

Computer Marked Assignment

Course and assignment number:

S271 51

Make sure you know how to use the CMA form: detailed instructions are given in your student handbook (or supplement).

If you do not wish to answer a question, pencil across the 'don't know' cell ('?').

If you think that a question is unsound in any way, pencil across the 'unsound' cell ('U') in addition to pencilling across either an answer cell or the 'don't know' cell.

Note For each question, you must pencil across either the required number of answer cells or the 'don't know' cell.

Covering: **Handbook and Units 1 and 2**

Cut-off date:

Friday 22 March 1996

This assignment is *formative*, which means that it will be marked, but that the score will *not* count towards your overall course mark. Nevertheless, you are strongly advised to attempt it because the questions provide valuable practice that will help with CMA 42 and later assignments.

PART A

The questions in this part of the assignment concern some mathematical techniques assumed as background to the course and discussed briefly in Part 1 of the Handbook.

Q1 [Algebra] Which *one* of the following algebraic statements is *false*? Choose one answer from the key. Pencil across *one* cell in row 1.

KEY for Q1

A $x^0 = 1$

B $y^{-1} = \frac{1}{y}$

C $b^{-1/2} = \frac{1}{\sqrt{b}}$

D $(a-b)^2 = a^2 - b^2$

E $m(x+y) = mx + my$

F $x\sqrt{x} = x^{3/2}$

Q2 [Indices] Evaluate the fraction

$$\frac{(5 \times 10^2) \times (6 \times 10^{-3})^2}{3 \times 10^{-4}} \quad 500 \times 12 \times 10^2$$

and choose the correct answer from the key. Pencil across *one* cell in row 2.

KEY for Q2

A 6×10^{-7}

B 20

C 60

D 2×10^6

E 6×10^6

F None of the above

Q3 [Simultaneous equations] If $x = 4y$ and $2 - x = 3y$, what is the value of y ? Choose one response from the key. Pencil across *one* cell in row 3.

KEY for Q3

A $2/7$

B $6/7$

C $8/7$

D $7/2$

E -2

F None of the above

Q4 [Straight-line graphs] The key consists of five statements about the graph in Figure 1, four of which are true. Choose the one false statement from the key. Pencil across *one* cell in row 4.

KEY for Q4

A x is directly proportional to T .

B $x \propto T$.

C T is inversely proportional to x .

D If $x_2 = 3x_1$, then $T_2 = 3T_1$.

E The line represents an equation $x = cT$, where c is a positive constant.

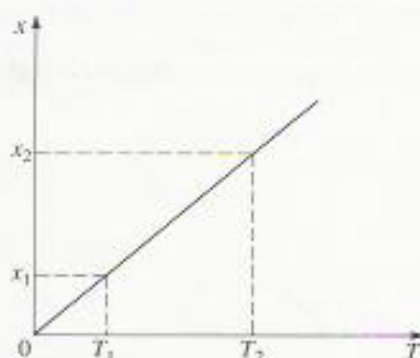


FIGURE 1