Digital Communication II

(a) Outline the mechanism that most TCP implementations use today to set the retransmission timer dynamically. [10 marks]

(b) TCP uses additive increase multiplicative decrease (AIMD) for congestion avoidance in the steady state. Describe two optimisations that modern TCP variants use to improve performance when there is moderate packet loss. [5 marks]

(c) What might you propose to solve the problem of repeated slow-start of TCP in networks where packet loss due to noise was high (e.g. 50% packet loss probability), but there was still the possibility of congestion? [5 marks]