers
- (vi) they can often be checked in some way
- (vii) they are not generally popular (eg Mechanics or Probability questions), but are nevertheless do-able with moderate preparation

(B) Questions to target

In addition to the above considerations about specialisation:

(i) Q1 & (often) Q2 on each of the 3 papers are intended to be easier. However, nothing in STEP is guaranteed. You don't want to skip Q1/Q2 if everyone else is doing well on it. On the other hand, if it happens to be the occasion when the second part of the question is too difficult, you don't want to be amongst the candidates who waste too much time on it.

(ii) 'Show that ...' (ie self-checking) questions

(iii) Questions with a clear topic and/or method (that you are happy with)

(iv) Short questions! (less time spent reading; especially if the question is not chosen)

(C) Suggestions

Pick at least half a dozen topics, and arrange them in the order that you would attempt them in the exam. After attempting a paper under exam conditions, conduct a post-mortem to decide whether your selection of topics needs to be refined, and whether the order is still appropriate.

Whatever strategy you adopt, it is probably best to allow it to develop gradually over the course of the preparation period, so that by the time you come to the exam the strategy has been tested.

(D) Other issues

(1) Note the following wording included with the syllabus:

"Normally, a candidate who answers at least four questions well will be awarded a grade 1. The marking scheme for each question will be designed to reward candidates who make good progress towards a complete solution."

Unfortunately, it isn't clear what is meant by this. It could just mean that there is a strong correlation between answering four questions well and being awarded a grade 1; or it could - perhaps - mean that some discretion is available to the examiners when awarding a grade 1.

Candidates' scripts are available to college and university tutors, for them to judge the quality of solutions in borderline cases.

(2) STEP 2 is intended to be harder than STEP 1. Both only involve minimal material from the Further Maths syllabuses (including Proof by Induction and Inequalities). Because STEP 3 opens up the possibility of questions on any Further Maths topic (in the STEP syllabus) it may require more preparation of topics, but it can be argued that STEP 3 questions are often easier than STEP 2 – once the topic in question has been studied - on the basis that the STEP 2 paper has a smaller fund of suitable topics, and therefore tends to feature harder questions on familiar themes.