COMPUTER SCIENCE TRIPOS Part II – 2014 – Paper 9

10 Principles of Communications (JAC)

(a) The Internet provides a "best effort" service in forwarding packets, by default. Explain what this means in terms of performance of the system, making due reference to statistical multiplexing of resources, and to the end-to-end fairness properties (or lack of them) that may result. [10 marks]

(b) Many communications systems are designed as a set of layered services. Discuss the advantages and disadvantages of layering in communications systems in terms of the trade-offs between flexibility and performance that this approach may provide. Illustrate your answer with examples. [10 marks]