2002 Paper 13 Question 2

Computer Design

(a) What is *microcode* and how does it differ from assembler? [6 marks]

(b) In assembler, branch instructions are used to change the flow of control. How can flow control be determined in a microcode environment? [4 marks]

(c) With the aid of a diagram, explain what a *feedback path* (sometimes called a *bypass*) is and how it is used to improve the throughput of a pipeline.

[6 marks]

(d) What is a *branch delay slot*? [4 marks]