

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]