1995 HIGHER SCHOOL CERTIFICATE EXAMINATION

RURAL TECHNOLOGY

In 1995, 88 candidates presented for the 2 Unit examination in Rural Technology and the majority of these were well prepared. It was pleasing to note that a few new centres presented candidates.

This was the first year of the new format in which only the Year 12 content of the work was examined in the Higher School Certificate Examination. The main change was fewer alternative questions being set than in the past, but those set did not offer alternative topics. Neither the difficulty nor the question format changed.

Section I : Farm Machinery

Question 1

This question was well answered.

(a) Answers to this part were good.

(b) Answers to this part were very satisfactory.

(c) Many students did not state the main difference between monograde and multigrade oils.

(d) to (g) These questions were well answered.

(h)(i) Most students did not understand the purpose of the venturi in spite of the fact that they should understand venturis in connection with carburettors.

(i) to (p) Answers to these parts were satisfactory.

Section II : Farm Structures

Question 2

The question was handled well by the majority of the candidates.

(a) Many students did not understand the term *whole farm plan*.

(g) to (i) Few candidates could work out the required lengths of wire and the number of posts necessary for the fencing project.

Section III : Farm Graphics

Question 3

Candidates' failure to interpret and answer all parts of the question presented problems.

(a) Terminology and practice associated with ASA 1100 were poorly applied, even when known.

The graphical representation of screw threads and nuts showed very little understanding of the concept.

The pipe clamp as a geometric figure was drawn correctly by most candidates, although line work in general was not to the required standard.

(b) A small number of students answered this part of the question, and most had trouble in finding six major dimensions.

(c) Those who answered this part had only a very sketchy idea of a parts list and the material required.

(d) A variety of correct responses was given here, but some candidates did not realise that lock nuts were given.

(e) Although diameter was widely known, pitch was not understood at all by the majority.

(f) Calculation using mean diameter to make a U-bolt was virtually unknown.

Question 4

This question was answered by very few students and the standard of responses was very poor. The majority had little idea of finding true lengths to complete the development. A number believed that the flue had a top and bottom and put this in the development; most, however, did not allow for the lap seam.

Question 5

The move away from freehand drawing led to a marked improvement in the isometric drawing.

Isometric circles caused problems and, in most cases, line work was not up to standard.

Section IV : Related Materials Science

Question 6

(a) The majority of students were able to determine the mass of the truck but very few could determine the value of the weight and units.

(b) This part was poorly answered. All calculations should be shown.

(c) Most students were able to answer this question except for part (iii). It must be remembered that the ground pad exerts a compressive force.

(d) Answers here were poor. Students are again reminded that they must show calculations.

(e) Answers to this part were good.

(f) Not one student received full marks for this question, which was poorly done.

(g) This part was well answered.

(h) Students answered this part well.

(i) Attempts to answer this were poor. A timber order should indicate:

type of timber
cross section
lengths required, and
number required.

Many students did not look closely to determine the minimum number of lengths required, and failed to mention the timber type.

Calculations need to be shown since some marks can be allocated even though the answer may be incorrect.

Section V : Farm Water Supplies

Question 7

Although this question was fairly well answered by most students, full marks were rarely obtained because of the nature of the answers.

(a) This part was reasonably well answered.

(b) Here some answers were good; students should be encouraged, however, to label all diagrams. A number appeared to be of the opinion that water flows up hill since they drew the absorption trench above the septic tank.

(c) Answers to this part were reasonably good.

(d) Answers must be specific. An answer such as *cheap* is too general. *Comparatively low hectare capital cost* is a better answer.

(e) Here answers were too general. Killing the rabbits partially solves the problem, but burrows need to be dug out and repaired to eliminate erosion problems.

(f) About half the candidates did not know how to determine the area of the paddock and most could not determine rainfall in terms of kL/ha.

(g) Very few candidates could determine the height of the datum point above point C.

(h) The meaning of *S:E ratio* was not generally known.

(i) Those who were familiar with reading tables scored well in this question, many, however, could not read the table. The correct point was found but not read correctly. A number of students quoted a friction value of 10.8 when the reading was 18.

(j) Answers to this part were poor.

(k) Most students did not know what *a flume* was.

Section VI : Topical Study

Question 8

The biggest problem lay in not addressing the question asked.

(a) All the candidates basically knew what caused the faults but did not state how to rectify them.

(b) A wide variety of correct answers was given.

(c) Most answers here were correct but some students listed tools as spare parts.

Regional Project : Farm Study

The small change in format this year resulted in a general improvement in the standard of reports. Nevertheless, the same comments are relevant this year as in the past four years. It appears that, in some schools, the comments are not passed on to all of the students.

In presenting the farm study, the student should include all items of machinery and equipment used in the particular activity.

Although the following points have been mentioned in previous Examiners' Reports, they are not being rectified in too many cases.

(i) Descriptions of tractors and irrigation equipment are being described in greater detail than ploughs. One report had approximately half a page of explanation of the primary tillage operation only.

(ii) If a student submits an account of a property, then that student should have visited that property at least once. During such a visit photographs should have been taken. It is again emphasised that pictures from pamphlets and photocopies should not make up the bulk of the visual presentation.

(iii) A half-page description of the farm visited should precede each section.

(iv) The format of the project should be planned before starting and the requirements of the Syllabus must be checked to ensure that all parts will be covered. A few students are being disadvantaged because they devote too much of the report to a specific crop or animal type. Three pages of wheat types or types of beef cattle are unnecessary.

(v) Spelling must be checked. Words such as *tractor, auger, principles, metres* and *hydraulics* were incorrectly spelt. The reference to a specific piece of equipment as a *contraption* is inappropriate.

(vi) Metric measurements are to be used.

(vii) Drawings of sheds, movement of animals, and yards should comply with the appropriate drawing standards and be produced in pencil. The promotional drawings produced by a company which manufactures farm fencing should not be included. These should be redrawn if necessary.

(viii) Each submission must be proofread to ensure that all sections are in the correct sequence. As most students use computers to produce their reports, the spell check facility should be used.

(ix) Machinery should be correctly named, e.g. *disc harrow* as distinct from a *disc plough*.

Although students have approximately 12 months in which to write their report, there are still cases in which the report appears to have been written rather hurriedly.