

10 Principles of Communications (jac22)

- (a) Dynamic Alternative Routing is the official name for sticky random routing. Explain how this scheme decreases the chances of calls being blocked in the core of the old digital telephone network, while meeting the goal of simplicity. What assumptions are there about telephony traffic that mean the scheme works? In your answer, include the reason for trunk reservation. [10 marks]
- (b) There are broadly two different classes of network traffic in terms of demands for performance guarantees, namely elastic and inelastic. Packet switched networks offer mechanisms to provide fairness and protection of flows from each other for both kinds of traffic.

Describe the mechanisms behind end-to-end congestion control and queue management that address fairness for elastic (closed loop controlled) traffic, and contrast with the approach of admission control and scheduling used for inelastic (real-time, open loop controlled) traffic flows. [10 marks]