

## 2007 Paper 7 Question 2

### Digital Communication II

Recent advances in consumer electronics have led to the potential demand for *Home Area Networks* (HANs). Given that this would include monitoring and control of the home environment, linking home entertainment (television, radio, MP3 players etc.), and communications (Voice, Data, possibly video) within the home and to and from the outside world, one can consider the relative merits of various forms of HAN.

- (a) What would be the distinguishing features of an IP-based HAN? [4 marks]
- (b) What would be the distinguishing features of a cell-switched HAN? [4 marks]
- (c) What are the comparative merits of the two solutions, considering the application requirements such as guaranteed throughput and jitter; the separation of control and data; the management complexity of the network; and the complexity of the interconnection systems such as switches or routers? [12 marks]