

RURAL TECHNOLOGY

2 UNIT

In 1996 75 candidates presented for the examination in 2 Unit Rural Technology. All students had been well prepared and the standard achieved was pleasing.

Section I : Farm Machinery

Question 1

Some candidates still found difficulty with some sections of this question, yet there was no specific part that was consistently badly done.

Section II : Farm Structures

Question 2

- (a) (i) The concept of contour mapping was handled satisfactorily by the majority of candidates.
- (ii) The fact that many candidates did not follow the instructions in the question was the biggest source of mistakes; many failed to draw arrow heads to indicate flow direction, and frequently omitted the word *creek*.
- (iii) This was well answered.
- (b) (i)
(ii)
(iii) Answers to these parts were based on good general knowledge but use of more technical language would have improved the level of marks awarded
(iv) and
(v)

1996 HIGHER SCHOOL CERTIFICATE EXAMINATION

- (c) (i)
(ii)
(iii)
(iv) This section on fencing was well answered by all candidates.
(v)
and
(vi)
- (d) The majority of candidates made simple calculation mistakes in answering this question.

Section III : Farm Graphics

Question 3

Greater knowledge of AS 1100 was needed to answer this question. Some students provided a drawing to scale when this was not asked for in the question. As it is an assembly drawing there was no need to show hidden detail. The representation of screw threads was not well done. Students should use an HB pencil and a straight edge to produce straight lines.

Accuracy of work varied and, since a number of lines were drawn in on the examination paper, the question was well answered by most candidates. Nevertheless, students need to think about how pieces are assembled.

Question 4

The answers to this question showed a wide range of skill. The flaps on the nozzle shroud were poorly completed, with most students thinking of them as being lines on the surface. The standard of linework varied and the representation of fold lines needed more care than was shown in most responses.

Question 5

The isometric drawing was not well executed, consequently no student received full marks for this question. Candidates were required to indicate how the hexagon was positioned, but the depth and position of the notch was not shown by most students.

Section IV : Related Materials Science

Question 6

- (a) Most students failed to indicate the direction of the specific force.

1996 HIGHER SCHOOL CERTIFICATE EXAMINATION

- (b) The majority indicated the magnitude and direction of the force, but a number incorrectly answered *scalar* and *vector*.
- (c) Many candidates failed to convert millimetres to metres. Students must show calculations.
- (d) Answers here were poor since students did not know the formulae.
- (e) Too many students failed to convert kilometres/hour to metres/second.
- (f) Results here were mixed. Most students received some marks but their answers generally showed little understanding.
- (g) Answers to this part were good.
- (h) This part was poorly answered. Too many students believed that *pressure impregnation of timber* involves putting a force on wood to make it tough.
- (i) Answers here were also poor. Some students believed that dry rot is caused by excessive heat and their answers to all parts of the question were based on this.

Section V : Farm Water Supplies

Question 7

- (a) (i) These parts were not well answered by the majority of candidates whose responses and (ii) indicated poor technical knowledge.
- (b) This question elicited a wide variety of answers to a relatively simple situation but, again, technical knowledge was deficient.
- (c) The term *priming* was understood by all candidates; the way in which it was described, however, was not good.
- (d) (i) (ii) The term *suction head* was generally known but the way in which it operates and its limits were not known. (iii)
- (e) Every candidate answered this part well.
- (f) Most candidates did not read the question correctly and drew only a septic tank.

1996 HIGHER SCHOOL CERTIFICATE EXAMINATION

- (g) A variety of good answers were submitted here.
- (h) All candidates answered this part well.
- (i) Although the majority of candidates could relate three methods of purification, few could describe the method of operation of each one.
- (j) Most students knew something about the life cycle of the borer and the insects' effect on wood.
- (k) Although this was generally well answered, some candidates had difficulty in differentiating between primer, undercoat and final coats of paint.

Section VI : Topical : The use of chemicals in Modern Agricultural Activities

Section 8

This question scored the highest mean of all and there were no problems in any area since all candidates were well acquainted with the topic.

REGIONAL PROJECT : FARM STUDY

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

The following points still need attention:

- (i) The format of the project should be planned before starting. The requirements of the Syllabus must be checked to ensure that all parts are covered. A small number of students are being disadvantaged because they are devoting too much of the report to the crop or animal type. Three pages of wheat types or types of beef cattle are not necessary.
- (ii) Descriptions of tractors and irrigation equipment are receiving greater explanation at the expense of ploughs. The steps in the operation of a diesel engine are not required in the report.
- (iii) If a student has studied a property then he/she should have visited it at least once. During such a visit photographs should have been taken. **Pictures and pamphlets and photocopies should not make up the bulk of the visual presentation.**
- (iv) A half-page description of the farm visited should precede each section and should include the size of the property, soil type, climatic conditions, crops grown and reasons for growing specific crops.

1996 HIGHER SCHOOL CERTIFICATE EXAMINATION

- (v) Spelling must be accurate. Words such as *tractor*, *auger*, *principles*, *metres* and *hydraulics* were incorrectly spelt. As most students have used computers to produce their reports, the spell check facility should be utilised.
- (vi) Metric measurements are to be used.
- (vii) Each submission must be proof read to ensure that all sections are in the correct sequence.
- (viii) Machinery should be correctly named, e.g. *disc harrow* as distinct from a *disc plough*.
- (ix) Drawings of sheds and yards, and movement of animals should comply with AS 1100 drawing standards and be produced in pencil.

It is inappropriate to include photocopies of the promotional drawings produced by a company which manufactures farm fencing. If necessary, these should be redrawn. Circles should be drawn by using a compass or circle gauge.

- (x) Even if the farm did not engage in a primary tillage or fertilising activity in the year being examined, such activities should still be included and discussed.
- (xi) It is not necessary to draw a fully labelled shearing hand-piece and its drive mechanism. A brief explanation of the operation accompanied by a simple sketch would be more appropriate.
- (xii) If photographs are glued into the report, the candidate must ensure that pages are not stuck together.

Although students have approximately 12 months in which to write the report, there are still cases in which the report looks as though it were written rather hurriedly. Written work with crossing out and excessive use of correcting fluid rarely does justice to the ability of any student.