1994 Paper 7 Question 6

Algebraic Manipulation

Write short notes on the use of remainder sequences in each of the following contexts:

(a) finding the GCD of two polynomials

(b) eliminating a variable between two polynomial equations

(c) counting and isolating the roots of a univariate polynomial equation

(d) solving the equation $Ax + By = C$ to find $x$ and $y$ (where $A$, $B$, $C$, $x$ and $y$ are integers)

[20 marks]